# Submission to An Coimisiún Pleanála

# Ballinlee Windfarm

## ACP Reference No: ACP-323780-25

## ACP Case Reference: PAX91.323780

## 17 November 2025

Prepared and submitted by:

Bruff Dromin Athlacca-Ballinlee Community Action Group

Ballinrea, Bruff, Co. Limerick, V35 XP48

"Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on **human rights**, the **right to health**, the **rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations**, and the **right to development**, as well as **gender equality, empowerment of women and intergenerational equity**."
*(UNFCCC, Paris Agreement, 2015, Preamble)*

In submitting this observation, our community acknowledge that the planning and environmental assessment process relies on established technical terminology — including terms such as *"noise-sensitive receptor," "residential amenity,"* and *"vulnerable receptor."*

However, we wish to express our reluctance to adopt such phrasing without qualification. These terms, while convenient for cross-reference within Environmental Impact Assessment Report (EIAR) documentation, have the effect of abstracting and depersonalising the very people whose homes and wellbeing are at issue. The words "family" or "home" are not used anywhere within the Population and Health chapter. This omission is striking and indeed, one could argue this linguistic pattern erases the human purpose of renewable energy policy — which is to protect and enhance human health and wellbeing. It reduces residents and families to abstract categories and frames their wellbeing in the language of measurement rather than lived experience. The founding purpose of both EU and UN climate frameworks is human-centred: to protect lives, people's homes, and family welfare from environmental harm while enabling a safe and healthy future.

For the avoidance of ambiguity, and to maintain consistency with the Environmental Impact Assessment Report (EIAR), such terms are used here only where necessary for clarity. Throughout this submission, however, we emphasise that what are described as *"receptors"* are in fact residents, families, and communities — individuals and families whose lived experience and health are directly affected by the proposed development.

**Signed on behalf of the Bruff Dromin Athlacca-Ballinlee Community Action Group**

| | Signed | Date |
|---|---|---|
| Michael Heelan (Chairperson) | Michael Heelan. | 17.11.25. |
| Marie-Clare Power (Vice-Chairperson) | Marie-Clare Power | 17-11-25 |
| Roisin Keating (Secretary) | Roisin Keating. | 17-11-25 |
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| Karol O'Regan (Treasurer) | Karol O'Regan | 17.11.25 |
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# Introduction

We are writing this objection to the proposed Wind Turbine development within the parish boundaries of Bruff and Dromin-Athlacca. This group submission is representative of the feelings and opinions of the vast majority of locals who call this area home. The proposed development of 17 wind turbines in the vicinity of a town and placed upon some of the most fertile land in Europe is akin to environmental vandalism on an industrial scale. The area of Bruff/Dromin-Athlacca is renowned for its scenic beauty, burgeoning population, tourist potential, archaeological importance and international importance of wildlife. To implant the proposed industrial development in this area is wholly inappropriate, destructive of the ancient way of life in the area and conflicts with the very core of the planning authority's sustainable and suitable development.

Bruff/Dromin-Athlacca are welcoming places. Over 300 Ukrainian people were welcomed into our community as residents in recent times to no fanfare. Therefore, this objection to the Wind Turbine development is not a case of refusing change for regressive reasons. We recognise the need for renewable energy and a long-term solution to the energy shortfall. However, the siting of these turbines is wrong on so many levels that the people of this area reject the proposed development in its completeness. It will turn our district into an industrialised wasteland devoid of a long-lasting future. An Coimisiún Pleanála would be negligent in its role as custodian of proper development if this proposed construction and destruction of our inhabited area is allowed. People's lives and livelihoods will be ruined and the fallout will be catastrophic for the people of Bruff/Dromin-Athlacca whose families have lived here since time immemorial.

The proposed Wind Farm development will destroy the world-renowned tourist facilities that are hugely supportive of our local community and economy. The vista from Lough Gur and Grange Stone Circle, Knockfierna and the town of Bruff itself allied to the over-reaching impact on the whole county will be destroyed forever. The applicant minimises this impact with incomplete surveys, deficient photomontages and understatement of the factual consequences that this inappropriate development will imprint upon the Golden Vale land that our communities live on.

The absolute disregard for the Aarhus Convention and its insistence on proper community engagement has meant that we, the people of this area, have been ignored by the developers to any real extent. The people of the area have signed a petition in support of the community's stance against this proposed development and can be found in Appendix 8.

We ask that An Coimisiún Pleanála reject the proposed development in its entirety. It is unsuitable, deficient in its application and constitutes a destruction of our way of life, health, living standards and future.

Submission on SID by Michael J. Duffy. CEng. MIEI

# Submission on
# Strategic Infrastructure Development Application
# PAX91.323780
# Ballinlee Green Energy Limited

For 10 year planning permission for Ballinlee Wind Farm consisting of 17 no. wind turbines, a permanent 110kV substation and ancillary development

On behalf of

## Bruff Dromin Athlacca-Ballinlee Community Action Group

By Agent


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17th November 2025

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## Pre- application:

The section 37A Direction of An Coimisiún Pleanála was made on the 25th June 2025 for the subject proposed development with a stated combined power output range of between 75MW and 95MW, and associated infrastructure.

The application uses the Limerick CDP as the basis for locating in this area. That may have been valid in 2024 for the initial s.37A application to An Coimisiún in order to determine if it was an SID development but as recognised and stated categorically by the applicant in this substantive application RED III now applies. The applicant cannot cherry-pick from RED III which required considered mapping for all renewable energy development by 21st May 2025. That did not happen and this application is premature until the statutory mapping is produced.

In the pre-application stage the applicant claimed that the preliminary turbine layouts are based on comprehensive environmental constraints and baseline studies, with further refinement anticipated as the project progresses. This is presented without any substantiating information and these claims are strongly contradicted by an expert in this submission.

I note in the Inspector's Report on the pre-application that the issue of future connections to the grid connection route or the viability of a stand-alone the grid connection route was not raised. This has implications for project splitting discussed later in this submission.

While the Inspector identifies NPO74 objective of the recently revised National Planning Framework they does not mention the Article 15(b) mapping required by RED III. There is reference to the "current" RSES policy and wind development at "appropriate locations". It side-steps the requirement of RED III on mapping suitable locations.

In pre-application meetings with An Coimisiún the prospective applicant confirmed that at this stage they wished to proceed without design flexibility. The Board's representatives questioned whether the prospective applicant intended to include the wind farm, grid connection and substation within a single application, which the prospective applicant confirmed to be their intention. The Board's representatives also advised regarding the process should design flexibility be sought for the electrical infrastructure, including the grid connection.

## Private Development - REDIII Application:

This application is declared to be a **REDIII** application by the Applicant. Therefore it should be held to the requirements of the directive including the requirement in Article 15(b) for mapping of suitable locations by 21st May 2025. To date this required mapping has not been provided by policy makers and it is my client's position that this application is premature in advance of the required mapping. This subject location may not be considered suitable for wind development if a proper scientific mapping, as required, is performed.

The Applicants Planning Statement states;

> This Planning Statement accompanies a planning application for a wind farm development submitted under the European Union (Planning and Development) (Renewable Energy) Regulations 2025 (S.I. 274 of 2025) as amended by S.I. 426 of 2025, which transposes key provisions of the Renewable Energy Directive III (Directive EU 2023/2413) into Irish planning law.
>
> As part of indicating the likely beneficial environmental effects on the climate, it is considered that the proposed wind farm will have an assumed rated electrical power output in excess of 76 megawatts (MW).

## Overview of Application:

The most important stakeholders, the residents of Bruff, Dromin, Athlacca and environs are responsible for most of this submission. It is an incredible output for a relatively small community and they intend to have their say.

It is a complaint that An Coimisiún will be well used to reading in renewable energy application that the Promoter/Developer has failed to engage with the community. This is no different and the group have made that point herein in their own words. Whether or not there is any statutory obligation on a Promoter/Developer is immaterial. Before a shovel goes into the ground this Promoter/Developer has antagonised this community and might rue the day it did so. Furthermore, as a deliberate strategy the Applicant has split this community and damaged relationships and friendships fostered over generations. Someday this Applicant will walk away from this community whether in 6 months or 45 years. It is only then that the community will attempt to heal the rifts caused by this proposal.

## Communities Experience with Wind Development:

I have worked with many communities such as Bruff, Dromin and Athlacca over the years. This is probably the best organised I have experienced to date but a common thread is that they have great support and input for other similar communities which have experienced this process and some of which are on their second cycle of these types of developments.

It is easy for anyone at a remove to make the pious points that we need renewable energy for the common good and that these turbines are not that bad after all. While these opinions are subjective the fundamental concerns of the residents of Bruff, Dromin and Athlacca are public health issues. These relate to noise, flicker, water quality and environmental concerns.

Over the period since this project was first raised this group has networked with groups in similar situations and a common theme is the post decision abandonment of mitigation and planning conditions by developers. Rarely, with very few exceptions, are these developers called to task for non-compliance. In the rare circumstances when this happens it is not as a result of complaints from impacted members of the local community but experience shows that it only happens when a developer crosses a Planning Authority in a material manner. The bar is high for such a fall-out because the Local Authority has a vested interest to maintain the status quo irrespective of non-compliance because of significant rates funding to be harvested from these projects. Planree is an exception to the norm. What is really remarkable about the Planree case is that the Developer admitted to the Court that in most of these large developments circumstances change in practice and developments vary from conditions of planning permissions. This, and the lived experience of other communities assisting this community, has placed a legitimate fear of the potential for what may come.

The group has engaged professional assistance and input for some aspects of this submission but there are elements which are incredibly technical and notwithstanding the practicalities of time constraints it is impossible for a community such as this to engage specialists in the more technical areas because without exception these experts work for the industry and will not stray to work for impacted communities. In spite of the professed sentiments of the common good the Applicant and its lackeys have only one God.

# Planning Policy Context:

## 4.1 International Policy

### 4.1.1 The Renewable Energy Directive

In June 2009, the European Commission published EU Directive 2009/28/EC (the 'Renewable Energy Directive') on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal electricity market.

The Renewable Energy Directive (2018/2001/EU) entered into force in December 2018, as part of the Clean energy for all Europeans package, aimed at maintaining the EU's status as a global leader in renewables and, more broadly, helping it to meet its emissions reduction commitments under the Paris Agreement.

The Renewable Energy Directive was revised again in 2023. The third revision, which is referred to as "RED III" obliges Member States to collectively ensure the share of renewable energy in the European Union's gross final energy consumption is at least 42.5% by 2030, with an additional 2.5% indicative top-up to allow the target of 45% to be achieved.

RED III also places the presumption of overriding public interest for renewable energy projects (Imperative Reasons for Overriding Public Interest - IROPI) on a permanent footing. Article 16f of the Directive states that Member States must ensure that in the permit-granting procedure, the planning, construction and operation of renewable energy plants, their connection to the grid, the grid itself and storage assets are presumed to be IROPI.

Most notably, RED III obliges Member States to speed up and simplify renewable infrastructure permitting procedures by ensuring that procedures for granting permits to build, repower and operate energy assets do not exceed certain timelines, depending on the asset type, size and location. Article 16b(1) provides that the permit granting procedure for onshore renewable energy projects outside renewables acceleration areas must not exceed two years. RED III has been transposed by the European Union (Planning and Development) (Renewable Energy) Regulations 2025 (S.I. 274 of 2025), as amended by S.I. 426 of 2025.

The proposed development is a 'renewable energy project' and comprises 'renewable energy plant' for the purposes of the revised Renewable Energy Directive (Directive 2023/2413 amending Directive 2018/2001 – "RED III"). As this application is made after 6 August 2025, S.I. No. 274/2025 - European Union (Planning and

Development) (Renewable Energy) Regulations 2025 – also applies to it. The application is for a 'renewable energy development' and is subject to Sections 37JA and 37JB of the Planning and Development Act, 2000, as amended by S.I. No. 274/2025 ("2000 Act"). Whereas S.I. 274/2025 partially transposes RED III with respect to the Appropriate

Assessment process under Section 177AA of the 2000 Act, those regulations are of limited effect.

Article 16b and Recital 37 makes it clear that the occasional or incidental killing or significant disturbance of birds by the construction and operation of renewable energy plant shall not be considered to be 'deliberate' and therefore prohibited by Article 5 of the Birds Directive. Article 16b has the same effect as regards species protected by Article 12 of the Habitats Directive. This is on condition that the renewable energy project has adopted appropriate and necessary mitigation measures.

Article 16b of RED III was required to be transposed no later than 1 July 2024. In the absence of formal transposition, aspects of Article 16b when read together with Recital (37) of RED III are sufficiently precise, clear and unconditional to be directly effective as regards permitting decisions to be made by An Coimisiún Pleanála, planning authorities, and the National Parks and Wildlife Service.

### 4.1.2 REPowerEU Plan

Crucially, REPowerEU and RED III both designate renewable energy developments as being in the "overriding public interest", a legal and policy status that carries significant weight in planning and environmental assessment processes. This designation acknowledges the imperative to accelerate the rollout of renewables in response to geopolitical, economic, and climate challenges.

The proposed development directly supports these EU objectives. It contributes to Ireland's renewable energy targets, enhances energy security, and aligns with the strategic imperative to expedite permitting and deployment. As such, it benefits from strong policy support at both national and European levels and should be considered favourably in the planning process.

So, the Applicant is not shy about waxing lyrical about policy. However its enthusiasm did not extend to telling us about Article 15(b) of **RED III** and the prescribed mapping of suitable locations.

### Article 15b

Mapping of areas necessary for national contributions towards the overall Union renewable energy target for 2030

1. By 21 May 2025, Member States shall carry out a coordinated mapping for the deployment of renewable energy in their territory to identify the domestic potential and the available land surface, sub-surface, sea or inland water areas that are necessary for the installation of renewable energy plants and their related infrastructure, such as grid and storage facilities, including thermal storage, that are

required in order to meet at least their national contributions towards the overall Union renewable energy target for 2030 set in Article 3(1) of this Directive. To that end, Member States may use or build upon their existing spatial planning documents or plans, including maritime spatial plans set up pursuant to Directive 2014/89/EU of the European Parliament and of the Council. Member States shall ensure coordination among all the relevant national, regional and local authorities and entities, including network operators, in the mapping of the necessary areas, where appropriate.

Member States shall ensure that such areas, including the existing renewable energy plants and cooperation mechanisms, are commensurate with the estimated trajectories and total planned installed capacity by renewable energy technology set out in their national energy and climate plans submitted pursuant to Articles 3 and 14 of Regulation (EU) 2018/1999.

2. For the purpose of identifying the areas referred to in paragraph 1, Member States shall take into account in particular:

   (a) the availability of energy from renewable sources and the potential for renewable energy production of the different types of technology in the land surface, sub-surface, sea or inland water areas;

   (b) the projected demand for energy, taking into account the potential flexibility of the active demand response, expected efficiency gains and energy system integration;

   (c) the availability of relevant energy infrastructure, including grids, storage and other flexibility tools or the potential to create or upgrade such grid infrastructure and storage.

3. Member States shall favour multiple uses of the areas referred to in paragraph 1. Renewable energy projects shall be compatible with pre-existing uses of those areas.
4. Member States shall periodically review and, where necessary, update the areas referred to in paragraph 1 of this Article, in particular in the context of the updates of their national energy and climate plans submitted pursuant to Articles 3 and 14 of Regulation (EU) 2018/1999.

One can see why the Applicant was reluctant to mention Article 15(b) to the public or particularly to the interested parties of Bruff, Dromin, Athlacca-Ballinlee and environs. My client is strongly of the opinion that this application is premature in advance of the mapping required in the European Directive which came into effect in October 2023 and this State still has not complied. The Coimisiún

should consider the effect a decision in this application would have on this community in the event that the prescribed mapping excludes this locality on the basis of poor raw wind or for any other reasons. My client see this as a very strong ground to oppose this application and will pursue it to whatever end is required to protect the community.

This submission, in the Technical Wind Chapter, directly addresses Article 15(b)(2)(a) in respect of the lack of "*availability of energy from renewable sources and the potential for renewable energy production*" in this location or the less than efficient status of this proposal.

The Applicant also failed to refer to paragraph 25 of the preamble in the Directive.

> (25) Member States should support the faster deployment of renewable energy projects by carrying out a coordinated mapping for the deployment of renewable energy and related infrastructure in their territory in coordination with local and regional authorities. Member States should identify the land, surface, sub-surface and sea or inland water areas necessary for the installation of renewable energy plants and related infrastructure in order to meet at least their national contributions towards the revised overall renewable energy target for 2030 set in Article 3(1) of Directive (EU) 2018/2001 and in support of reaching the objective of climate neutrality by 2050 at the latest, in accordance with Regulation (EU) 2021/1119. Member States should be allowed to use existing spatial planning documents for the purpose of identifying those areas. Member States should ensure that such areas reflect their estimated trajectories and total planned installed capacity and should identify specific areas for the different types of renewable energy technology provided for in their integrated national energy and climate plans submitted pursuant to Articles 3 and 14 of Regulation (EU) 2018/1999. The identification of the required land, surface, sub-surface, and sea or inland water areas should take into consideration in particular the availability of energy from renewable sources and the potential offered by the different land and sea areas for renewable energy production of the different types of technology, the projected demand for energy, taking into account energy and system efficiency, overall and in the different regions of the Member State, and the availability of relevant energy infrastructure, storage, and other flexibility tools bearing in mind the capacity needed to cater for the increasing amount of renewable energy, as well as environmental sensitivity in accordance with Annex III to Directive 2011/92/EU of the European Parliament and of the Council.

## 4.2 National Policy

### 4.2.1 Revised National Planning Framework

The Revised National Planning Framework (NFP) represents a significant shift towards a more structured and proactive approach to renewable energy planning in Ireland, emphasising

> regional coordination, infrastructure development, and community involvement to achieve national climate and energy objectives.
>
> Ireland's national energy policy is focused on three pillars: (1) sustainability, (2) security of supply and (3) competitiveness. Government has set ambitious targets to achieve 9 GW of onshore wind, 5 GW of offshore wind and 8 GW of solar by 2030, as well as supporting at least 500 MW of local community-based renewable energy projects and increased levels of new micro-generation and small-scale generation. Chapter 9 of the NPF 'Climate Transition and Our Environment' states that: "The accelerated delivery of additional renewable electricity generation is therefore essential for Ireland to meet its climate targets, reduce its greenhouse gas emissions, and improve its energy security by reducing reliance on imported fossil fuels and diversifying its electricity supply"
>
> The various policies in this Framework are structured under National Policy Objectives (NPOs) and National Strategic Outcomes (NSOs). The key policies of relevance to this proposal are:
>
> - NPO 71 Support the development and upgrading of the national electricity grid infrastructure, including supporting the delivery of renewable electricity generating development.
> - NPO 74 requires each Regional Assembly to plan, through their Regional Spatial and Economic Strategy, how and where to deliver the required capacity set out in Table 9.1 by identifying capacity allocations for each Local Authority in its area. The Southern Region has 40% of the total percentage of the national share.

The Applicant let down its guard here by identifying why this application is premature. The NPF delegated the task of mapping to the RSES. That has not yet been fulfilled.

> In this context, the proposed development is not only consistent with national policy, but also a strategic enabler of Ireland's climate and energy goals. Its location, scale, and technology type align with the NPF's vision for a resilient, low-carbon future, and its delivery will contribute meaningfully to Ireland's 2030 targets and beyond. The proposed development supports the diversification of the rural economy into new sectors and services that are helping to address climate change and sustainability.

The Applicant's claim here is clearly incorrect and premature in advance of the publication by the relevant authority of the prescribed RED III mapping. This application is not currently consistent with National or European Policy as claimed.

The National Development Plan 2021–2030, revised in tandem with the First Revision of the National Planning Framework (NPF) in April 2025, sets out Ireland's strategic investment priorities to support long-term economic, environmental, and social progress. Central to this vision is the transition to a carbon-neutral and climate resilient society, with renewable energy development identified as a key enabler.

The NDP emphasises National Strategic Outcome 8: Transition to a Carbon Neutral and Climate Resilient Society, stating:

"The next 10 years are critical if we are to address the climate crisis and ensure a safe and bright future for the planet. The investment priorities represent a decisive shift towards the achievement of a decarbonised society, demonstrating the Government's unequivocal commitment to securing a carbon neutral future."

To deliver on these commitments, the NDP outlines substantial investment in:

- Grid infrastructure upgrades to support distributed renewable generation.
- District heating networks and electrification of heating systems.
- Smart grid technologies, micro-grid development, and energy storage.
- Offshore and onshore renewable energy, including wind, solar, and biomass.

The NDP sets ambitious targets for renewable electricity capacity by 2030 in line with the NPF. These targets are supported by regular Renewable Electricity Support Scheme (RESS) auctions, which facilitate competitive deployment of grid-scale renewables.

The NDP and NPF require local authorities and regional assemblies to plan for delivery of renewable electricity capacity allocations. The proposed development is consistent with the regional targets set out in Table 9.1 of the NPF, and benefits from the presumption of overriding public interest under RED III and Irish planning law.

Table 9.1 from the NPF First revision (extract below) sets out these regional renewable energy capacity allocations for wind and solar energy. These targets require each region to plan for sufficient wind and solar energy development so that Ireland achieves the overall national target of 9GW onshore wind and 8GW onshore solar by 2030.

In this submission the issue of project splitting is raised in relation to the GCR. If the prescribed mapping was carried out all stakeholders would know where they stand. That seems to be a fundamental consideration in the Directive. If, in the event, the mapping identified say three locations between Bruff and Limerick City for wind or solar generation, so that these "identified" lands would effectively be zoned for renewable energy purposes, then the required EIA/AA for the grid route could be carried out in this application in accordance with settled case law around project splitting.

As matters currently stand, if there is any possibility of additional connections to this grid route in the future then this is a project splitting exercise and impermissible in law.

### 4.2.4 Climate Action and Low Carbon Development Act 2015 (as amended in 2021)

The Applicant should refrain from teaching Granny to suck eggs. An Coimisiún is more than aware of "*The recent judgement of the High Court delivered on 10th January 2025*". It will also be aware that the Judgement is under appeal to the Supreme Court. In any case there is nothing in amended section 15(1) of the Act which precludes An Coimisiún from applying proper planning and environmental law in any instance. It was predictable that Developers would use Coolglass as a stick to beat all and sundry. Its unilateral proclamation of what An Coimisiún "*is required*" to do in this instance, particularly item No. 2, is presumptuous. My client believes it has raised several significant issues in this submission and that An Coimisiún will find the Applicant's arrogance and swagger around section 15(1) is unfounded. The Applicant took its eye off the ball to such an extent its application is doomed by lacunae. Its either all duck or no dinner; the Applicant cannot cherry-pick from aspects of policy which suits its cause while ignoring the rest. That is why our legislators prudently included *evaluative judgement and discretion* in the An Coimisiún tool-box.

### 4.2.5 Planning Guidelines for Wind Energy (DoEHLG 2006)

In 2006, the Department of Environment, Heritage and Local Government (DEHLG) published Wind Energy Development Guidelines for Planning Authorities (the Guidelines) under Section 28 of the Planning and Development Act, 2000, requiring planning authorities and An Bord Pleanála (at that time) to have regard to the Guidelines in the performance of their functions. The Guidelines offer advice to planning authorities on planning for wind energy through the development plan process and in determining applications for planning permission. They advise on land use and environmental issues for land-based (onshore) wind farms. They also provide clarity to prospective developers and local communities. The Guidelines are also intended to ensure a consistency of approach throughout the country in the identification of suitable locations for wind energy development and the treatment of

planning applications for wind energy developments. The proposed development complies with the Guidelines.

A passenger on the top deck of the Clapham omnibus could be forgiven for thinking that this Planning Statement is a script for the Edinburgh festival. The Applicant is back to reliance on that old chestnut "regard". Does that regard extend to guidelines which were never subjected to SEA as required by European Law? "Guidelines" which are just short of 20 years in existence? Guidelines which have been constipated by "draft guidelines" hovering about since 2013? Guidelines which provide anything but clarity? Guidelines which have been superseded by an EU Directive which requires mapping of suitable locations for renewable energy projects? I doubt if An Coimisiún will dwell too long on the 2006 guidelines or impotent draft relation. The Applicant should quell its exuberance over both.

#### 4.2.7 Best Practice Guidelines for the Wind Energy Industry (IWEA 2012)

The Technical Wind Chapter in this submission will say all that needs to be said in this regard.

### 4.3 Regional Planning Policy

#### 4.3.1 Southern Regional Assembly- Regional Spatial and Economic Strategy (RSES)

The Southern Regional Assembly is responsible for the preparation and implementation of a Regional Spatial and Economic Strategy (RSES) for the Southern Region. The RSES for the Southern Region came into effect on 31st January 2020 and the primary aim of the RSES is to implement Project Ireland 2040 - the National Planning Framework. Furthermore, the Southern Regional Assembly supports the implementation of the Irish Government's Climate Action Plan.

Furthermore again, the RSES is outdated and has not done what the NPF delegated it to do which is to draft maps of suitable locations for renewable energy projects.

### 4.4 Local Policy

#### 4.4.1 Limerick City and County Development Plan 2022-2028

This submission addresses the background to how this low-lying plateau, with poor quality raw wind, was mapped as a suitable area for wind development. In any event that train has passed because we

should have had proper scientific inspired dedicated mapping since the 21st May 2025. This planning application is premature in advance of such informed mapping.

## 5. Planning Assessment

### 5.1 Principle of Development

> The principle of the proposed Wind Farm project is considered to be compatible with Planning Policy at all levels of government. Renewable energy projects are supported in principle at National, Regional and Local policy levels, with the need to reduce greenhouse gas emissions, reduce reliance on fossil fuels and combat climate change.
>
> It is perhaps sufficient to note the Climate Action and Low Carbon Development (Amendment) Act 2021 establishes a legally binding framework with clear targets and commitments set in law, and ensures that the necessary structures and processes are embedded on a statutory basis to ensure we achieve our national, EU and international climate goals and obligations in the near and long term. The Climate Action Plan implements the carbon budgets and sectoral emissions ceilings and sets a roadmap for taking decisive action to halve our emissions by 2030 and reach net zero no later than 2050. Wind energy is at the heart of the Plan with a target of 9GW of onshore wind energy by 2030.

If, as claimed, it is sufficient to note the Climate Action and Low Carbon Development (Amendment) Act 2021 maybe the good people of Bruff, Dromin, Athlacca-Ballinlee and environs should have been doing something else with their spare time for the past 6 weeks. From the author's point of view I could have taken time out to watch Ireland beat Hungary. The truth is the Act is not the be-all and end-all the Applicant is implying. We still have a planning process and An Coimisiún has never been better able to apply it than now.

The Applicant would have been better restraining itself for the nauseating drivel it claims about community engagement and community benefits. Many individual submissions from the community speak to the real truth of this.

### 5.2 Design and Layout

> The layout reflects the outcome of the iterative engineering and environmental analysis approach adopted during the wind farm design process which considered a number of factors including minimising any risk in terms of poor ground conditions, negative influences on the existing drainage, avoidance of sensitive ecological habitats, set back distances from dwellings and any known archaeological features. The design has also benefitted from input from relevant bodies and the public. The design rationale and evolution is described in EIAR Volume II Chapter 03 Consideration of Alternative.

I defer to the Technical Wind Chapter in this submission. Nothing more is required to be added.

### 5.3 Environmental Impact Assessment Report (EIAR)

### 5.6 Appropriate Assessment (AA) Screening Report and Natura Impact Assessment (NIS)

I include the AA here out of sequence because by and large both processes travel side by side as witnessed by the mind numbing volumes of cut & paste in the application. As with all purchased developer reports its not the content that is important but what is left out. The good people of Bruff, Dromin, Athlacca-Ballinlee and environs have applied themselves to parsing this application with some help from professionals and have identified the omissions and lacunae in the application. These omissions and lacunae trump the Applicant's dependence on section 15(1) Climate Action and Low Carbon Development Act as amended. They go to the core of this application and my client respectfully suggest these are of such significance that An Coimisiún cannot arrive at the required determinations based on what was provided to them in this application.

### 5.4 Residential Amenity

The Applicant would have been better served leaving out this paragraph on residential amenity as it did with much of the design detail and environmental detail. It could not begin to appreciate what residential amenity means to the people of Bruff and its environs. These people have spoken to this in their individual submissions. One particular comment comes to mind when a resident happened across one of the developer's agents. He asked simply why the development was not kept further to the West of the town removed from dwellings and on poorer lands. The response he got was that the landowners in that location would not engage with the developer. This is the antidote to plan-led development which is a cornerstone for proper planning and sustainable development.

## 5.5 Cultural Heritage

The local people are equally as exercised about cultural heritage as residential amenity. They have a deep rooted love of their community and their existence is etched in cultural heritage. My experience and their concerns are that while An Coimisiún does it utmost to protect cultural heritage in conditions in a planning decision thereafter there is little or no regard to those conditions. Their experience is that the Planning Authority has neither the resources nor the appetite to enforce conditions of a planning permission.

## 5.7 Landscape

The policy makers couldn't care less about the landscape. They could not be bothered to do the mapping required in the Directive to inform stakeholders of decided locations for renewable energy projects. This is no accident. The very same trick has been played with regard to the wind guidelines and the avoidance of implementing up to date guidelines.

The bulking and massing of the turbines in this proposal in combination with their physical size is unconscionable. Not only are they dangerous and inefficient but they are a scar on this low land environment.

## 6. Conclusion

> The development design has undergone an extensive engineering and environmental analysis and has been informed by consultation with the public and relevant bodies.

This is a cynical, vacuous and self-serving comment in circumstance where the residents know the truth and facts of the matter. The application is peppered with engineering and environmental lacunae and public consultation was non-existent.

> The environmental studies and assessments completed demonstrate the proposed development will not create an unacceptable impact on the environment and residential amenity. The NIS, which will be subject to Appropriate Assessment by the competent authority, concludes that the proposed development, either individually, or in combination with other plans/projects, will not affect the integrity of any Natura 2000 Sites in view of the sites' conservation objectives.

An Coimisiún is the body tasked with EIA and AA. This submission has provided information that was required but not included in the application. An Coimisiún will make its decision on the basis of all the information before it, including further information it can source for other stakeholders.

> The proposed Wind Farm Site is located in a 'Preferred Area" for Wind Energy Developments within the Limerick City and County Development Plan (2022-2028). This Planning Statement has clearly demonstrated that the proposed development is acceptable and consistent with planning policy at an international/EU, national, regional and local level. It is therefore considered that the proposed development is in accordance with the proper planning and sustainable development of the area and will contribute towards achieving National and EU targets and in particular the objectives of the Climate Action Plan. It will also contribute towards Limerick City and County Council's goal of becoming a leader of renewable energy provision and meeting the County's energy target for 2030.

To reiterate a fundamental point in this application that the required mapping for renewable energy projects which was intended to be available to all stakeholders, but particularly decision makers, is not yet available. This is not simply incidental but is fundamental to proper planning.

Any reasonable observer would say that proper scientific based mapping should have been in place since the origins of renewable energy. As with residential zoning stakeholders would have known from day one where they stand. This belated requirement founded in RED III for informed base mapping as opposed to the corrupt intricacies of CDP mapping is crucial to decisions such as this. My client implores An Coimisiún to reject this application as premature in advance of informed mapping.

My client respectfully suggest that in the alternative there are ample omissions and environmental lacunae in the application to refuse permission.

## EIAR Non-Tech Summary

This application is for a 10 year permission yet the EIAR Non-Tech Summary declares in section 2.2 Construction Phase that the proposed duration would be of the order of 18 months followed by a 6-month commissioning period. The start date is dependent on planning being granted, receipt of a grid connection offer from EirGrid, funding and all permits being in place. If there is such urgency for renewable development as stated in European and National policy, including RED III, then why is

an exceptional 10 year permission required without any explanation. This should be considered in the context that the developer has included the grid connection in this application.

The Civil Engineering submission on EIAR Chapter 4 calls into question the volumes for spoil presented in the application being based on figures not provided regarding depth of excavations in various locations. There is also conflict and contradictions within the applicant's documentation. The EIAR Non-Tech Summary in section 2.2.1 claims that approximately 24,840$m^3$ will be excavated along the grid connection route. This material will be sent for disposal in a licensed waste facility. In several other reports submitted it is stated that this excavated material will be disposed of on the windfarm site.

Section 2.8 relates to Alternatives to be considered. While this is a mandatory process and the applicant disingenuously ticked that box it did not do so in any meaningful way. The assessment of alternatives is actually a matter for the decision maker to be satisfied as to whether it was properly addressed. The assessment of alternatives should be seen in the context of RED III which has not been properly implemented and any decision on this application is premature in the absence of proper independent scientific assessment and mapping for renewable energy projects and grid connections so that all viable alternatives can be considered. It could be argued that proper assessment and mapping as envisaged in RED III will remove the requirement for the consideration of alternatives as mapped locations should and will be occupied by renewable energy developments.

Section 3.1 while claimed to be about Population and Human Health does not state the number of dwellings in close proximity to this proposal yet it waxes lyrical about a "community benefit fund". While dealt with elsewhere in this submission it is noted that dated historic OSI mapping was used in the application to avoid illustration the true density of dwellings within a 2km radius of this proposal.

Section 3.13.4 relates to Water and Wastewater Infrastructure. It states that sanitary wastewater will be collected in portable toilets. Disposal of sanitary waters will be managed through a contract with a licensed waste contractor. It fails to mention the proposed permanent wastewater tanks, otherwise known as cess pits, which are not permitted. This is dealt with elsewhere in the application including

the fact that the application does not comply with the mandatory Planning and Development Regulations.

Section 3.13.6 deals with Waste Management but does not deal with C&D waste which is dealt with ambiguously and in a contradictory manner throughout the entire application.

## Indicative Design:

> Each wind turbine will have a reinforced concrete base pad foundation with a central plinth above the base, which will support the tower. The foundations are anticipated to be circular in shape and approximately 27m in diameter and 4m in depth. A total of 62,435 $m^3$ of material is expected to be excavated to construct the 17 turbine foundations. The turbine foundations shall be constructed using reinforced concrete construction techniques. Details of foundation designs are provided in Section 4.4.3 of EIAR Volume III, Chapter 04 Civil Engineering.
>
> Figure 3-2 Typical turbine foundation detail

## Grid Connection Route

Nowhere in the application does it state whether the GCR is specifically for this proposed development or is intended to have other bolt-on renewable energy developments.

## NIS and Appropriate Assessment

There are many omissions and lacunae in the EIAR and NIS submitted which have been identified is different sections of this submissions. For example the only reference in the NIS to wastewater is in section 6.3.1.1.

> ### 6.3.1.1. Measures to Protect Water Quality
>
> During the construction phase wastewater on site will be managed by temporary welfare facilities (port-a-loos). The stored effluent will be collected on a regular basis from site by a permitted waste contractor and removed to a licenced waste facility for treatment and disposal.

The NIS does not recognise or mention the proposal for permanent operation stage wastewater storage on the site of possible impacts on qualifying interests from this. The NIS should have

recognised that there is a requirement to treat the wastewater arising on-site in accordance with EPA codes of practice when there is no municipal treatment available. Wastewater has the potential to impact on, among other things, Natura2000 sites. This should have been addressed in the NIS but was not. Similarly the NIS does not address extensive damage which will be caused to land-drains throughout the 255Ha site by excavations and the compaction of drains by heavy vehicles. There is are lacunae in information provided to An Coimisiún and it cannot come to a proper determination based on the information provided.

## Conclusion:

It is submitted that this application is premature as the requirement in RED III for suitable lands to be identified and mapped on a scientific basis for renewable energy development has not be complied with by the State. The applicant has declared this application to be a RED III application and sought any benefits arising therein to support its application while ignoring fundamental aspect of the Directive. On this basis my client respectfully requests An Coimisiún Pleanala to refuse this application on the basis of it being premature.

This submission identifies numerous environmental conflicts, omissions and lacunae in the material submitted by the Applicant. It is considered that An Coimisiún does not have in its possession the required information to make the mandatory determinations in order to proceed to a planning decision and should refuse the application on that basis.

This submission also identifies many pure planning issues which will impact to a significant extent on this community. Those impacts are addressed by individual submissions on members of this group. While in recent times the merits of planning proposals around renewable have been controversial and superseded in the context of a greater good a significant part of RED III is intended to address these issues once and for all to assist all stakeholders including but not least decision makers.

For all the above reasons reinforced in this extensive submission my client seeks a refusal of this Strategic Infrastructure Development application.

Michael Duffy - Agent

# Visual Appendix – Local Amenity and Wildlife



Bruff Town



Lough Gur



Golden Vale



Limerick Leader 1905-current, Saturday, November

# Whoopers heralds Dromin winter

A SURE sign that winter weather cannot be too far away was to be seen during the week with the arrival of the vanguard of the "whooper" swans to the low lying carrican area of Rathcommon. Large flocks of these great birds have been coming to this area in great numbers, usually over the 100 mark for the past eight or nine years. This is a completely new phenomenon heretofore as in the past all the swans we ever saw in the carcass was a few pairs of the native Mute swans. Some years ago we would have huge flocks of wild geese in the carcass, but not one of these birds now come here.

A good turnout at the Athlacca card game last week and the winners, with 11 games, were Alice Bourke and Joanne O'Riordan, the runners-up with nine games were Tom Moloney, Eugene Grant, Tom Dunworth and Moira Blake. Raffle prizes were won by Debbie O'Riordan, John Sheehan, Nancy O'Riordan, Pa O'Connell, Hannah Fitzgerald, Mary O'Riordan, Josie Lynch. Cards as usual next Friday night, starting at 8.30.

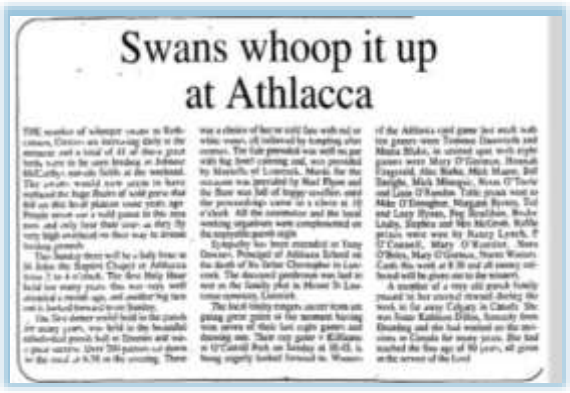
The Dromin-Athlacca GAA club will hold a racenight at the Dunraven Arms Hotel, Adare, on Thursday of next week, the last similar event staged by the club some five years ago is still spoken about in glowing terms. It had excitement, fun and atmosphere, and of course, a chance to win some money. The organisers are confident that November 17 will be an even bigger and better occasion. Entries for all races are now complete, with 100 runners from the local area. The local business fraternity have again been most generous in their sponsorship and with Colin Murray from RTE news and sport as compere, an enjoyable and entertaining evening is in store.

DROMIN/ ATHLACCA

Our local sports people had a very successful week on the greyhound racing scene at Limerick track. First Master James Murphy's charge Clonbrian Again, trained by his mother, Kaye, was a winner. Henry Hogan's Rathcannon Rambly was also victorious as was Jimmy and Nora O'Riordan's charge Tullorboy Hero.

After the 10.30 Mass in Athlacca last Sunday a very nice ceremony took place in the adjacent graveyard when the parish priest, Fr. John Irwin, said the prayers for the dead and blessed the graves. Practically all the congregation waited on and took part in the prayers. It was nice to see that the graveyard had been cleaned and tidied up the previous day and looked very neat and tidy.

The following are the winners of the card game in Dromin last week with 11 games: Tom and Nora Flanagan and sharing second place with 10 games were Jim Power, John Kennedy, John Reid and Gerry Greenwith. Winners of the raffle were Cindy Malcahy, Sean Fitzgerald, Tom O'Brien, Marian Brosnan, Chris Fitzgerald, Paddy MacMahon.



# Swans whoop it up at Athlacca

THE number of whooper swans in Rathcannon, District are increasing daily as the entourage and a total of 41 of these great birds were to be seen feeding in Johnny McCarthy's stubble fields at the weekend. The whole scene was there to have enthused the huge flocks of wild geese that used to visit the carrican some years ago. Friends were a wild guess in this area now and only hear their cries as they fly very high overhead on their way to distant feeding grounds.

This Sunday there will be a holy hour in St John the Baptist Church in Athlacca from 3 to 4 o'clock. The first Holy Hour held for many years this was very well attended a month ago, and another big turn out is looked forward to on Sunday.

The first dinner event held in the parish for many years, was held in the beautiful refurbished parish hall in Dromin and was a great success. Over 200 patrons sat down to the meal at 8.30 on the evening. There was a choice of beef or wild fare with red or white wines all followed by tempting after dinner. The fare provided was well up par with the best catering and was provided by Michelle of Limerick. Music for the occasion was provided by Noel Flynn and the floor was full of happy revellers until the proceedings came to a close at 10 o'clock. All the committee and the local working organisers were complimented on the enjoyable parish night.

Sympathy has been extended to Tony Dwyer, Principal of Athlacca School on the death of his father Christopher in Luncork. The deceased gentleman was laid to rest in the family plot in Mount St Lawrence cemetery, Limerick.

The local trinity rangers soccer team are going great guns at the moment having won seven of their last eight games and drawing one. Their next game v Killaloe is O'Carroll Park on Sunday at 10.45. is being eagerly looked forward to. Winners of the Athlacca card game last week with ten games were Tommie Dunworth and Moira Blake, in second spot with eight games were Mary O'Gorman, Hannah Fitzgerald, Alice Burke, Mick Mantz, Bill Enright, Mick Minogue, Nora O'Toole and Josie O'Riordan. Table prizes went to Mike O'Donoghue, Margaret Byrnes, Ted and Lucy Hynes, Peg Bradshaw, Brooke Linsky, Stephen and Wes McGrath. Raffle prizes were won by Nancy Lynch, P O'Connell, Mary O'Riordan, Nora O'Brien, Mary O'Gorman, Noreen Watters. Cards this week at 8.30 and all money collected will be given out to the winners.

A number of a very old parish family passed to her eternal reward during the week, in far away Calgary in Canada. She was Josie Kathleen Dillon, formerly from Rinaling and she had resided on the prairies in Canada for many years. She had reached the fine age of 80 years, all given in the service of the Lord.



Whooper Swans



Rathcannon Castle



Grange Stone Circle

# Grounds for Refusal Summary

The following grounds set out why permission for the proposed Ballinlee Wind Farm should be refused. Each ground identifies a breach of EU, international or Irish law, followed by a brief narrative explanation. Legislation is referred to by numbered citations (e.g. [1]), which are expanded in the References section.

## Ground 1 – Breach of Article 6(3) of the Habitats Directive

The Appropriate Assessment fails to rule out adverse effects on the integrity of European sites connected to the Shannon system beyond reasonable scientific doubt. It relies on uncertain mitigation and post-consent management measures rather than clear, evidence-based conclusions, contrary to Article 6(3) requirements and its Irish transposition.[1]

## Ground 2 – Breach of Articles 4 & 5 of the Birds Directive

The project gives rise to collision and disturbance risks for Annex I and Special Conservation Interest bird species, including Whooper Swan, without demonstrating that such impacts will be avoided or reduced to non-significant levels. Mitigation and management lands are speculative and unenforceable in practice, contrary to obligations to safeguard protected bird populations.[2]

## Ground 3 – Breach of the EIA Directive (inadequate assessment)

The EIAR does not furnish a complete, coherent and sufficient assessment of the likely significant effects on population, human health and the environment. Key topics such as noise, infrasound, shadow flicker, air quality and cumulative impacts are treated in a fragmented way, falling below the minimum information standards of Articles 3 and 5.[3]

## Ground 4 – Breach of the Water Framework Directive 'no deterioration' obligation

Borrow pits, access tracks, foundations and drainage works risk causing hydro morphological alteration and pollution of surface waters connected to the Shannon system. The project fails to demonstrate that water body status will not deteriorate or that WFD objectives will be achieved, as required by EU and Irish law.[4]

## Ground 5 – Breach of the Environmental Noise Directive and associated obligations

Predicted operational noise levels, including the potential for tonal components and amplitude modulation, are not shown to keep exposure at noise-sensitive receptors as low as reasonably achievable. This conflicts with the Directive's aim to avoid harmful effects from environmental noise.[5]

## Ground 6 – Breach of the Aarhus Convention and EIA public participation requirements

The EIAR defers essential details of mitigation and monitoring to post-consent plans, thereby preventing the public from understanding and commenting on the full extent of impacts at the decision stage. This undermines effective public participation under the Aarhus Convention and Article 6 of the EIA Directive.[6]

## Ground 7 – Breach of the precautionary principle in biodiversity protection

Significant scientific uncertainty remains regarding impacts on protected habitats, bats, otter, badger and key bird species. In such circumstances, the precautionary principle requires refusal rather than reliance on optimistic predictions and post-consent adaptive management.[7]

## Ground 8 – Breach of obligations under the Bonn Convention and AEWA

The development poses collision and disturbance risks to migratory waterbirds using the Shannon system and its environs. It fails to demonstrate that favourable conservation status of these populations will be maintained, contrary to international commitments under the Bonn Convention and AEWA.[8]

## Ground 9 – Breach of Planning and Development Act 2000, s.34(3) (proper planning)

Because of its likely adverse impacts on human health, residential amenity, landscape, biodiversity and water quality, the project would be contrary to the proper planning and sustainable development of the area. The Board cannot be satisfied that the benefits outweigh the significant environmental and amenity costs.[9]

## Ground 10 – Breach of Planning and Development Regulations (EIA)

The EIAR does not comply with the detailed content requirements in the Planning and Development Regulations. Baseline data, assessment methods and cumulative analyses are incomplete, preventing the competent authority from carrying out a lawful EIA.[10]

## Ground 11 – Breach of European Communities (Birds and Natural Habitats) Regulations 2011

The Natura Impact Statement and associated biodiversity documentation do not dispel reasonable scientific doubt about adverse effects on European sites and protected species. Reliance on uncertain mitigation and management plans fails to satisfy the strict protection regime in the 2011 Regulations.[11]

## Ground 12 – Breach of the Wildlife Acts 1976–2018

Badger sett disturbance, potential otter holt disturbance and impacts on other protected fauna are not robustly avoided or mitigated. The proposals risk the destruction or disturbance of breeding and resting places contrary to the strict protections afforded by the Wildlife Acts.[12]

## Ground 13 – Breach of Water Pollution Acts and related WFD regulations

Surface water management, particularly in relation to excavations, borrow pits and construction runoff, is insufficiently designed to prevent pollution of nearby streams and drains. The project therefore risks offences under the Water Pollution Acts and non-compliance with water quality objectives.[13]

## Ground 14 – Breach of human health protection obligations under EIA law

The EIAR does not provide a robust assessment of likely impacts on human health arising from noise, including infrasound, shadow flicker, dust and traffic. Health pathways are not quantified or assessed against accepted thresholds, in breach of obligations to consider population and human health as key receptors.[14]

## Ground 15 – Breach of national noise and amenity standards

Given the quiet rural baseline, the predicted turbine noise levels, including low-frequency and modulation components—are likely to cause sleep disturbance and loss of amenity for nearby residents. This is inconsistent with WHO noise guidelines and the planning authority's duty to protect residential amenity.[15]

## Ground 16 – Breach of EU ambient air quality requirements

Construction traffic, dust and machinery emissions are not properly modelled against statutory air quality standards. Without such modelling, compliance with limit values for PM and NO2 cannot be demonstrated, contrary to the Ambient Air Quality Directive and national regulations.[16]

## Ground 17 – Breach of EU and Irish waste management obligations

The Construction Environmental Management Plan does not provide enforceable arrangements for the handling of excavated material, borrow pit arisings or invasive species-contaminated soils. This fails to meet the requirements of the Waste Framework Directive and its Irish implementing regulations.[17]

## Ground 18 – Breach of Irish noise and vibration guidance (EPA and WHO)

Noise predictions omit a robust assessment of low-frequency noise and amplitude modulation, and do not convincingly demonstrate compliance with EPA guidance and WHO health-based noise limits. This renders the conclusions on noise effects unreliable.[18]

## Ground 19 – Breach of EIA Directive obligations regarding human health

The EIAR treats human health in a cursory manner and fails to integrate health outcomes across noise, air quality, flicker and stress. This falls short of Article 3 requirements to comprehensively assess effects on population and human health.[14]

## Ground 20 – Breach of traffic and road safety obligations

The traffic assessment does not convincingly address the safety and amenity impacts of abnormal loads, construction traffic and grid connection works along rural roads. It therefore fails to meet the planning authority's duty to ensure road safety and protect local communities from undue disturbance.[20]

## Ground 21 – Breach of flood risk requirements (failure to carry out a Justification Test)

Elements of the project are located within Flood Zones A and/or B, yet no compliant Justification Test under the Flood Risk Management Guidelines has been carried out. This is contrary to Section 28 guidelines and the flood risk policies of the Limerick County Development Plan.[21]

## Ground 22 – Breach of ambient air quality requirements (lack of modelling)

The EIAR does not model PM10, PM2.5 or NO2 concentrations at nearby dwellings or other sensitive receptors. Without receptor-based modelling, compliance with EU and Irish air quality standards cannot be demonstrated.[16]

## Ground 23 – Failure to quantify construction dust and emissions

Dust and particulate emissions from major construction activities are assessed only qualitatively, without deposition or concentration modelling. This fails to provide the level of detail required for a lawful EIA.[3]

## Ground 24 – Breach of human health obligations in relation to air quality

The EIAR provides no exposure assessment or comparison with WHO air quality guidelines for residents near construction and haul routes. Human health impacts from air pollutants are therefore not adequately assessed.[14]

## Ground 25 – Improper scoping out of operational air quality effects

Operational air quality impacts are dismissed solely on the basis of traffic thresholds, with no receptor-specific analysis. This approach is inconsistent with EIA requirements to assess likely significant effects on the environment.[3]

## Ground 26 – Over-reliance on post-consent shadow flicker mitigation

The EIAR acknowledges significant exceedances of guideline thresholds for shadow flicker at many dwellings but proposes to address these solely through programmable turbine controls after consent. Such post-consent mitigation cannot cure an inadequate assessment at EIA stage.[26]

## Ground 27 – Exceedance of national shadow flicker limits

Shadow flicker modelling indicates that houses within the study area will exceed the 30 hours per year and 30 minutes per day thresholds set out in national wind energy guidelines, absent mitigation. This represents an unacceptable impact on residential amenity.[15]

## Ground 28 – Scientifically unrealistic shadow flicker modelling inputs

The shadow flicker model assumes 100% sunshine, constant rotor operation and ideal geometry, while omitting vegetation and other real-world shielding effects. Such assumptions undermine confidence in the conclusions and do not meet the requirement for robust, scientifically sound methods.[19]

## Ground 29 – Failure to assess health impacts of shadow flicker

Despite acknowledging shadow flicker as a potential pathway to affect human health and wellbeing, the EIAR provides no assessment of annoyance, stress or neurological impacts on residents. Human health risks from flicker are therefore left unexamined.[30]

## Ground 30 – Failure to assess combined effects of air, noise and shadow flicker

Air quality, noise and flicker are each discussed in isolation, without considering their combined or synergistic effects on human health. This approach fails to meet EIA requirements for cumulative and combined impact assessment.[25]

## Ground 31 – EIAR incomplete and non-compliant with Article 5 and Annex IV

The EIAR omits essential baseline data, methodological detail and modelling outputs for key topics including human health and shadow flicker. These omissions mean the report does not satisfy the minimum information requirements of Article 5 and Annex IV of the EIA Directive.[19]

## Ground 32 – Failure to assess human health as required by the EIA Directive

Although human health is identified as a topic, the EIAR does not provide quantitative assessments of exposure, risk or health outcomes arising from project-related stressors. This is contrary to the explicit requirement to assess population and human health effects.[14]

## Ground 33 – Failure to assess impacts on vulnerable population groups

The project's impacts on vulnerable groups – such as disabled persons, children, older people or those with pre-existing medical conditions – are not identified or assessed, particularly in relation to noise and flicker. This breaches the requirement to consider vulnerable receptors in the EIA.[22]

## Ground 34 – Missing data restricts effective public participation

The absence of raw modelling data, detailed methodologies and up-to-date receptor lists prevents the public from independently evaluating the project's effects. This undermines the right to informed participation under EU EIA law and the Aarhus Convention.[23]

## Ground 35 – Failure to use up-to-date and authoritative scientific evidence

The EIAR does not provide up-to-date scientific sources or full model documentation to substantiate its conclusions, especially in relation to health and flicker. This is contrary to the Directive's requirement that assessments be based on the best available scientific knowledge.[24]

## Ground 36 – Failure to assess cumulative impacts in accordance with EIA law

Cumulative effects with other existing, permitted or proposed wind farms and infrastructure are not systematically assessed. This omission breaches the obligation to consider cumulative and combined effects on receptors.[25]

## Ground 37 – Mitigation vague, unenforceable and deferred to post-consent

Many mitigation measures are expressed in general terms, without clear performance criteria or binding commitments, and are often left to future plans and approvals. This approach does not meet EU requirements for specific, enforceable mitigation at the EIA stage.[26]

## Ground 38 – Reasonable alternatives not properly assessed

The EIAR does not provide a meaningful assessment of reasonable alternatives in terms of site location, layout, scale, turbine heights or grid connection options that might reduce environmental impacts. This falls short of Article 5(1)(d) requirements.[27]

## Ground 39 – Multiple health-related breaches of the EIA Directive

The project fails to assess the health effects on the population, the specific impacts on vulnerable groups, the use of up-to-date science and the demonstration that significant adverse effects can be avoided or reduced. These combined failures mean significant health impacts cannot be ruled out, requiring refusal of consent.[28]

## Ground 40 – Shadow flicker modelling and baseline data materially deficient

The EIAR provides no raw shadow flicker modelling files or parameters, omits dwellings built or permitted after the baseline date, and fails to document key assumptions. This breaches minimum information standards for modelling and prevents a lawful assessment of significant effects.[29]

# References

[1] Council Directive 92/43/EEC (Habitats Directive), Article 6(3); European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011), Regulation 42.

[2] Directive 2009/147/EC (Birds Directive), Articles 4–5; S.I. No. 477/2011, Regulations 27–30.

[3] Directive 2011/92/EU as amended by Directive 2014/52/EU (EIA Directive), Articles 3 and 5; Planning and Development Regulations 2001–2018, Part 10.

[4] Directive 2000/60/EC (Water Framework Directive), Article 4; European Communities (Water Policy) Regulations 2003 (S.I. No. 722/2003).

[5] Directive 2002/49/EC (Environmental Noise Directive); Environmental Noise Regulations 2018 (S.I. No. 549/2018).

[6] Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention), Articles 4–6; EIA Directive Article 6.

[7] Treaty on the Functioning of the European Union (TFEU), Article 191 (precautionary principle); Convention on Biological Diversity, Article 14.

[8] Convention on Migratory Species (Bonn, 1979); Agreement on the Conservation of African-Eurasian Migratory Waterbirds (AEWA), Article II.

[9] Planning and Development Act 2000 (as amended), Section 34(3).

[10] Planning and Development Regulations 2001–2018, Part 10 and Schedule 6 (EIA content).

[11] European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011), in particular Part 5.

[12] Wildlife Acts 1976–2018, including provisions on protected species and their breeding/resting places.

[13] Local Government (Water Pollution) Acts 1977–1990; WFD transposing regulations including S.I. No. 722/2003.

[14] Directive 2014/52/EU, Article 3(1)(b) (population and human health); Annex IV(5); EPA Guidelines on the Information to be Contained in EIAR (2022).

[15] WHO Environmental Noise Guidelines for the European Region (2018); Planning and Development Act 2000, Section 34(3)(b).

[16] Directive 2008/50/EC on Ambient Air Quality and Cleaner Air for Europe; Air Quality Standards Regulations 2011 (S.I. No. 180/2011) and subsequent amendments.

[17] Directive 2008/98/EC (Waste Framework Directive); European Communities (Waste Directive) Regulations 2011 (S.I. No. 126/2011).

[18] EPA Guidance Note for Noise in Relation to Scheduled Activities (NG4, 2016); WHO 2018 Noise Guidelines.

[19] Directive 2014/52/EU, Article 5 and Annex IV (minimum information and methodological detail).

[20] Planning and Development Act 2000; Road Safety Authority guidance on abnormal loads and construction traffic (e.g. 2016 guidance).

[21] The Planning System and Flood Risk Management Guidelines for Planning Authorities (DoEHLG/OPW, 2009); Planning and Development Act 2000, Section 28; Limerick County Development Plan flood risk policies.

[22] Directive 2014/52/EU, Annex IV(5)(f) (consideration of vulnerable groups).

[23] EIA Directive Article 6; Aarhus Convention obligations on access to environmental information and public participation.

[24] Directive 2014/52/EU, Recital 35 and Annex IV(1) (use of up-to-date, authoritative scientific information).

[25] Directive 2014/52/EU, Article 3 and Annex IV(5) (cumulative and combined effects).

[26] Directive 2014/52/EU, Article 5(1)(e) and Annex IV(7) (mitigation); relevant CJEU case law including C-258/11 (Sweetman).

[27] Directive 2014/52/EU, Article 5(1)(d) and Annex IV(2) (reasonable alternatives).

[28] Directive 2014/52/EU, Articles 3 and 8a(1) (assessment and decision-making on significant adverse effects).

[29] Directive 2014/52/EU, Article 5(1)(a) and Annex IV (modelling parameters, assumptions and baseline data).

[30] WHO and EU guidance on health impacts for vulnerable and sensitive populations in environmental decision-making.

# Alternatives Considered

## Executive Summary

This review evaluates Chapter 3 (Consideration of Alternatives) of the Ballinlee Wind Farm Environmental Impact Assessment Report (EIAR). The EIA Directive (2014/52/EU) requires that developers assess 'reasonable alternatives', including alternatives of location, scale, technology, and design, and provide a comparison of their environmental effects.

Chapter 3 claims to fulfil this requirement through assessment of alternative sites, layouts, grid connections, and construction methods.

This analysis finds that the assessment is narrow in scope, relies predominantly on desktop data rather than site-specific evidence, and fails to provide the quantitative comparison necessary for informed decision-making. For example:

- The process demonstrates a recurring pattern evident elsewhere in the EIAR (see, for example, the review of Chapter 8): design decisions made before adequate evidence, followed by retrospective rationalisation to justify predetermined outcomes.

- Key weaknesses include: the definition of project objectives so narrowly that only one location and scale could satisfy them; superficial consideration of scale and technology alternatives; site selection based solely on desktop modelling without on-site wind data or comparative quantification; circular reliance on unverified assumptions (e.g., borrow pit viability); failure to follow up on An Coimisiún Pleanála's pre-planning requests; and deferred assessment of the Adare Bypass turbine delivery route.

Taken together, these deficiencies amount to non-compliance with Article 5(1)(d) and Annex IV(2) of the EIA Directive.

The conclusion is clear: Chapter 3 does not provide An Coimisiún Pleanála with sufficient evidence to determine that the Ballinlee proposal, in its current form and scale, represents the most sustainable or balanced option.

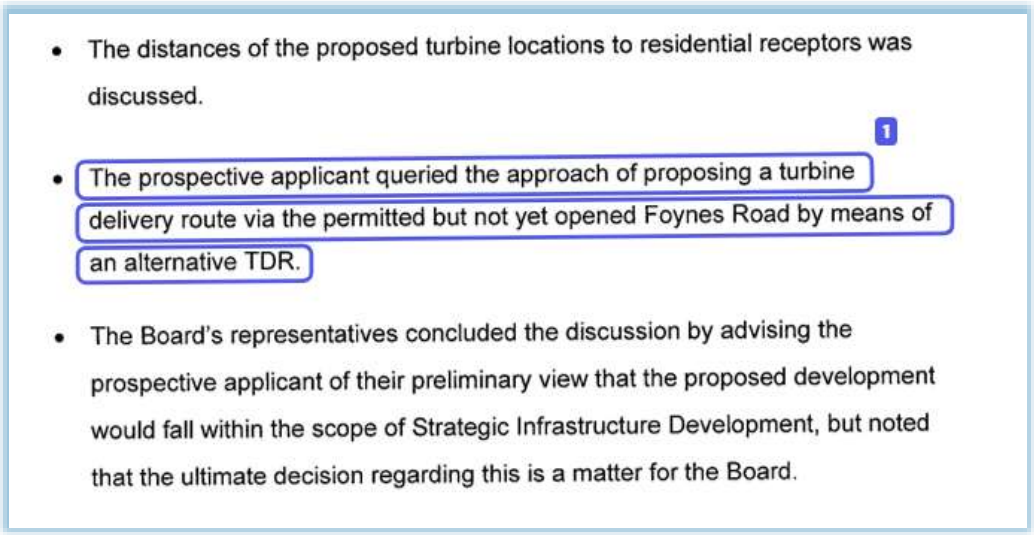
## Evidence Pattern: Design Before Evidence

The Ballinlee EIAR demonstrates a consistent procedural sequence—commitment before confirmation.

### Key timeline points:

**August–November 2024:** Preliminary design fixed; eight alternative sites rejected based on high-level desktop constraints (ref Appendix 8A).

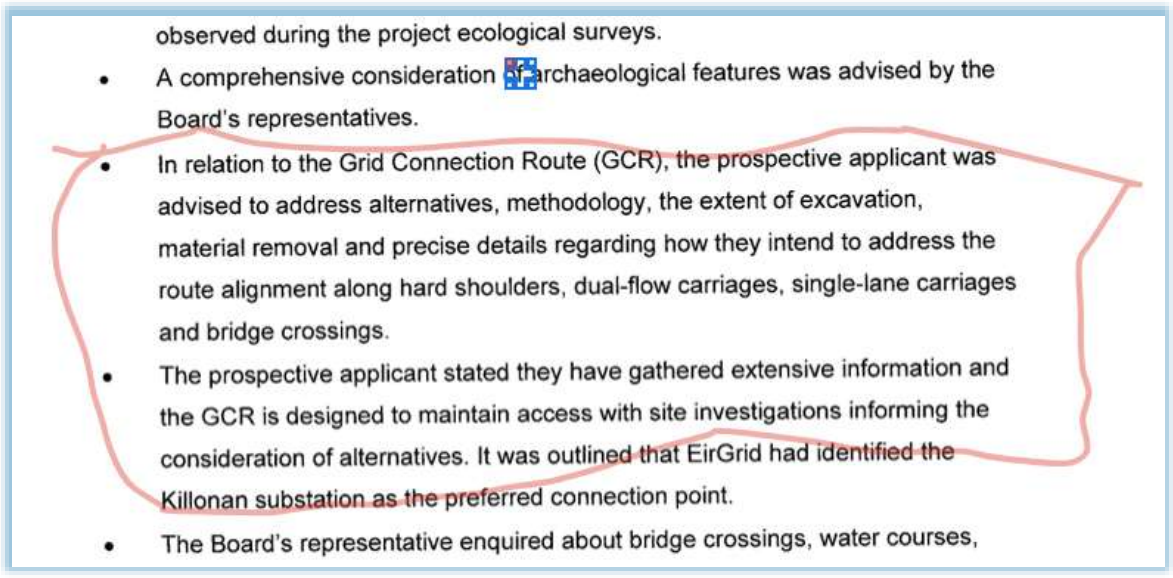
**25th October, 2024:** At the first pre-planning consultation, An Bord Pleanála advised the developer to examine alternative turbine delivery routes, including the Foynes Road/Adare Bypass (Fig. 1).



- The distances of the proposed turbine locations to residential receptors was discussed.
- The prospective applicant queried the approach of proposing a turbine delivery route via the permitted but not yet opened Foynes Road by means of an alternative TDR.
- The Board's representatives concluded the discussion by advising the prospective applicant of their preliminary view that the proposed development would fall within the scope of Strategic Infrastructure Development, but noted that the ultimate decision regarding this is a matter for the Board.

*Figure 1: Extract from memo on 1st preplanning meeting 251024 [Accessed 08/11/25]*

**20th March 2025:** ABP pressed the developer to consider alternative grid connection routes (GCRs). The developer stated that "*site investigations were informing the consideration of alternatives*." This confirms that alternatives were examined only after regulator prompting—not as an integral design step.



observed during the project ecological surveys.

- A comprehensive consideration of archaeological features was advised by the Board's representatives.
- In relation to the Grid Connection Route (GCR), the prospective applicant was advised to address alternatives, methodology, the extent of excavation, material removal and precise details regarding how they intend to address the route alignment along hard shoulders, dual-flow carriages, single-lane carriages and bridge crossings.
- The prospective applicant stated they have gathered extensive information and the GCR is designed to maintain access with site investigations informing the consideration of alternatives. It was outlined that EirGrid had identified the Killonan substation as the preferred connection point.
- The Board's representative enquired about bridge crossings, water courses,

*Figure 2: Screenshot of memo on the 2nd preplanning meeting 20th March, 2025 [accessed 081125]*

**September 2025**: The submitted EIAR provides only qualitative descriptions of GCR options.

# Key Deficiencies in Chapter 3

1. **Project Objective Predetermines Outcome:** The objective is framed so narrowly that it precludes meaningful location or scale alternatives. An overall EIA compliance assessment is offered in Table 1 and elaborated upon below:

| Requirement | Evidence in Ch. 3 | Compliance |
|---|---|---|
| Location alternatives | 9 sites, desktop only | ⚠️ Minimal |
| Technology alternatives | None | ❌ Non-compliant |
| Scale alternatives | 18 vs 17 only | ❌ Non-compliant |
| Comparative assessment | Qualitative only | ⚠️ Inadequate |

*Table 1: EIA Directive Compliance Assessment*

2. **Site Selection Based on Inadequate Evidence:** *Chapter 3, Section 3.4.4, Table 3-2 states:* "The predicted wind speed at the proposed development is approximately 7.5 – 7.6m/s as shown in the Sustainable Energy Authority of Ireland's (SEAI) Wind Atlas."

   The Atlas while an invaluable tool in selecting regions and areas suitable for wind development has a resolution that is insufficient distinguish between sites in an area as small as the developer has selected for alternatives.

   - It is a modelled prediction, not measured data, with inherent uncertainties
   - No comparative wind data is provided for the 8 rejected alternative sites
   - Industry best practice requires a minimum of 12 months of on-site monitoring and correlation to a relevant long-term reference

   In March 2025, the developer is recorded as saying that "site investigations were informing the consideration of alternatives." (Fig 2). The site investigations do not include on-site wind monitoring. Therefore, the alternatives analysis remains based on inadequate and speculative desktop data.

3. **No Meaningful Scale Alternatives:** The only scale alternative referred to is reducing the number of turbines from 18 to 17 (fig 3). This is cosmetic. No modelling of smaller layouts is offered (for example, 8, 10, 12 turbines).



Figure 3-12: Final Site Layout

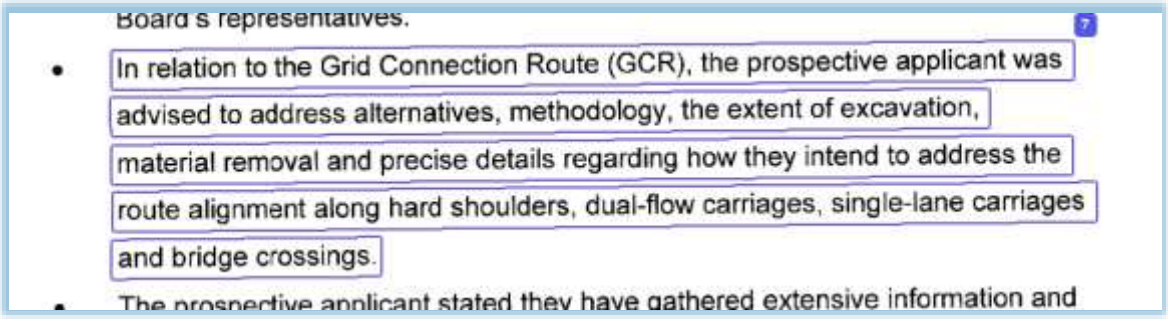
Table 3-5: Comparison of Environmental Effects

| Environmental Factor | Initial Design | Final Design |
|---|---|---|
| Population and Human Health | 18 No. turbines with a tip height of up to 200m. | Reduction in number of turbines to 17 No. turbines, reduction in height of turbines resulting in increased setback from dwellings. |
| Biodiversity | Swan Population located to the north of the site. | Swan enhancement area identified within the site. |
| Air and Climate | 18 No. turbines with a tip height would produce more renewable electricity and provide a greater reduction of carbon emissions. | 17 No. turbines results in a slight reduction of renewable electricity however, the embodied carbon requirements would also be reduced during construction. |
| Landscape and Visual | 18 No. turbines with a tip height of up to 200m visible in certain areas throughout the landscape. | Reduced number of turbines to 17 No. turbines with a reduced tip height of up to 160m, thus reducing visual effect. |

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*Figure 3: Extract from Chapter 3 showing the "range" of scale alternatives considered (from 18 - 17)*

4. **Technology Alternatives Ignored:** There is no analysis of hybrid (e.g., wind and solar combination) or alternative renewable configurations, contrary to Annex IV(2).
5. **Circular Logic Around Borrow Pit Viability:** Chapter 3 assumes borrow pit viability, which the review of Chapter 8 proves unverified, creating circular justification.
6. **Inadequate Comparative Assessment**: The tables use qualitative terms only ("some effect", "no effect") without quantitative data.
7. **Unjustified Selection of Longest Grid Route:** The longest option (27.6 km) was chosen over a 25 km alternative based on minimal justification, which ignores ABP's March 2025 request for precise details (fig. 4).

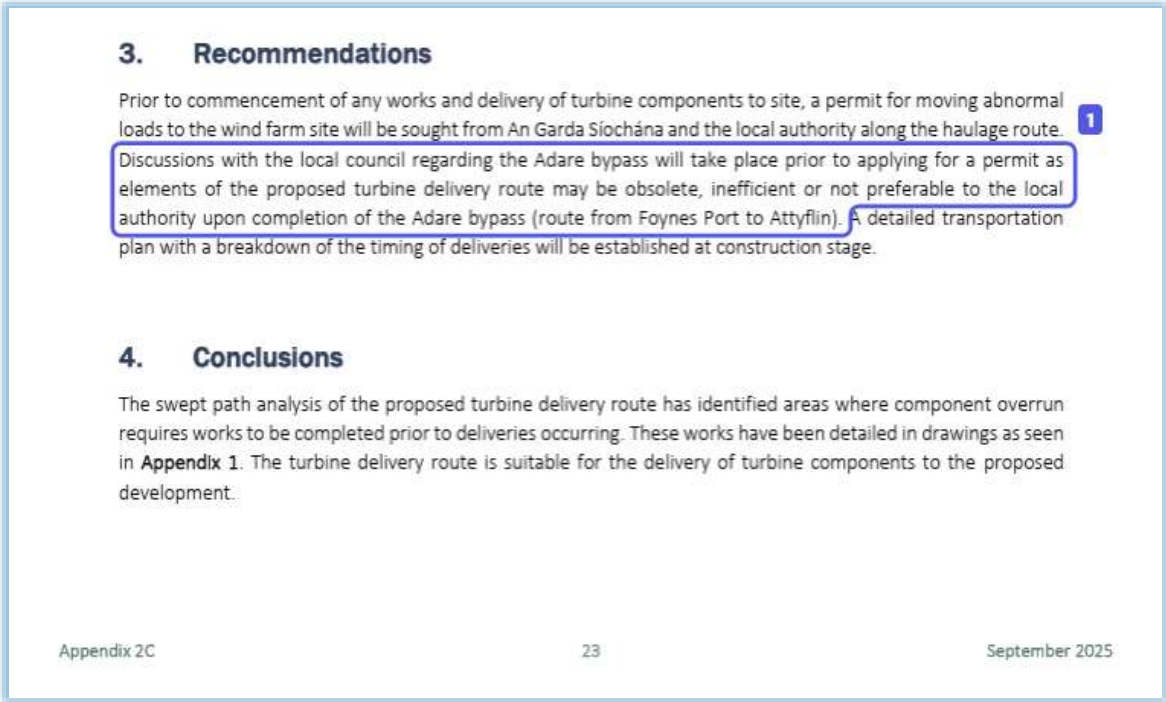


Board's representatives.

- In relation to the Grid Connection Route (GCR), the prospective applicant was advised to address alternatives, methodology, the extent of excavation, material removal and precise details regarding how they intend to address the route alignment along hard shoulders, dual-flow carriages, single-lane carriages and bridge crossings.
- The prospective applicant stated they have gathered extensive information and

*Figure 4: Extract from the pre-planning meeting March, 2025 and the advice of An Coimisuin Pleanala re alternatives to the Grid Connection Route*

8. Deferred Assessment of Turbine Delivery Route Alternatives: Appendix 2C defers evaluation of Adare Bypass route to the post-consent stage, breaching EIA principles (Fig 4) .



3. Recommendations

Prior to commencement of any works and delivery of turbine components to site, a permit for moving abnormal loads to the wind farm site will be sought from An Garda Síochána and the local authority along the haulage route. 1
Discussions with the local council regarding the Adare bypass will take place prior to applying for a permit as elements of the proposed turbine delivery route may be obsolete, inefficient or not preferable to the local authority upon completion of the Adare bypass (route from Foynes Port to Attyflin). A detailed transportation plan with a breakdown of the timing of deliveries will be established at construction stage.

4. Conclusions

The swept path analysis of the proposed turbine delivery route has identified areas where component overrun requires works to be completed prior to deliveries occurring. These works have been detailed in drawings as seen in **Appendix 1**. The turbine delivery route is suitable for the delivery of turbine components to the proposed development.

Appendix 2C 23 September 2025

*Figure 5: Extract from Appendix 2C (Turbine Delivery Route)*

9. Do-Nothing" Scenario Superficial: Dismissed solely for missing national targets; no local or alternative development comparison.
10. Absence of Equity or Community Consideration: No analysis of distributional fairness or community burden across alternatives.

## Supporting Observations

Cross-Chapter Inconsistency: Chapter 3 relies on assumptions from Chapters 8 and 16 that are uncertain or unverified.
Lack of Quantitative Evidence: There are no GIS overlays, receptor counts, or measurable data accompanying alternatives.
Reactive Engagement: Investigation and revision of key aspects of the proposed development occurred only after ABP queries. This is inconsistent with good EIA practice and indicates the developer's attempt to minimize their effort and commitment to preparing an informed proposal.

A robust assessment of alternatives (drawing on EPA Guidelines 2022, EU Commission Guidance 2017, and established practice in wind energy EIA), should include:

Evidence of site selection deliberation:

- Geographic scope of search clearly defined

- Multiple candidate sites identified (typically 10-20)
- Scored comparison using weighted multi-criteria analysis
- Primary research at shortlisted sites (typically top 3-5)
- Quantified comparison of constraints (dwellings within setbacks, ZTV coverage, habitat impacts)

Evidence of consideration of a range of scale alternatives:

- Assessment of at least 3 genuinely different scales (e.g., 8, 12, 17 turbines)
- Comparative modelling of visual impact, noise, and other key effects
- Economic viability analysis showing why the chosen scale is optimal
- Consideration of whether a smaller scale achieves substantial benefit with less impact

Evidence of consideration of a range of technology Alternatives:

- Assessment of alternative renewable technologies feasible at the location
- Comparative energy output and environmental impact analysis
- Justification for selected technology

Evidence of place-based investigation to the selection of the optimum Grid Connection Route:

- Assessment of multiple route options to different substations
- Quantified comparison of excavation volumes, costs, and environmental impacts
- Transparent methodology for route selection
- Engineering justification for chosen route

Evidence of consideration of alternative construction methods based on site specific (primary) data:

- Comparative assessment of material sourcing options
- Traffic impact analysis for different scenarios
- Site-specific data informing construction methodology

# Conclusion

Chapter 3 of the Ballinlee Wind Farm EIAR fails to demonstrate compliance with the EIA Directive's requirements on reasonable alternatives. The document is descriptive rather than analytical, reactive rather than anticipatory, and based on secondary rather than site-specific (primary) data.

The same flawed pattern of "design before evidence" as found in the review of other chapters reappears, indicating a systemic procedural weakness across the EIAR. We believe that An Coimisiún Pleanála cannot be satisfied that the proposed development demonstrates that it is the most sustainable or equitable option.

At a minimum, further work is required to quantify comparative assessments, verify borrow pit viability, reassess grid and delivery routes, and include genuine consideration of scale and technology options. Until then, the EIAR does not provide a reliable or complete basis for planning approval.

If An Coimisiún Pleanála considers that the application cannot be remedied through additional information, we request refusal on the grounds of:

- Inadequate information for informed decision-making
- Non-compliance with EIA Directive requirements for alternatives assessment
- Failure to address concerns identified by An Coimisiún Pleanála in pre-planning
- Inadequate evidence that the proposed development is the optimal option

# Wind Energy Zoning

*Prepared by Marie-Clare Power, BSc Hons Quantity Surveying., Postgraduate Certificate in Real Estate on behalf of the Bruff–Dromin–Athlacca–Ballinlee Community Action Group*

## Introduction

The applicant discusses several key criteria required for successful wind energy development in in EIAR Chapter 3: Alternatives. Some of these criteria include questionable "consistently high average annual wind speeds", "proximity to Grid" which is 27.6km, setback distances and compliance with Planning Policy/Designation.

The matter of actual wind resource is addressed in the group submission under 'Wind Technical' by John Quirke. Here it is outlined how the developer ignored the science based on the SEAI Wind Energy Atlas. The SEAI Wind Atlas website states:

> *"The goal is to aid policy makers, local governments and community groups in the initial planning stages, we want to educate developers and the general public on Ireland's current wind resource environment".*

The distance to the national electricity grid from the proposed development is not what one would reasonably describe as "proximate". It is also questionable how an analysis of flood risk was not discussed given the siting of 4 turbines in Flood Zone A (Northern Cluster). This area is known to flood regularly (latest flood November 2025).

Setback distances are not maintained in several instances, and the number of homes within 1km is excessively and concerningly high at 179 within 1km and 279 within 1.5km. We are not told how many homes are within 2km, despite this being asked by the ACP Inspector during the pre-application meetings in October 2024.

It would be therefore worthy to look at the current designation to understand why Limerick City and County Council zoned such a large area as "preferred" for wind energy development.

## Use of the Zoning Map in Community Engagement

During the community engagement process, the Wind Energy Zoning Map was repeatedly used to justify the selection of this site, as shown on Page 8 of the Community Report where an entire page is dedicated to it. This map was referenced extensively when community members asked why this specific location had been chosen. It is also notable that there are no existing wind farms in the immediate vicinity—the closest, Castlepook Wind Farm, is located 16 km south of the proposed site in an area identified by the wind atlas as a higher wind resource than the surrounding area.

## Site Designation

The proposed wind farm is located on a site which has been designated as a *preferred area for wind energy development* by Limerick City and County Council as part of the Limerick Development Plan 2022– 2028 in line with current national policy and favourable conditions for wind energy generation.

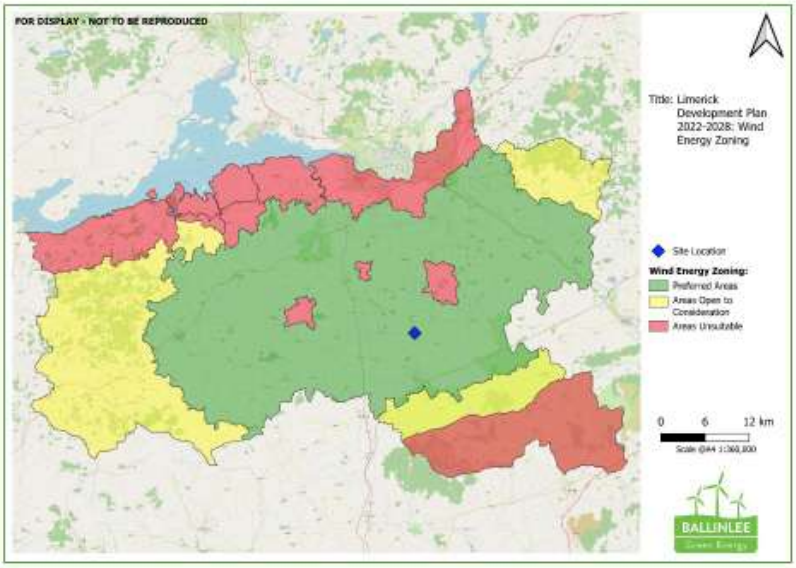



*Figure 2 Limerick Development Plan Wind Energy Zoning*

Page 8: Community Report.

When you refer to the Key Questions & Answers section on page 33 of the Report, this is listed as one of the communities frequently asked questions. The justification provided by the applicant once again is that the area has been designated as "preferred". No other reasonings are offered.

1. THE SITE, COMPONENTS & SITE LOCATION

**Why develop a wind farm here, and not elsewhere, like more remote areas or in the sea?**

The site is designated a "preferred area" for wind energy by Limerick City and County Council under the 2022–2028 Development Plan. It offers favourable wind conditions and aligns with the national renewable energy policy.

The repetition used by the developer, both in the community engagement process and in the planning application veneers over the reality that the Ballinlee site, along with large portions of the areas identified on the renewables map are manifestly unsuitable for industrial scale wind development.

# RED III Directive - National Territory Mapping

RED III is the Revised Renewable Energy Directive of the European Union. Article 15(b) of RED III obliges each EU Member State to carry out a *mapping exercise of its national territory* to identify **available areas** necessary for the installation of renewable-energy plants and their related infrastructure.

This directive required Ireland to have completed by 21 May 2025 a mapping project to identify areas suitable for renewable energy development and to adopt by 21 February 2026 plans within these areas designating renewables acceleration areas. Ireland did not achieve the requirement to complete a National Territory Mapping. It put this out for Public Consultation in October 2025, with a Map drafted from existing areas as currently designated by Local Authorities for renewable energy.

The national mapping should serve as a comprehensive national baseline for future renewable deployment, rather than an overlay of historically mapped zones, which in the case of Limerick has been stagnant since 2005 and therefore critically out of date. Despite this, the Ballinlee Wind Farm application was lodged as a RED III application which is premature.

### Limerick Development Plan – Current Zoning Explained

During the consultation, The Mayor of Limerick John Moran made a submission in a letter dated 10th October to the Department of Climate, Energy, and the Environment, in response to the National Territory Mapping. The Mayor is critical of the approach as taken to compile the National Territory Mapping. He explains in the letter (appended) how the LCCC have essentially been prevented from amending their Wind Energy Guidelines and designations for appropriate areas for siting of onshore wind energy:

> *"This approach is not considered appropriate as Circular PL 20-13 of 2013 advised local authorities to refrain from amending existing Development Plan policies related to wind and renewable energy during the standard six-year review cycle or through plan variations. Instead, authorities were instructed to continue operating under their current policies until a focused review of the Wind Energy Development Guidelines 2006 is completed. This guidance remains the Department's official position. Consequently, Planning Authorities have been unable to* update their Development Plans in this regard and are awaiting the publication of revised Wind Energy Guidelines for incorporation."

This letter offers much clarity on the background to the current extensive designation as **"preferred area"** for onshore wind energy across Limerick.

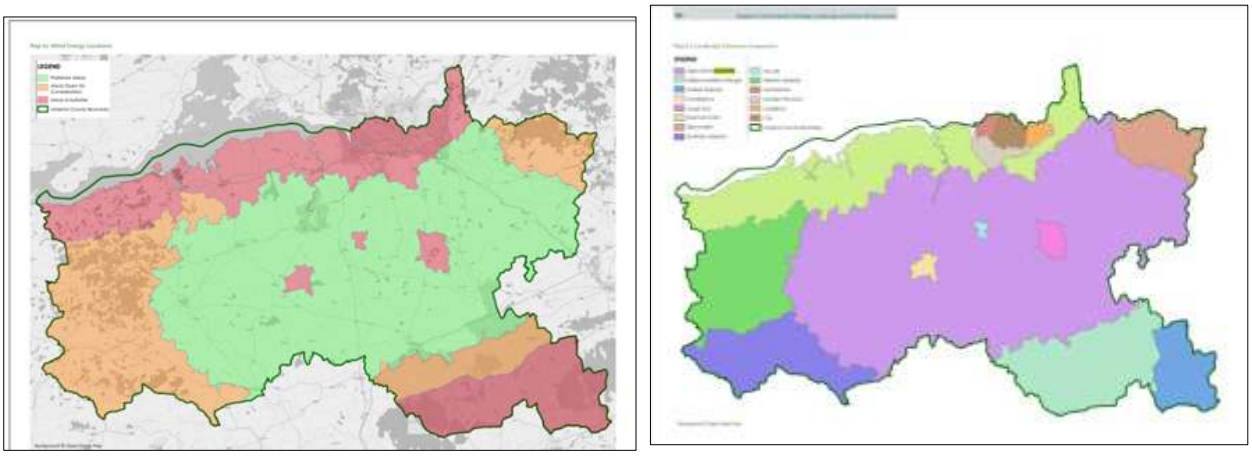
> *"The wind energy map included in the Limerick Development Plan 2022–2028 is based on Landscape Character Assessments, as required under the Planning and Development Act 2000 (as amended). This approach was first adopted in the 2005 Limerick County Development Plan and carried forward into the 2010 Plan, which considered the 2006 Wind Energy Guidelines. These provisions remained in effect until the adoption of the first joint City*

*and County Development Plan in June 2022. This approach to identifying areas for wind energy development was different in each local authority and therefore should not form the basis for a national territory map to identify potential renewable energy capacity for the country."*

The Landscape Character Assessment Map is shown below alongside the current wind energy location map. The purple colour is the LCA 01 Agricultural Lowlands. With regards to wind energy development as per page 187 of the Written Statement.

*"Encourage the regular arrangement of turbines with equal spacing in proposed wind farm developments, which take field boundaries into account"*

The design of Ballinlee Wind Farm does not align to this objective.



*Map 9.1: Wind Energy Locations & Map 6.1: Landscape Character Assessment*

The result is that Wind Energy Zoning for Limerick is now 20 years old. Back then wind turbines were a third or less the capacity and correspondingly much smaller than what they are proposed today. This zoning designation is critically out of date.

Wind Energy Zoning for Limerick City and County has been blocked for amendment as per Circular CL 20-13 in 2013 based on a focused review of the 2006 guidelines which remains incomplete. The draft 2019 Wind Energy Guidelines remain unpublished.

The "preferred areas" designation for wind energy development by Limerick City and County Council within the current Limerick Development Plan 2022–2028 covers in the region of 65%-70% of Limericks land mass and as discussed, was drafted based on Landscape Character.
This is not the foundation of a justification for site suitability.

To summarise, Map 9.1 above Wind Energy Locations: Preferred Areas was:

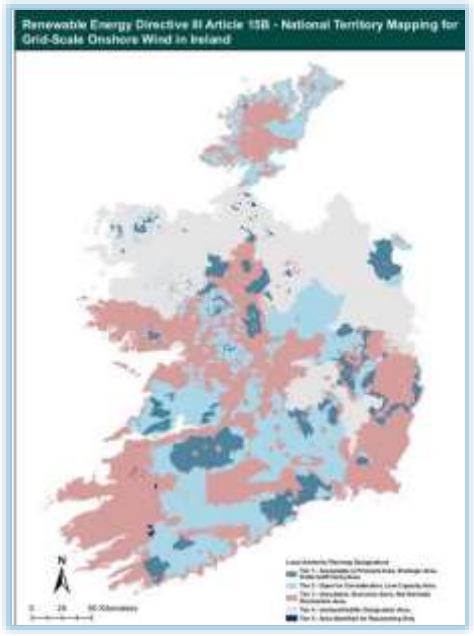
- Created in 2005, based entirely on Landscape Character Assessment – Agricultural Lowlands.
- Designated the entire Agricultural Lowlands as "preferred" areas for wind energy development;
- Based on turbine models that were, at the time, one-half the hub height and half the sweep diameter of modern turbines (effectively doubling the height of the turbine structure);
- Drafted before any significant understanding existed of the health impacts of turbine noise, including amplitude modulation, low-frequency noise, infrasound, and shadow flicker.

The Council has been blocked from amending these outdated designations since 2013, leaving communities unprotected from inappropriate development.

The applicant, Greensource, is now exploiting these regulatory gaps, relying on outdated designations to justify a proposal that would never be acceptable under modern planning or environmental standards.

We also note that during the Draft period of Limerick 2022-2028 Development Plan, WEI instructed the Limerick Executive not to use this map regarding zoning map for locations for wind energy.

It is worth noting that the two Munster counties where the WEI lobbyists were successful in having the SEAI wind atlas disregarded are Limerick and Waterford. Clare, Tipperary and Cork all consulted the atlas or the SEAI website and as per the enclosed national planning map the renewable designations are starkly different. A science agnostic result where Limerick and Waterford are majority designated for renewables and the other three counties have designated areas where wind power makes more sense.




*National proposed Renewables Map*

# Contraventions to the Limerick Development Plan:

It is important to state that the Written Statement takes precedence over the Wind Map 9.1

The Development Plan Status "*In the event that any conflict or ambiguity arises between the Written Statement and supporting maps, the Written Statement shall take precedence"* (page 11 of the plan). We see numerous contraventions with the Ballinlee Wind Farm location and the designation of "preferred" for wind energy with Limericks 2022 – 2028 Development Plan. The proposed development at this location would therefore be contrary to the proper planning and sustainable development of the area.

Several contraventions to Limerick Development Plan Objectives are Cited below (note *this is not an exhaustive list)*.

## Strategic Objectives

> 8. *Protect, enhance and connect areas of natural heritage, green infrastructure and open space for the benefits of quality of life, biodiversity, protected species and habitats, while having the potential to facilitate climate change adaptation and flood risk measures.*
>
> *10. Support growth in the tourism sector in Limerick, specifically focusing on sustainable tourism, and capture key opportunities to develop the sector based around five key drivers – Greenways, Waterways, Activities, Heritage, Arts and Culture, in an urban and a rural environment.*
>
> *Landscape and Visual Amenity 6.4.1 Landscape Assessment and Landscape Character Areas: Limerick possesses a varied landscape which is important not just for its intrinsic value and beauty, but also because it provides for local residents and visitors, both in terms of a place to live and for recreational and tourism purposes. The importance of landscape and visual amenity in the role of planning is recognised in the Planning and Development Act 2000 (as amended). The Act require that Development Plans include objectives for the preservation of the landscape, views and prospects. It requires objectives for Landscape Conservation Areas, Areas of Special Amenity and also for the assessment of landscape character. This approach towards landscape issues based on the Draft Landscape Character Assessment Guidelines stresses the distinctiveness of differing kinds of landscape and how differing kinds of development can best be integrated within them."*

*Objective CAF O29 Wind Energy Development and Environmental Considerations It is an objective of the Council to facilitate the development of wind energy in an environmentally sustainable manner, ensuring proposals are consistent with the landscape character objectives of the Plan, the protection of the natural and built environment and the visual and residential amenities of the area.*

The Turbines will become the defining landscape element; the project is not consistent with the objective to protect landscape character. Through a AIE request, all correspondence relating the Pre-Application Case Ref 320745 was obtained. Contained with the files are email exchanges between

ACP Inspector and the Applicant in which concern is raised on the visual impacts. The landscape category is described as *'hilly and flat farmland',* in the context of the WEDG and "*where a bespoke response would be required and where turbine heights tend not to be tall"*

The Inspector raises the issue of 160m tall turbines in a low-lying landscape (Agricultural Lowlands LCA ) and impact on Lough Gur ACA:

> *"Consideration of visual and landscape impacts on the area, with the low-lying relatively flat terrain potentially offering expansive views of the turbines from the surrounding area. The site is in a landscape character area referred to as Agricultural Lowlands character area and close to Lough Gur ACA (5km to the northeast), with potential implications for this landscape, views and prospects.*

Given the low-lying nature of our Agricultural Lowlands, the Inspector states there is:

> *Very little for the 160m-high turbines to relate to in the landscape. Excessive turbine heights and scale may become accentuated relative to existing indicators and elevated above the underlying landscape – there is a need to avoid direct scale comparisons, where the height of turbines may become emphasised when viewed alongside these indicators – this would contrast with the low-lying landscape pattern.*

The Inspector raises the issue of "*Avoidance of clutter"* and "notes that

> *"Any views from elevated ground – recreational or tourist routes."*

"Although these issues were highlighted as early as October 2024 during the pre-application stage, the EIAR submitted in September 2025 still presents an LVIA that downplays the visual impact. The chosen viewpoint at Lough Gur bears little resemblance to the elevated ground from which visitors and recreational users actually experience the landscape."

*This is a clearly misleading approach, and the intent behind the LVIA is hard to overlook. Despite the Inspector's direction in the pre-application process to address Recreational and Tourism viewpoints, these were essentially omitted. The EIAR uses just one viewpoint (VP19) to represent the visual impact on Lough Gur, which is entirely insufficient."*

> *"VP19 is oriented along the Lough where it is framed within the fore-to-middle ground"*



This Landscape and Visual Impact Assessment for Ballinlee Wind Farm has been designed to downplay and obscure the true visual impact on Lough Gur, rather than provide a transparent and honest appraisal. The selective presentation of information is so disingenuous that it borders on being insulting.

## LCA. 05 Lough Gur

There will be a severe visual impact on Lough Gur with the placing of 17 x 160m tall wind turbines in the direct viewing path from where over 100, 000 visitors come to take in the breathtaking views annually. Lough Gur is protected within the Limerick Development as per extract below.

> *"The area around Lough Gur, with its pleasant rural setting and views of the lake and its well developed hedgerows, is also an attractive amenity and is widely used by locals and visitors alike. "*

| | | |
|---|---|---|
| **LCA 05 Lough Gur** | Lough Gur is one of the most significant archaeological site in Limerick. Topographically it is made up of a series of rolling hills surrounding the lake, which is the centre point of the area. The landscape is pastoral with a long history of human habitation. The presence of a wide variety of archaeological monuments is one of the characteristic features of the area. The area around Lough Gur, with its pleasant rural setting and views of the lake and its well-developed hedgerows, is also an attractive amenity and is widely used by locals and visitors alike. | a) Safeguard the visual amenity of the area and to have regard to the views and prospects in and out of Lough Gur.<br>b) Restrict development including residential development in the area of Special Development Control, shown on Map 6.3 except in exceptional circumstances. Appropriate tourism development and extensions to existing properties, which respect the special character of Lough Gur will be considered.<br>c) To have regard to the archaeological importance and richness of the area indicated on Map 6.3 as a zone of archaeological amenity. Any developments within the zone will be required to provide for an archaeological examination during the course of excavations, or other ground disturbance.<br>d) To safeguard the existence of Natural Heritage Areas and the Wildfowl sanctuary when assessing applications for development in the area. |

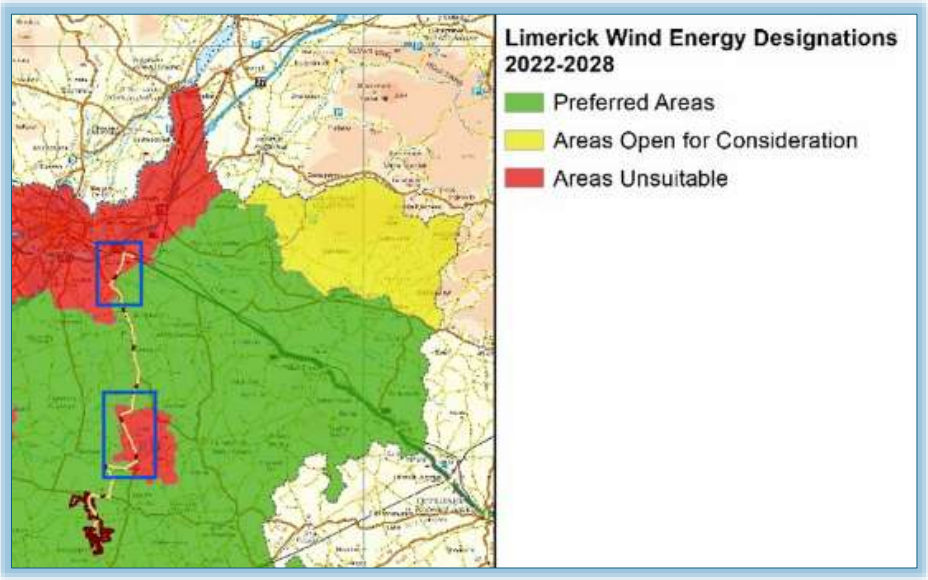
*Objective CAF O30 – Location of Wind Energy Developments*

*It is an objective of the Council to promote the location of wind farms and wind energy infrastructure in the 'preferred areas' as outlined on Map 9.1, to prohibit such infrastructure in areas identified as 'not open for consideration' and to consider, subject to appropriate assessment, the location of wind generating infrastructure in areas 'open for consideration'*

The applicant acknowledges that the grid connection route (GCR) passes through an area designated as "unsuitable for new wind energy development." They then argue this is irrelevant because the GCR constitutes "electricity transmission development rather than wind energy development," and therefore the designation "does not apply." However, CAF O30 explicitly includes **"wind energy infrastructure,"** not just turbines. A dedicated grid connection is a core component of wind farm infrastructure. The applicant's assertion that CAF O30 is inapplicable is not supported by the wording of the Plan.

This determination that the Grid Connection forms part of the overall wind energy development was determined by case law in O'Grianna v An Bord Pleanála [2014] IEHC 632, High Court (McEochaidh J).

The High Court held that the wind farm and the grid connection are one project; the turbines "serve no function" if they cannot connect to the national grid (Ó Gríanna & Ors v An Bord Pleanála, 2014). Therefore Wind Energy zoning as per Map 9.1 applies to all sections of both Wind Farm and Grid Connection.




*Taken from EIAR Chapter 2 Figure 2-6: Wind Energy Zoning*

***Policy EH P8*** *Landscape Character Areas It is a policy of the Council to promote the distinctiveness and where necessary safeguard the sensitivity of Limerick's landscape types, through the landscape characterisation process in accordance with the Draft Guidelines for Landscape and Landscape Assessment (2000) as issued by the Department of Environment and Local Government, in accordance with the European Landscape Convention (Florence Convention) and with A National Landscape Strategy for Ireland – 2015 2025. The Council shall implement any relevant recommendations contained in the Department of Arts, Heritage and the Gaeltacht's National Landscape Strategy for Ireland, 2015 – 2025*

Note: ELC The National Landscape Strategy 2015-2025 The National Landscape Strategy 2015-2025 is not referenced within the application /EIAR. Wind energy proposals should be evaluated within the context of the local landscape character, not just technical or economic criteria. It is a critical omission not to refer to this strategy in determining site suitability.

The Views and Prospects from Lough Gur are protected under Objective EH 031 within the plan

*Objective EH O31 Views and Prospects It is an objective of the Council to: a) Preserve, protect and encourage the enjoyment of views and prospects of special amenity value or special interests and to prevent development, which would block or otherwise interfere with views and/or prospects. b) In areas where scenic views and prospects are listed in the Plan, there will be a presumption against development, except that required to facilitate farming and appropriate tourism and related*

*activities. The development must be appropriately designed so that it can be integrated into the landscape"*

***Objective IN O1*** *Climate Action in Infrastructure Planning It is an objective of the Council to: a) Require all infrastructure development, whether above ground or subterranean, to avoid flood risk areas and areas at risk of coastal erosion.*

The Northern Cluster of the proposed wind farm with 5 turbines falls within the Morningstar—Maigue River catchment and according to LDF 2022-2028 Strategic Flood Risk Assessment, fall within Flood Zone A (4) & B (1). The Ballinlee EIAR Flood Risk Assessment is showing as incomplete, the most critical (Justification Test & hydraulic impact analysis) are absent.

***CAF O20*** *Flood Risk Assessments It is an objective of the Council to require a Site-Specific Flood Risk Assessment (FRA) for all planning applications in Flood Zones A and B and consider all sources of flooding (for example coastal/tidal, fluvial, pluvial or*

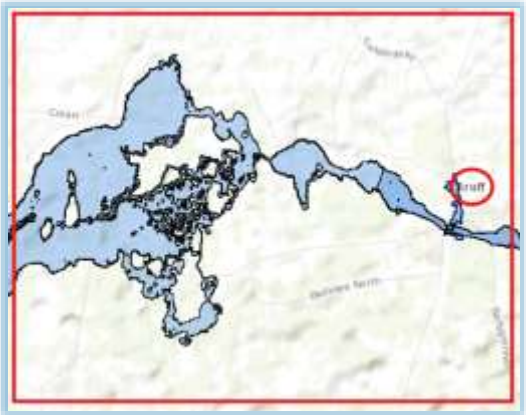
Images of Recent Flooding (13th November 2025). In Flood Zone A where 4 Turbines are Planned.




*Photo taken 13.11.2025. OPW Clearing Athlacca Bridge carrying out flood-protection works.*



*Area known as the 'Corcas' – Flood Zone A where 4 turbines are proposed. Photo taken by Jack O'Shea 13th November 2025 at 16:10.*



*Source: LCC County Development Plan Plotted with ITM X/Y -https://www.arcgis.com/apps/View/*



*Source: Google My Maps with Turbines*

## Summary

In summary, we are of the opinion that the Wind Energy Map contained in the current Limerick County Development Plan 2022 – 2028 cannot be used in the assessment of this wind energy proposal, and any grant of permission would be premature until such time that it is established that the site location is within the scope of RED III:

- County Development Plans have a defined life expectancy of 6 years, however the Wind Energy Zoning for Limerick has remained unchanged since 2005. The zoning is 20 years old and is not plan-led or evidence-based, ABP must take into consideration of any pending amendments or interim updates to the LCCC Development Plan
- The current zoning although designated as "preferred" for onshore wind, was heavily influenced by representatives of the Wind Industry

- No National Territory Map or RAA designation area has been finalised, any application that relies on existing local wind maps does not align with REDIII Directive.
- The site is unsuitable for Industrial Scale 160m Wind Turbines

# References

https://assets.gov.ie/static/documents/Map_1_-_National_Territory_Mapping_for_Grid-Scale_Onshore_Wind.pdf

Limerick City & County Council (2023) *Limerick Development Plan 2022-2028, Volume 1: Written Statement (including Variation No 1)*. Limerick: Limerick City & County Council. Available at: https://www.limerick.ie/sites/default/files/media/documents/2023-05/Limerick-Development-Plan-Volume-1-Written-Statement-including-Variation-No-1.pdf (Accessed: 14 November 2025)

Ó Gríanna & Ors v An Bord Pleanála [2014] IEHC632 (High Court, Peart J):

# Appendix:

Limerick City and County Councils Submission to the National Territory Mapping for Renewable Energy dated 10th October

Comhairle Cathrach & Contae Luimnigh
Limerick City & County Council

Pleanáil, agus Cruthú Áite
Ceannchéathrú Chorparáideach
Comhairle Cathrach agus Contae Luimnigh
Cé na gCeannaithe, Luimneach
V94 EH90

Planning and Place-Making
Corporate Headquarters
Limerick City and County Council
Merchant's Quay, Limerick
V94 EH90

**Renewable Electricity Section**
**Department of Climate, Energy and the Environment**
**Tom Johnson House**
**Haddington Road**
**Dublin**
**D04 K7X4**

**10TH October 2025**

A Chara,

Limerick City and County Council welcomes the opportunity to provide feedback on this public consultation on National Territory Mapping for Renewable Electricity.

**National Territory Mapping**

Article 15b of the relevant EU directive obliges Member States to undertake a "coordinated mapping" of their national territories. This exercise is intended to identify domestic potential and available land, sub-surface, sea, and inland water areas suitable for the installation of renewable energy infrastructure, in order to meet 2030 targets.
The National Territory Mapping is based on areas already designated for renewable energy generation in existing statutory Local Authority Development Plans. This approach is not considered appropriate as Circular PL 20-13 of 2013 advised local authorities to refrain from amending existing Development Plan policies related to wind and renewable energy during the standard six-year review cycle or through plan variations. Instead, authorities were instructed to continue operating under their current policies until a focused review of the Wind Energy Development Guidelines 2006 is completed. This guidance remains the Department's official position. Consequently, Planning Authorities have been unable to update their Development Plans in this regard and are awaiting the publication of revised Wind Energy Guidelines for incorporation.

The wind energy map included in the Limerick Development Plan 2022–2028 is based on Landscape Character Assessments, as required under the Planning and Development Act 2000 (as amended). This approach was first adopted in the 2005 Limerick County Development Plan and carried forward into the 2010 Plan, which considered the 2006 Wind Energy Guidelines. These provisions remained in effect until the adoption of the first joint City and County Development Plan in June 2022. This approach to identifying areas for wind energy development was different in each local authority and therefore should not form the basis for a national territory map to identify potential renewable energy capacity for the country.

**National Territory Mapping for Grid-Scale Solar PV in Ireland**

It is acknowledged Limerick and other significant areas of the country do not have solar mapping. This is supported by the large area of the country that is shown as Tier 4 Unclassified /No designation area.

It is suggested that in addition to looking at the wider countryside, consideration needs to be given to the systematic use, where suitable, of buildings, rooftops and other structures in the built environment which could support solar. Further from the point of view of non-compensable reasons for refusal of planning applications (sections 190 to 192 of the Planning Act 2000), phrases such as "available areas with no risk identified" should be avoided in terms of areas suitable for solar or indeed any form of renewable development.

Traditionally County Development Plans focused heavily on wind energy, this emphasis may result in gaps regarding other technologies, such as solar. Therefore, when extrapolating local mapping data to the national level, these gaps must be acknowledged and addressed.

As earlier outlined it is considered that the upcoming RSES will provide required information on renewable energy allocations and landscape characters at a regional level will inform the preparation of a new Development Plan and Solar PV will form part of the review of the Development Plan.

**Available Areas of Offshore Renewable Energy in Ireland**

The DMAPS process should be used to determine suitable areas.

**Renewable Acceleration Area**

The Shannon Estuary and its key landbanks at Moneypoint, Ballylongford, Foynes, Askeaton and Limerick are of strategic national importance in terms of delivering on renewable energy targets and are included in various capacities under the national territory mapping. Sites such as Moneypoint are vital as a generation asset with the proposed "repowering" to include for energy storage, development of new generation capacity and the introduction of new thermal technologies which will ensure the site continues to support energy security. It is a strategic node in the transmission network with the site accommodating strategic existing and proposed cables, which will ultimately need to make landfall and connection at Moneypoint if Offshore Renewable Energy is to be delivered in a timely manner and safely uploaded to the grid. Through the installation of a Synchronous Compensator in 2022, this zero-carbon technology helps stabilize the grid as more renewables come online. The Shannon Estuary with its deep-water storage, potential wet storage locations and the presence of Shannon Foynes Port Company (a Tier 1 Port of national significance) should be identified as a Renewable Acceleration Area under Article 15c. Shannon Foynes Port Company is central to Ireland's ambitions in Offshore Renewable Energy (ORE) with the port being developed as a green energy hub, with plans for e-fuels production and support for sustainable logistics.

Through the identification of the Shannon Estuary as a Renewable Acceleration Area under the EU Renewable Energy Directive it will ensure it continues to play its key role as one of the

most important assets for renewable energy development due to its natural geography, strategic location, and existing infrastructure. The Estuary is ideally located to harness Atlantic Offshore Wind especially floating offshore wind and has a capacity to deliver 2GW by 2030 and up to 30GW by 2050 through its strategic location. Ireland's territorial waters in this region could generate 10 times the country's energy needs, making it a potential net exporter of clean energy and a focal point for the offshore wind industry in Europe.

Through the identification and adoption of the Shannon Estuary as a Renewable Acceleration Area it will work in harmony with the National DMAP for Offshore Renewable Energy which is currently being prepared by the Minister for Climate, Energy and the Environment and will ensure the estuary is ready to accommodate our developing offshore renewable energy sector.

**Additional feedback**

As a general point for all renewables, any work on mapping should take account of grid and substation capacity, both current and planned, when drafting the maps. It is important to include planned upgrades, as many permissions for renewables are for extended periods of time, such as ten years, so projected grid improvements in that time period could facilitate development within that time frame.

There appears to be a focus on large scale developments at the cost of local community initiatives that can create local decentralised energy communities which can offer not just additional supply to the grid but also demand management which supports the concept of climate resilient communities.

Consideration should also be given to the possible effects of infrastructure and projects on marine and shore-line archaeology.

Limerick City and County Council appreciates the opportunity to contribute to this important process and looks forward to continued collaboration with the Department.

John Moran
Mayor of Limerick

# Community Engagement

## Executive Summary

To define community engagement in the context of renewable energy projects, it refers to the early, open, and ongoing involvement of local communities in the planning and development of wind energy projects. It ensures that residents are informed, consulted, and able to participate meaningfully in decisions that affect their environment, wellbeing, and local area.

Greensource, the parent company of Ballinlee Green Energy, has undertaken a community consultation for this proposed industrial wind farm in a manner that breaches every established principle of meaningful engagement applicable under National Guidelines, Best Practice Guidance and EU Legal Frameworks including Aarhus Convention (ratified by Ireland in 2012). From the outset, the consultation process has been disingenuous, lacking in transparency, inaccessible to large sections of the community and overall undemocratic.

The design of this project was effectively fixed long before any community member was consulted and any feedback sought. This approach cannot credibly be described as consultation. It is instead a process of design first, notify community afterwards. This runs contrary to both the spirit and purpose of the relevant guidelines and EU law. The Community Engagement Report and the claim that Ballinlee Green Energy valued the views and queries of our community, stating that they were taken into the projects and the community was actively involved in the planning process, reads as fiction.

Large cohorts of the community were not consulted and were therefore denied their right to participate in environmental matters that have a direct and lasting impact on them. Where members of the community did seek information, this was only provided on the applicants predetermined terms, with limited and controlled access to relevant details such as proximity to nearest turbines. Most worryingly, when we spoke with members of our community who had attended one of the 3 community clinics, the feedback provided show that many felt their concerns were disregarded, or diminished, leaving individuals upset, anxious with a sense of lack of control. We have summarised some of this feedback in Section 5.1

We will demonstrate over the course of the following pages how the applicants' claim that their community engagement was meaningful, effective and informative are false. To do this effectively, we will outline the breaches to relevant legislation and guidelines and provide a timeline of events. The applicant did not engage in a manner and format with sufficient information for people to understand the nature and scale of the project being proposed.

This developer has not been granted a Social Licence to Operate by our community. We can only accept a sustainable energy project that will balance the protection of our environment and wellbeing and heath. Community engagement has not been completed in accordance with the guidelines,

legislation and guidance notes and therefore we ask the Board to refuse planning for Ballinlee Wind Farm

## Regulatory Context – EU and National Law, and Industry Standards

Community engagement and participation by a community in wind energy projects is a legal obligation as directed by various EU Directives, National Policy and Local Policy. Developers must consult the community early, gather feedback, and ensure that this feedback is demonstrably reflected in the design of the project itself. There is a clear obligation on the developer to promote public acceptance which can only be obtained through transparent, public consultation that ensures the public can participate in environmental decision-making. The applicant has breached EU Law and national guidelines on multiple counts as we will discuss.

### Environmental Impact Assessment Directive (2014/52/EU)- EIA Directive

The Environmental Impact Assessment Directive (2014/52/EU) ("EIA Directive") requires Member States to ensure *early and effective public participation* in the environmental assessment process, particularly during the scoping stage and prior to submission of the Environmental Impact Assessment Report (EIAR). In accordance with Articles 6(2)– (8) of the Directive, the public must be informed early in the decision-making process, when all options open, and must be given genuine opportunities to participate before the project design is fixed. Consultation outcomes must be documented and demonstrate how communities' views have influenced the final decision. These obligations reflect the principles enshrined in the Aarhus Convention (1998, ratified by Ireland 20 June 2012), which guarantees the public's rights to access information, participate in environmental decision-making, and seek justice in environmental matters.

The applicant's Community Engagement Report fails to meet these participation requirements. Consultation activities took place only after the project design had been finalised, with no evidence that community feedback influenced the design or layout of the proposed development. During an unannounced doorstep visit, when a community member asked whether engagement feedback could alter the design in any way, the applicant reportedly replied with a firm "no.". There was a deliberate delay in releasing the turbine locations to the public to imply the project design was being developed. The consultation remained rigid throughout, with many people reporting the answers to questions were not sufficient and being told to wait until the EIAR was submitted. During the consultation process, the applicant refused to answer residents' questions regarding the proximity of their homes to turbines other than the single nearest turbine. Residents were instead advised to determine this information themselves once the planning application was lodged. This approach effectively is withholding critical information.

### The SEAI Community Energy Resource Toolkit: Stakeholder and Community Engagement

This toolkit sets out guidance for developers seeking to develop energy projects like Wind Farms, to effectively and transparently conduct extensive community and stakeholder engagements. The

guide is to assist companies like Greensource /Ballinlee Green energy to formulate a clear strategy which ensures maximum participation in community engagement, one without barriers and one that is equitable with the longer-term intention of building trusted relationships.

The SEAI Guide sets out several key principals and good practices for community engagement, some which we would like to highlight:

Information to be provided at a very early stage in the project in a transparent and accessible way

As evidenced in the EIAR, the applicant was already on the proposed site in 2021, conducting bird surveys, site surveys and negotiating land leasing agreements with landowners, those who are gaining financially.

> *"three years of bird surveys were completed as part of the baseline EIA studies. These surveys commenced in 2021 and have been ongoing." (Chapter 03 Consideration of Alternatives)*

Community consultation did not commence until May 2025. This is not "early engagement" by any reasonable interpretation of the term. Furthermore, analysing Chapter 3: Consideration of Alternatives, there is no evidence that community feedback influenced turbine siting, layout, or scale. The community were only made aware of the height of the Turbines on 29th May 2025, but no information of their "proposed" locations was released until 28th July 2025. Any design iteration was justified by technical or environmental factors, not social or community-driven concerns. The community group, BDAB – Community Action Group requested details on the proposed locations on the following dates (note we asked for indicative coordinates):

- 4th March 2025
- 1st June 2025

Our requests were denied on each occasion.

A flyer was delivered to homes within 1 kilometre only and missing essential information such as the proposed location of each of the 17 Turbines and any indication of the scale. The flyer indicated the project was 4km from the town of Bruff and listed 3 out of 8 townlands which were to host the 17 turbines. Townlands listed on the flyer were:

- Ballinlee
- Ballincurra
- Camas South

There are 8 townlands but 3 only are mentioned on the Flyer. Why is this? We can make a reasonable assumption that the company is trying to minimise the projects scope. No Turbine locations and no indication whatsoever on the flyer as to when the locations would be shared. This flyer was worryingly inadequate on detail, and its intent was to promote the benefits of wind energy in the context of contributing to Irelands 2050 ambitions, and perceived benefits for the community, rather than explain the project scale, accurate location and potential impacts. The flyer discusses Irelands EU Targets and

Community Benefit Fund, which was complex for individuals to understand and a distraction from the project's imposition on the community.

### Adequate Communication Resources

Flyer as discussed does not meet the advertising standards or comply with ASAI Code, which requires advertisements to be legal, decent, honest, truthful and not misleading. The Project Website launched in May 2025, was not active in March and the developer has made a few false statements stating this such as statements to the Limerick Leader Article and confirming same in emails to our group. Our action group attempted to access the Website in March and April and were met with a "this site is under construction".

Acceptable by communities – our survey as 6th September Date shows a 0% preference for the private clinic style engagement.

## Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement

As noted by Colm McLoughlin (An Coimisiún Pleanála), in an email dated March 19th, 2025, during the pre-planning application phase, it was highlighted that the developer should follow "the Department Code of Practice". We have found a concerning level of conflicts where the developers' actions not only did not follow the Code of Practice, but you could also say they significantly contradict the code. We note that the applicant has not referred to the Code of Practice within the EIAR. Here are some examples of conflicts:

### Contact and visibility

This section states that 'regular meetings should be scheduled with the local community'. This was not the case. There were 3 clinic dates provided by the developer for a community where we estimate close of 500 homes are located within the 2km project boundary. Two of these meetings were arranged on the last week of August 2025, which coincided with our local National Schools commencement of school term after the summer break, an extremely busy period and potentially challenging for parents of neurodiverse children who require additional supports for changing routines. The applicant must "also make publically available full, clear and comprehensive information about the project during key milestone stages of development (e.g. pre-planning, planning, construction)". This was not the case; there were ongoing requests by the community for turbine layouts and detailed mapping which were denied

- Arrangements for making contact

The applicant must ensure the "widest possible" consultation from the very start of a project. However, the applicant restricted engagement to households within a 1 km radius of the site, thereby excluding a significant portion of the affected community. No consultation was undertaken with local business owners in the town of Bruff, or with key community institutions such as the National School, Pre-

School, or Afterschool. Equally concerning is the absence of engagement with more vulnerable members of the community, including residents and staff of St. Joseph's Foundation, the Carebright Dementia Centre, and the Ukrainian Accommodation Centre. This selective and geographically limited approach falls far short of inclusive and comprehensive consultation.

## Department of Housing, Planning and Local Government. (2019). *Draft revised wind energy development guidelines*. Dublin: Government of Ireland

The Draft Wind Energy Guidelines, though not adopted, but confirmed by applicant as adhering to in reply to many of our community members concerns, require the applicant to:

### Engage early (before lodging an application)

*Breach:* Developer scheduled only 3 "clinic" dates, late in the process, with no evidence of meaningful design changes based on community input. There is no evidence that the community concerns influenced design in any way.

### Provide multiple meaningful opportunities.

*Breach:* Only 3 dates were offered for a community of 500+ households within the immediate impacted area

### Ensure accessibility of consultations.

*Breach:* Two out of three meetings were scheduled during the busiest 'back to school' week in August, making attendance unreasonably difficult for working parents.

### Transparent and clear communication.

*Breach:* Materials were technical and sterile, with no evidence of accessible summaries or practical explanations for ordinary residents, limiting core details on turbine size, proximity and scale of project much later in the period.

### Document and reflect community feedback.

*Breach:* No evidence was provided that any community concerns were documented or reflected in design changes. The process appeared to be one-way communication. An FAQ was issued to member of the community within 1 KM of a proposed turbine on October 1st, post the submission of the planning application. This shows a one-way communication process rather than meaningful engagement.

## Aarhus Convention (ratified by Ireland 20 June 2012)

As demonstrated above, there are serious omissions in how the applicant conducted community engagement in relation to the proposed wind energy development. In our analysis of EU legislation and national policy, these omissions amount to a failure to uphold the principles and legal obligations set out under the Aarhus Convention.

Aarhus Convention establishes three fundamental rights for the public in environmental decision-making:

Access to environmental information.

The applicant refused to answer many questions relating to:
Noise impacts, Site Characteristics and selection, Visual impact, Wind Resource, Company information, and Wildlife. We have provided a series of Q&A in the appendix to this submission where it becomes clear the applicant refers to the required information being available in the EIAR upon lodge of the planning application, denying the community of information until such time as its already before the Board for consideration

Public participation in decision-making.

Rejection to community wide request to host a public meeting; denying environmental details of the project until its available only in the Planning Application

Access to justice in environmental matters.

On balance, the manner in which this application and its EIA process have been conducted represents a failure to uphold the fundamental principles of access to justice, as demonstrated. by the denial of timely access to information, the absence of genuine public participation, and the dismissive treatment of community concerns collectively amount to a process that is procedurally unjust and contrary to both EU law and national planning policy

## Refusal to Hold a Public Meeting

The applicant's refusal to hold a Public Meeting and their reasons quoted on the grounds of health and safety for their staff after alleged verbal abuse serves as both a justification and a narrative control tool. While it's reasonable for any organisation to prioritise staff safety, an absolute withdrawal from public engagement was disproportionate.

The alleged incidents of aggressive or abusive behaviour remain unsubstantiated, and there is no evidence of formal complaint or Garda inquiry to support the claim. In the absence of such verification, the applicant's reliance on these allegations appears to serve as a pretext to curtail public participation, thereby undermining the integrity of the consultation process.

Between the dates of 5th August 2025 and 28th August 2025, we wrote to the applicant seeking a Public Forum Q& A meeting:

A clear rational was outlined, focusing on the more vulnerable groups that may have adult literacy difficulties and find attending a private style meeting challenging; older people who may find the situation uncomfortable and others you may find private meetings intimidating

On 5th August 2025, the applicant responded by rejecting our request, thereby disregarding the community's need for a public forum or community meeting, as well as a public display

Reason for rejection as quoted

> *"during previous stages of consultation for this proposed project, our team has been subjected to several instances of verbal abuse and threatening behaviour".*

A full copy of the correspondence is provided in the timeline section of this submission.

The applicant did not address the suggestion of a physical display as an alternative to the Q&A style forum for e.g. an alternative not put forward by the applicant was to hold a **moderated meeting** with neutral facilitators, or if they truly were worried about safety, inviting community representatives to ensure safety.

We also encouraged everyone in the community to write to the applicant seeking a Public Meeting if this was their preference. From speaking with many members of our community, we are aware of numerous cases where members made a written request for a public meeting.

On 11th August 2025 we sent a registered letter to the applicants' representatives to attend our community public meeting scheduled for 18th August at 7:30pm. This was responded to on the 24th of August 2025, as follows *"attendance at meetings organised by external groups does not form part of *our structured community engagement process*. Our engagement approach has been designed to ensure open, consistent, and accessible communication for all members of the community".* Please refer to timeline for copy of reply.

This correspondence and repeated requests to host a public meeting is not captured in the community report of the EIAR. Why has the applicant not been transparent in disclosing this information?

## BDAB Community Action Group - Survey

With growing concern over the lack of information and the developer's refusal to host a public meeting, a community-led survey was initiated on 10 August 2025. The final response was received on 6 September 2025.

The survey was distributed to over 200 community members, achieving a response rate of 41.5% (83 valid responses after removing duplicates).

The results demonstrated a clear and unified sentiment that the developer's approach relying on private, one-to-one meetings held behind closed doors did not meet the community's expectations for transparent and inclusive engagement.

**Total Responses:** 83 **Response Rate:** 41.5 % (83 / 200)
Note: The *One-to-one Community Clinic by appointment* option received **0 %** support, indicating no community backing for that consultation approach.

| Consultation Option | Responses | Percentage (%) |
|---|---|---|
| Greensource should host a Public Meeting – Q&A style forum | 75 | 90.4 % |
| Both Public Meeting and One-to-One appointment only private meeting should be available | 6 | 7.2 % |
| Greensource should hold a Visual Presentation with Animations hosted in a Public Setting | 2 | 2.4 % |
| One-to-one Community Clinic by appointment meets my need | 0 | 0.0 % |

Table 1. Community Consultation Preferences

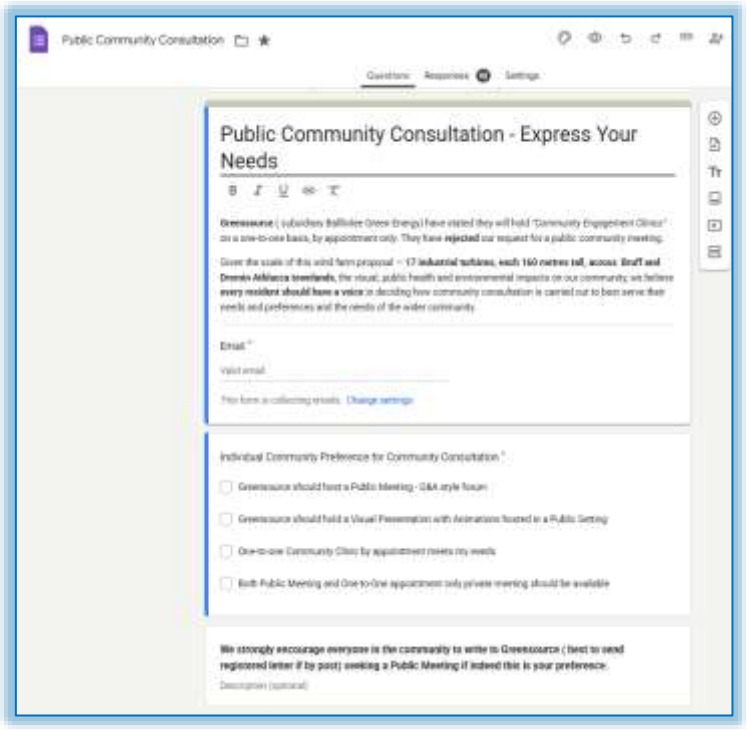



Figure 1: Google Forms was Used to Conduct Survey

## Community Clinics – Community Members Feedback

On the 14th of August, letters were sent to those within 1km of a turbine, that consultation clinics were being arranged on the last week of August. However, when community members attempted to access the applicant's website on 28 August 2025 to book an appointment, they found that the booking window had already closed, with no prior notice that the booking period was limited to Monday 25 – Thursday 28 August. In the image of the website, you can see the time stamp as 13:21pm.

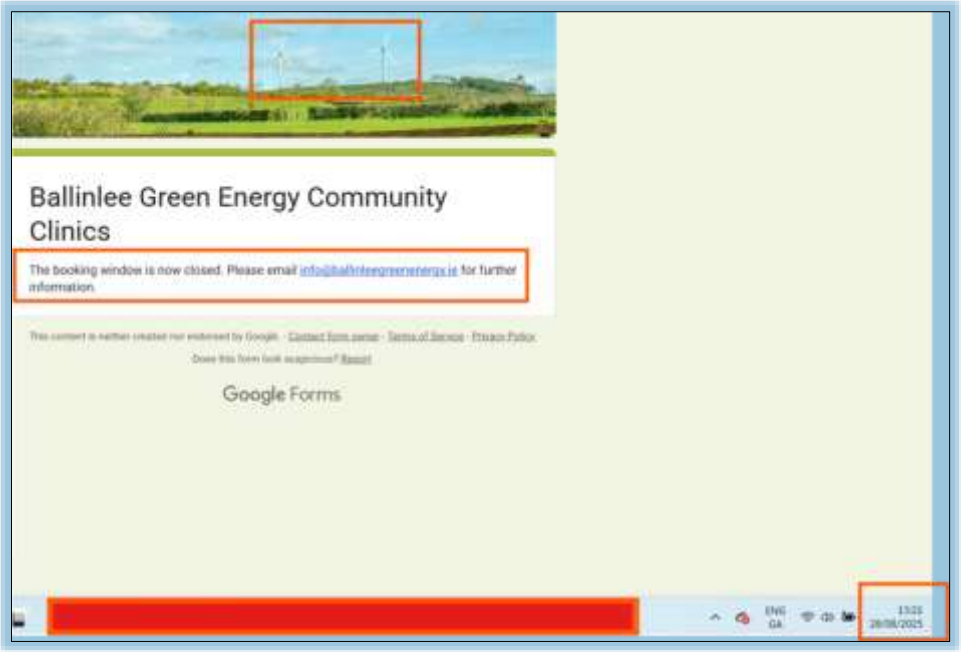



Figure 2: Google Forms was Used to Conduct Survey

However, several attendees of these clinics have confirmed that no such form was provided. In addition, the Community Report does not disclose the total number of individuals who booked a clinic appointment. This selective presentation of information by the applicant results in an incomplete and misleading account being provided to the Board.

Feedback Form: The Community Report refers to a "feedback" form being issued to attendees post the meeting. We have been told by several attendees at these clinics that no such form was handed to attendees. Pg 26 of the Community Report states:

> *"All people who chose to engage during this clinic were provided with a feedback form, of which no forms were submitted".*

In order to receive completed feedback forms, they would first have needed to be distributed! We also note that, in the Community Report, the number of individuals who booked a clinic has not been specified. This selective presentation of information by the applicant results in an incomplete and misleading account being provided to the Board.

We have highlighted the wind turbines in the image above as an additional observation as to how utterly unrepresentative these are in comparison to modern day 160m Tall Wind Turbines. This is highly deceptive.

## Community Clinic Survey

We spoke informally with a number of community members about their experiences at the community clinic which revealed troubling concerns.

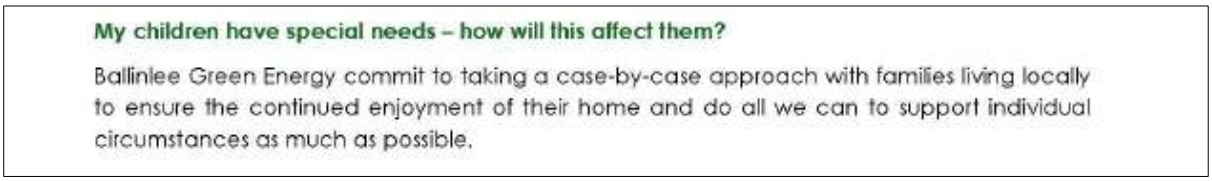
| Date | Issue | Meeting Format | Location | Main Concerns / Summary |
|---|---|---|---|---|
| Sept 11th - 14th Oct | A community member was unable to attend the 27th / 28th Aug clinics due to work-life responsibilities, and subsequently could not attend the third clinic, which was scheduled at short notice. A ZOOM meeting was proposed by applicant to facilitate meeting. Community member put forward a set of suggested dates (6th to 9th Sept). In correspondence dated 24th Sept, the applicant confirmed that they were on annual leave during that period. Further dates were then proposed for October, by which time the planning application had already been lodged. This "Zoom" meeting felt contrived, amounting to a performative exercise rather than a genuine intention of engagement. This left feeling of the process being procedurally meaningless. | Did not Take Place | N/A | Left with the impression that the process had become a mockery, tokenistic, procedurally meaningless. The member decided to cancel the ZOOM due to a lack of belief in the sincerity of the applicant's engagement process |
| 27/08/2025 | Representatives told the community member " You will have constant noise, but you won't hear it within the house".<br>The applicant made no indication that the project would be "re-designed" such a profound impact | Clinic | Deebert Hotel, Kilmallock | Noise-related impacts trivialised; insensitive and dismissive; displayed a lack of empathy and professionalism |
| 18/09/2025 | Initial Atmosphere was one of anxiety& distrust, there was an individual on behalf of the company standing outside the meeting. The community members felt they were being managed, not heard - Personal concerns (flooding, property value, local knowledge) were met with technical reassurances or dismissals rather than empathy. Responses such as "nothing to worry about," "modern technology solves everything," "you're lucky", evoked feelings of invalidated experience & powerlessness. The dismissed of external authorities (e.g., claiming WHO noise guidelines "don't exist") & minimized concerns about health, noise, & environment. Unfounded comments made how cattle and sheep enjoy grazing beneath the turbines (the opposite is reported to be true) & reference to the presence of Whooper Swans being an annoyance that the project team must navigate around. | Clinic | Deebert Hotel, Kilmallock | Feelings of deflation and distrust with an overall scepticism of "community engagement". A reinforcement of the balance dynamic of corporate outsiders versus residents. Emotional withdrawal from further engagement efforts |
| Sept | Clinic confirmed for Oct 17th - despite planning application lodged in Sept - therefore failing in obligation for meaningful engagement with community members. | Zoom | Zoom | |
| | Question raised during community clinic; on potential effects the project will have on their autistic son. This was unanswered by the applicant, with a promise to get back to the community members question later.<br>The applicant never answered the question. | Clinic | Deebert Hotel, Kilmallock | Failure to respond to sensitive community concerns, pattern of superficial compliance & lack of trust in applicant motives |
| 28/08/2025 | List of questions were shared with the applicant on email post their clinic consultation, asking that they be uploaded to the project website.<br>Questions included a request that a clear map to be shared showing the Site Access, along with a more detailed modelling to show houses easily identifiable rather than "dots". | Clinic | Deebert Hotel, Kilmallock | Poor representation of materials, unable to identify houses on map; they should have |

| | | | | |
|---|---|---|---|---|
| | The community member received a reply from the applicant on 29th August , stating they would share all questions asked by the community on the project website. These questions were never published on the project website by the applicant but were referenced in the planning documents. | | | posted all responses on their site in Sept after the clinics took place, as promised. |

## Autism

The applicant has been asked on multiple occasions by community members to confirm whether the siting of wind turbines of the proposed scale would have a negative impact on children and adults with autism and other forms of neurodivergence. Despite these direct requests, no meaningful response or supporting information has been provided. This omission is particularly concerning given that the Bruff–Dromin/Athlacca area has a notably high prevalence of autism and related neurodivergent conditions, as documented in the Community Health Survey and discussed in our Health and Population Chapter. The survey recorded that 27% of households reported an autism or neurodivergent diagnosis, with 89% of these households also experiencing sleep disturbance, a well-recognised risk factor aggravated by environmental noise and vibration. Such findings identify a particularly sensitive local cohort under EPA EIAR (2022) human-health guidance and WHO Environmental Noise Guidelines (2018), which classify children and neurodivergent individuals as groups at increased risk from environmental noise exposure.

According to Central Statistics Office (CSO) data, 23% of households in the immediate vicinity of Bruff town reported having at least one member with a disability, further underscoring the need for a sensitive, inclusive, and evidence-based assessment of potential effects on vulnerable residents. The applicant's failure to engage with these concerns—and the absence of any commentary regarding the acoustic, visual, and sensory impacts of wind turbines on neurodivergent individuals—demonstrates a serious shortcoming in both the Environmental Impact Assessment (EIA) and the community consultation process.



**My children have special needs – how will this affect them?**

Ballinlee Green Energy commit to taking a case-by-case approach with families living locally to ensure the continued enjoyment of their home and do all we can to support individual circumstances as much as possible.

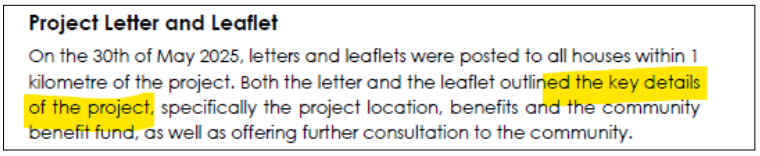
Figure 3: Excerpt from EIAR Community Report

Numerous families living in very close proximity to proposed turbines have not received responses to direct questions, both at the "community clinics" and through follow-up emails. This lack of response shows a systematic unwillingness to engage transparently and a disregard for those most directly affected by the project and undermines the applicant's claim of "ongoing, meaningful consultation."

# Community Report - Factual Inaccuracies and Misleading Claims

- Project Letter and Leaflet

The leaflet omitted 5 townlands, incorrectly described location of town in proximity to the site, provided no concept of turbine size/ scale in context to modern day industrial sized wind turbines. The assertion that *"the leaflet outlined the key details of the project"* is therefore false. From the 100's of community members we me met over the course of 2 community meetings, door-to-door visits and in passing, a significant number said they knew nothing about the project until we commenced raising awareness.



**Project Letter and Leaflet**

On the 30th of May 2025, letters and leaflets were posted to all houses within 1 kilometre of the project. Both the letter and the leaflet outlined the key details of the project, specifically the project location, benefits and the community benefit fund, as well as offering further consultation to the community.

Figure 4: Excerpt from EIAR Community Report

The applicant's statement that *"all houses within 1 km of the project received a letter"* is inaccurate and misleading. Our independent door-to-door survey of residents found that this was not the case, particularly in relation to:

- The Grid Connection Works, and
- The TDR works at Tullovin.

Residents and businesses in these areas, directly affected by construction traffic, noise, and visual impacts, did not receive any direct notification from the applicant.

Only households within 1 km of a turbine location were designated to receive letters and a significant proportion of these households still did not receive any letter.

| NSL | X_ITM | Y_ITM | Distance |
|---|---|---|---|
| NSL167 | 561090 | 632808 | 501m–1km |
| NSL389 | 560991 | 632587 | 501m–1km |
| NSL422 | 560423 | 635053 | 501m–1km |
| NSL048 | 560349 | 635117 | 501m–1km |
| NSL065 | 561059 | 635135 | 501m–1km |
| NSL067 | 561617 | 635299 | 501m–1km |
| NSL092 | 562267 | 634521 | 501m–1km |
| NSL466 | 562281 | 634595 | 501m–1km |
| NSL381 | 562069 | 634003 | 501m–1km |
| NSL034 | 562323 | 634693 | 501m–1km |
| NSL474 | 561851 | 635402 | 501m–1km |
| NSL305 | 561912 | 635409 | 501m–1km |
| NSL386 | 562035 | 633757 | 501m–1km |
| NSL405 | 557984 | 637414 | 501m–1km |
| NSL094 | 559658 | 635552 | 501m–1km |
| NSL463 | 559087 | 635532 | 501m–1km |
| NSL093 | 560450 | 636783 | 501m–1km |
| NSL310 | 560162 | 635545 | 501m–1km |
| NSL404 | 560733 | 635767 | 501m–1km |

| | | | |
|---|---|---|---|
| NSL205 | 560862 | 635791 | 501m–1km |
| NSL437 | 559557 | 632909 | 501m–1km |

Table 2: Houses within 1 KM that did not receive a letter

- Door to Door Visits

Only **34.1%** (61 out of 179 households) who received a door-to-door visit reportedly "engaged" with the company. The Community Report provides no explanation for this notably low engagement rate. Our own community survey of households both within and beyond 1 km of the proposed turbine sites indicates that many of these visits occurred during daytime working hours, when a large proportion of residents would not have been at home. One resident from Ballinlee recounted that, while at home during the day, he heard an item being pushed through his letterbox, it was a flyer from the applicant. No knock was made, and no attempt at genuine engagement occurred.

The applicant states the "Community Team were subjected to threatening and verbally abusive behaviour, with some instances escalating to physically unsafe situations within residents' homes.". As discussed earlier in the chapter, this remains unsubstantiated. To infer that our community are uncivilised is a serious and inflammatory accusation. We find this deeply inappropriate in a planning document.

Our community consistently conducted themselves with respect and integrity, despite deep frustration at the lack of transparency and fairness in the consultation process.

- Turbine Layout Map

The below paragraph is a gross misrepresentation. The applicant claims that *"A key request identified during the door-to-door engagement was for a detailed project layout map. Once the project design had progressed sufficiently, the layout map was shared with residents individually, either by post or email … ensuring that the community had access to up-to-date information in a transparent and accessible manner."*.

> A key request identified during the door-to-door engagement was for a detailed project layout map. Once the project design had progressed sufficiently, the layout map was shared with residents individually, either by post or email, according to their preferences, and it was also made publicly available on the project website.
>
> This approach ensured that the community had access to up-to-date information in a transparent and accessible manner, reflecting the project team's commitment to addressing resident enquiries and supporting informed participation throughout the planning process.

Figure 5: Excerpt from EIAR Community Report

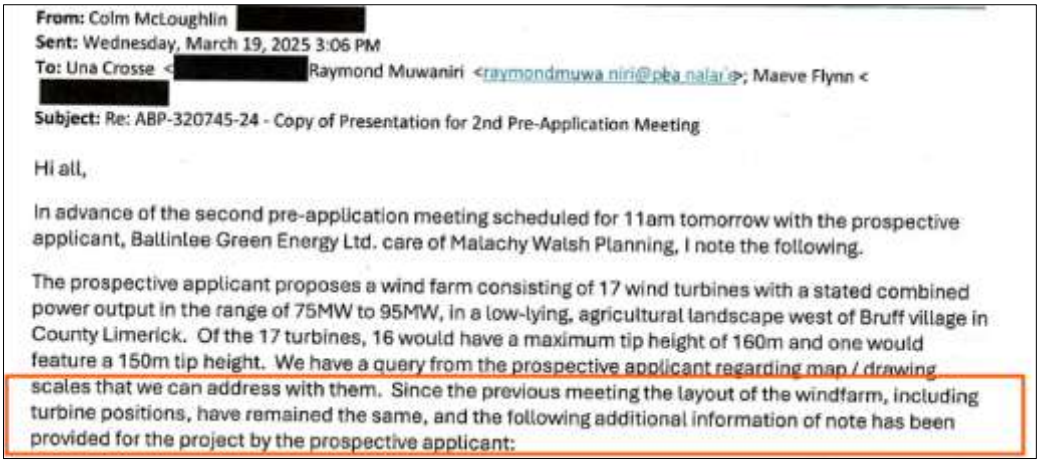
The "layout map" was not detailed, not functional, and not transparent. Residents were unable to zoom in, unable to identify individual homes, and unable to determine precise turbine locations or separation distances. Houses were shown only as tiny, indistinguishable dots, making the map effectively useless for understanding proximity or impact.




Figure 6: extract from "detailed map".

The applicant's justification that the layout map could not be released because the design was "still progressing" is wholly inaccurate. This constitutes a deliberate misrepresentation aimed at excusing the withholding of essential project information from the public. The project design was well established before the engagement commenced. In a freedom of information request (AIE Request), we obtained correspondence between the ACP Inspector and the applicant. In these exchanges (March 2025), we read about "detailed site location plans" and turbines locations "remaining the same".

We note from the Inspector's Report under Case Reference ABP-320745-24, issued during An Bord Pleanála's consideration of whether the Wind Farm constitutes an SID, the Inspector confirms *"The prospective applicant did not request any design flexibility as part of the pre-application consultation."*



**From:** Colm McLoughlin [redacted]
**Sent:** Wednesday, March 19, 2025 3:06 PM
**To:** Una Crosse <[redacted] Raymond Muwaniri <raymondmuwa.niri@pla.nalar.e>; Maeve Flynn <[redacted]
**Subject:** Re: ABP-320745-24 - Copy of Presentation for 2nd Pre-Application Meeting

Hi all,

In advance of the second pre-application meeting scheduled for 11am tomorrow with the prospective applicant, Ballinlee Green Energy Ltd. care of Malachy Walsh Planning, I note the following.

The prospective applicant proposes a wind farm consisting of 17 wind turbines with a stated combined power output in the range of 75MW to 95MW, in a low-lying, agricultural landscape west of Bruff village in County Limerick. Of the 17 turbines, 16 would have a maximum tip height of 160m and one would feature a 150m tip height. We have a query from the prospective applicant regarding map / drawing scales that we can address with them. Since the previous meeting the layout of the windfarm, including turbine positions, have remained the same, and the following additional information of note has been provided for the project by the prospective applicant:

- Virtual Meetings

The applicant's Community Report refers to the availability of "virtual consultations" but provides no evidence on uptake so we can conclude there was 0% uptake or participation. This further demonstrates that the applicant's chosen methods of engagement were wholly unsuitable for the local community, structured to meet procedural requirements rather than community needs and entirely on their terms.

- Community Clinics

Addressed above but further point to make is the applicant has not confirmed the attendance rate. In such a densely populated location where these turbines are sited, one would expect a high turnout rate, but the applicant is silent on this. Choosing to pummel the ideology that their "Community Clinics" offer a better "opportunity for all voices to be heard" is disingenuous and insulting. These clinics were a controlled and restricted environment, designed to prevent open public debate and to fragment community voices. This notion was utterly rejected by the community as demonstrated by our community survey (refer to survey under section 4.0)

The applicant then proceeds to explain why a traditional "town-hall" or open exhibition was not considered, stating that *"a small cohort of anti-wind voices"* tend to dominate such forums. This stereotype to describe communities who raise valid concerns about their health, environment and visual impact on their homes that they work hard to pay mortgages for is insulting, shuts down conversation, disregards local knowledge, ignores legitimate worries and paints residents as obstacles rather than stakeholders. It also proves that the applicant never considered open forum engagement when determining their consultation structure, so the excuse they gave our community about fearing for their safety of their staff is false.

The statement *"Due to demand, a second round of Community Clinics was held on September 18th, 2025"* is misleading. The additional clinic date was not arranged due to increased community demand, but rather because of poor initial scheduling. The original clinics were held during the final week of August, coincided with the return to school after summer holidays. This is a frantic time when many families, including the author of this chapter, are preoccupied with preparations and usually some end of holiday activities. The author many other parents were unable to attend. This scheduling demonstrated a fundamental lack of consideration for working families and their responsibilities.

Sentiment Analysis (Door – to -Door Survey only)

It is noteworthy that this section is both brief and lacking in depth, particularly given that throughout the wider documentation and EIAR, the applicant repeatedly emphasises the effectiveness, transparency, and inclusivity of their consultation process. Despite these claims, the data reveal a considerable lack of genuine engagement, with only 14 households expressing positive feedback, 13 negative, and 34 remaining undecided. The limited participation and the high proportion of undecided responses suggest that the consultation occurred at a stage when the community was largely uninformed about the project's true details, scale, and proximity. It is therefore unsurprising that the majority were unable to form a definitive view; meaningful consultation requires that residents are adequately informed before they can make an informed decision.

- Lack of Community Clinic Sentiment Analysis

We note a noticeable omission of any sentiment analysis relating to the community clinics. This absence raises questions as to whether the applicant has chosen not to disclose potentially unfavourable feedback. The EIAR merely states that feedback forms were provided to all attendees, yet that none were returned. However, this claim is contradicted by information obtained from four

separate attendees by our group who have confirmed that no such feedback forms were ever issued during the sessions. This discrepancy calls into question the accuracy of the applicant's reporting and the reliability of their stated consultation process.

## Procedural Justice

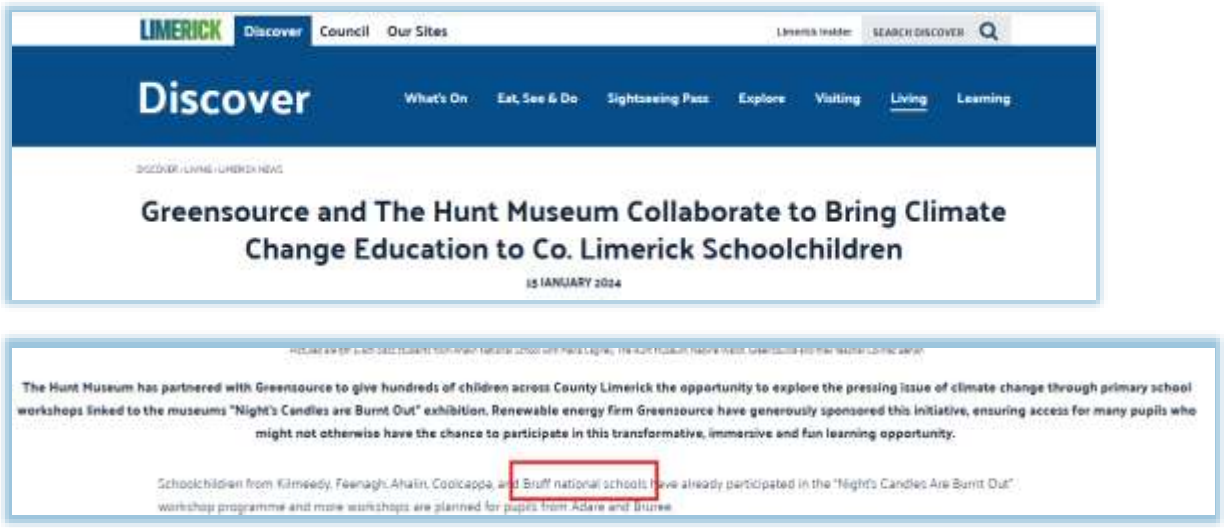
A wind farm's social license to operate (SLO) as referenced in the SEAI Community Energy Resource Toolkit, is the ongoing, informal approval and acceptance by the local community and stakeholders that allows a project to operate and develop. It "must be sought from the local community, it must be earned". As per the *Earning local support for wind energy projects in Ireland,* "a social licence to operate needs to be earned. It involves hard work, patience, fair engagement and **respect** for communities" (Aston ECO Management Ltd., 2021). Procedural Justice has not been exercised here. Financial or blanket benefits do not compensate for largely forcing those closest to the project to accept that they will have 160m turbines within 1 KM of their homes. Why has each individual receptor been consulted to engage on the design and appropriateness in each specific case. For many this proximity for those with underlying health conditions or sensitivities should be consulted and there should be collaboration with sensitive receptors in mind. This has not occurred and rather a rudimentary scientifically unsound approach of 640 mm distances is imposed on the community. This does not meet the conceptual model of a "Win-Win" Project.

Greensource have persistently ignored our requests for a Public meeting and insulted our community in the process by inferring we have been hostile during several instances during their community engagement phase. Their refusal to listen and model their strategy based on the communities' need has effectively locked put the voice of vast members of the community. Refusing to provide this public forum and quoting the reasons as they have, it has resulted in distrust, upset and outright unacceptance of this project.
The applicant has chosen a one-size-fits-all method and by doing so has not restricted the number of voices to be heard.
With reference to Earning local support for wind energy projects in Ireland (RDD-000569-03-Literature-Review.pdf ) "in principle, a strong social license opens the door for a wind farm development but a strong social license will not be earned if a developer does not meet the basic conditions associated with procedural justice. Procedural justice means fairness in the processes by which decisions are made. The applicant is concerned only with the outcome, not the fairness of the process of getting to this outcome.
Restriction of materials within 1 KM of project and the lack of a public forum style meeting, the lack of an alternative such as the Visual Display. For many private 1-1 clinics, even the word used "clinic" could be a deterrent for engagement as it is not friendly term but rather off-putting in tone.

## Timeline Of Community Engagement & Critique

The applicant confirms within the Community Report that community engagement commenced in May 2025. However, it is deeply concerning to learn that Greensource engaged directly with children from local primary schools in 2024, as part of a workshop linked to *The Hunt Museum* exhibition

"Night's Candles Are Burnt Out." Many parents in our community are already anxious and distressed about the proximity of the proposed turbines to their homes and schools. For the applicant to engage with local children 18 months prior to the commencement of any formal community consultation process is highly inappropriate and ethically questionable. Such actions raise serious concerns about the applicant's approach to community engagement and the boundaries of ethical practice when dealing with a sensitive and impacted community.



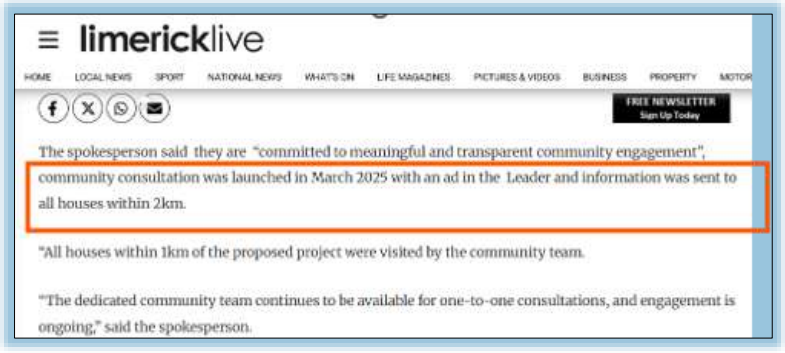

## March 2025 or May 2025

Greensource stated in a number printed and online papers, in emails and to elected TDs that their community engagement commenced in March 2025. Chapter 01: Introduction confirms the correct month in which community engagement started, which was May 2025.

> The Applicant commenced the public consultation for the proposed development in May 2025. **Table 1-3** summarises the community engagement activities undertaken. Further detail is provided in the Community Engagement Report (EIAR **Volume III, Appendix 1C**).

Figure 7: excerpt from Chapter 2

In an article published in the Limerick Leader ( 'Dismay' over plan for 17 wind turbines in Limerick taller than the Spire in Dublin - Limerick Live ) Greensource are quoted saying *"community consultation was launched in March 2025 with an ad in the Leader and information sent to all houses within 2km."*



We sought clarification from Limerick Leader on said advert, but it was confirmed no such advertisement was located from March. Limerick Leader kindly provided us with a copy of an advertisement from the 31st of May edition. See Figure 3: Limerick Leader dated 31st May 2025 with Ballinlee Green Energy Community Consultation Notice bottom Right and Figure 4: Zoom in on Date below.

This sets a troubling but consistent trend of inaccuracies and deception. Also, as clarified in the EIAR, only houses within 1km received information directly to their homes. Not 2 KM as claimed in the newspaper articles.


NEWS 9

Electric plane is carried by chopper from Foynes

Unusual journey culminates in first fully-electric flights in Ireland

Adare to host global film and TV summit

All aboard for restoration works

Students win big at national showcase

Figure 8: Edition, May 31, 2025, page from Limerick Leader – Community Consultation




Figure 9: Edition, May 31, 2025

## MAY 2025

Members of the community receive letters to their homes with a glossy brochure, outlining a project that will power 42,000 homes and provide a community benefit of €350,000 per year. The brochure does not contain any details on the nature and scale of the project and community members report when asked some weeks later, that they really didn't understand what it was about.

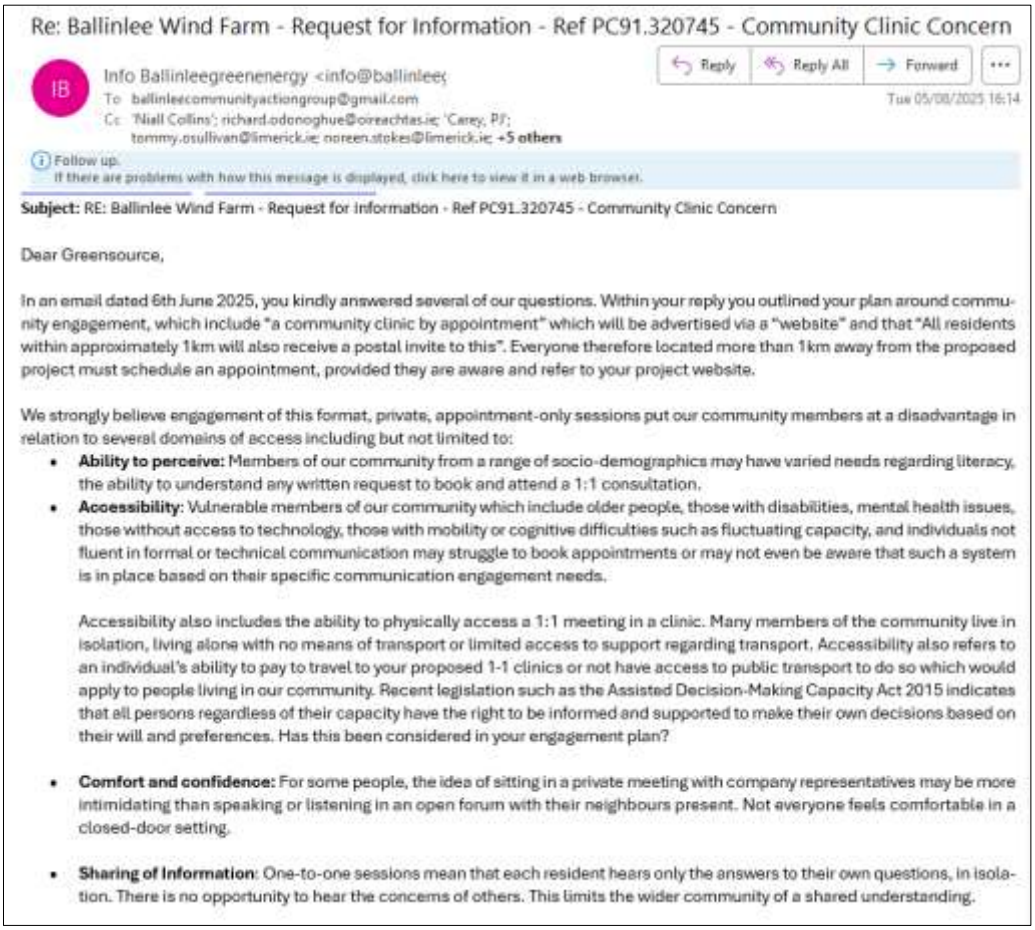
Over the dates of 26th June 2025 and July 2025, we conducted house visits and conduct a survey of sentiment towards the project. We found inaccuracies with on roads, with some neighbours

getting letters and others not. Upon validating these individual cases and proximity to the nearest turbine within 1 KM, we can summarise the below homes that did not receive a letter

## AUGUST 2025

### 01.08.25

Due to ongoing concerns, feedback from community members and a substantial lack of information, we wrote to the applicant requesting for a public meeting to be held. We have included a copy of our email request below with clear rationale as to why a public meeting needs to be facilitated:



Re: Ballinlee Wind Farm - Request for Information - Ref PC91.320745 - Community Clinic Concern

Reply | Reply All | Forward

IB Info Ballinleegreenenergy <info@ballinlee

To ballinleecommunityactiongroup@gmail.com

Cc 'Niall Collins'; richard.odonoghue@oireachtas.ie; 'Carey, PJ'; tommy.osullivan@limerick.ie; noreen.stokes@limerick.ie; +5 others

Tue 05/08/2025 16:14

Follow up.

If there are problems with how this message is displayed, click here to view it in a web browser.

**Subject:** RE: Ballinlee Wind Farm - Request for Information - Ref PC91.320745 - Community Clinic Concern

Dear Greensource,

In an email dated 6th June 2025, you kindly answered several of our questions. Within your reply you outlined your plan around community engagement, which include "a community clinic by appointment" which will be advertised via a "website" and that "All residents within approximately 1km will also receive a postal invite to this". Everyone therefore located more than 1km away from the proposed project must schedule an appointment, provided they are aware and refer to your project website.

We strongly believe engagement of this format, private, appointment-only sessions put our community members at a disadvantage in relation to several domains of access including but not limited to:

- **Ability to perceive:** Members of our community from a range of socio-demographics may have varied needs regarding literacy, the ability to understand any written request to book and attend a 1:1 consultation.
- **Accessibility**: Vulnerable members of our community which include older people, those with disabilities, mental health issues, those without access to technology, those with mobility or cognitive difficulties such as fluctuating capacity, and individuals not fluent in formal or technical communication may struggle to book appointments or may not even be aware that such a system is in place based on their specific communication engagement needs.

  Accessibility also includes the ability to physically access a 1:1 meeting in a clinic. Many members of the community live in isolation, living alone with no means of transport or limited access to support regarding transport. Accessibility also refers to an individual's ability to pay to travel to your proposed 1-1 clinics or not have access to public transport to do so which would apply to people living in our community. Recent legislation such as the Assisted Decision-Making Capacity Act 2015 indicates that all persons regardless of their capacity have the right to be informed and supported to make their own decisions based on their will and preferences. Has this been considered in your engagement plan?

- **Comfort and confidence:** For some people, the idea of sitting in a private meeting with company representatives may be more intimidating than speaking or listening in an open forum with their neighbours present. Not everyone feels comfortable in a closed-door setting.

- **Sharing of Information**: One-to-one sessions mean that each resident hears only the answers to their own questions, in isolation. There is no opportunity to hear the concerns of others. This limits the wider community of a shared understanding.



Re: Ballinlee Wind Farm - Request for Information - Ref PC91.320745 - Community Clinic Concern

Reply | Reply All | Forward

IB Info Ballinleegreenenergy <info@ballinlee

To ballinleecommunityactiongroup@gmail.com

Cc 'Niall Collins'; richard.odonoghue@oireachtas.ie; 'Carey, PJ'; tommy.osullivan@limerick.ie; noreen.stokes@limerick.ie; **+5 others**

Tue 05/08/2025 16:14

Follow up.

If there are problems with how this message is displayed, click here to view it in a web browser.

tion. There is no opportunity to hear the concerns of others. This limits the wider community of a shared understanding.

For these reasons, we do not feel it is appropriate for our group to participate in an "appointment" only community clinic. We have also highlighted our concerns to our community members.

We need to ensure all members of our community have the opportunity for participation and access to the same information as everyone else.
Instead, we insist for the organisation of a public meeting, where questions can be asked and answered in the open, where concerns can be shared collectively, and where the process is genuinely transparent, inclusive, and democratic.

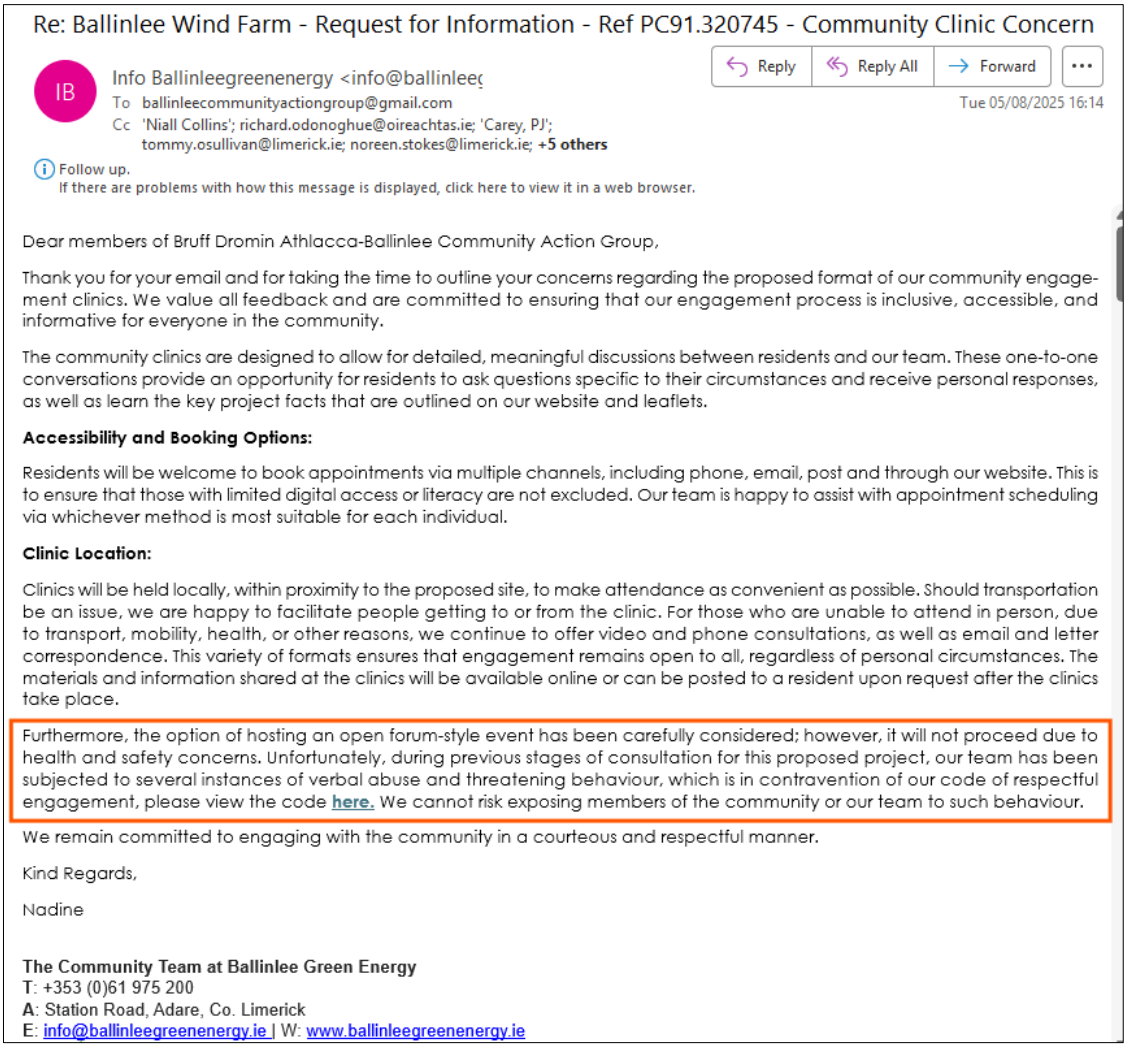
*Kind regards,*

*Bruff Dromin Athlacca-Ballinlee Community Action Group*

**Email**: ballinleecommunityactiongroup@gmail.com
Follow us on Facebook

05.08.25

The applicant response is provided below. We draw your attention of the reasons cited for rejecting our community's request:



Re: Ballinlee Wind Farm - Request for Information - Ref PC91.320745 - Community Clinic Concern

Reply | Reply All | Forward

IB Info Ballinleegreenenergy <info@ballinlee

To ballinleecommunityactiongroup@gmail.com

Cc 'Niall Collins'; richard.odonoghue@oireachtas.ie; 'Carey, PJ'; tommy.osullivan@limerick.ie; noreen.stokes@limerick.ie; **+5 others**

Tue 05/08/2025 16:14

Follow up.

If there are problems with how this message is displayed, click here to view it in a web browser.

Dear members of Bruff Dromin Athlacca-Ballinlee Community Action Group,

Thank you for your email and for taking the time to outline your concerns regarding the proposed format of our community engagement clinics. We value all feedback and are committed to ensuring that our engagement process is inclusive, accessible, and informative for everyone in the community.

The community clinics are designed to allow for detailed, meaningful discussions between residents and our team. These one-to-one conversations provide an opportunity for residents to ask questions specific to their circumstances and receive personal responses, as well as learn the key project facts that are outlined on our website and leaflets.

**Accessibility and Booking Options:**

Residents will be welcome to book appointments via multiple channels, including phone, email, post and through our website. This is to ensure that those with limited digital access or literacy are not excluded. Our team is happy to assist with appointment scheduling via whichever method is most suitable for each individual.

**Clinic Location:**

Clinics will be held locally, within proximity to the proposed site, to make attendance as convenient as possible. Should transportation be an issue, we are happy to facilitate people getting to or from the clinic. For those who are unable to attend in person, due to transport, mobility, health, or other reasons, we continue to offer video and phone consultations, as well as email and letter correspondence. This variety of formats ensures that engagement remains open to all, regardless of personal circumstances. The materials and information shared at the clinics will be available online or can be posted to a resident upon request after the clinics take place.

Furthermore, the option of hosting an open forum-style event has been carefully considered; however, it will not proceed due to health and safety concerns. Unfortunately, during previous stages of consultation for this proposed project, our team has been subjected to several instances of verbal abuse and threatening behaviour, which is in contravention of our code of respectful engagement, please view the code here. We cannot risk exposing members of the community or our team to such behaviour.

We remain committed to engaging with the community in a courteous and respectful manner.

Kind Regards,

Nadine

**The Community Team at Ballinlee Green Energy**
**T**: +353 (0)61 975 200
**A**: Station Road, Adare, Co. Limerick
**E**: info@ballinleegreenenergy.ie | W: www.ballinleegreenenergy.ie

*"it will not proceed due to health and safety concerns. Unfortunately, during previous stages of consultation for this proposed project, our team has been subjected to several instances of verbal abuse and threatening behaviour".* This remains unsubstantiated.

11.08.25

Registered letter is sent to the applicant kindly requesting their attendance at our groups public meeting, scheduled for 18th August 2025.

**Greensource**

**Station Road**

**Adare,**

**Co. Limerick**

**Date: 11th August 2025**

**Re: Public Community Meeting to be held in Dromin Hall V35 CP89 - 18th August**

**Dear Mr. Damien McCourtney, Mr. Patrick Mohr, Mr. David McDonnell, Nadine Walsh, Patrick McCoubrey**

I hope this letter finds you well. I am writing to extend an invitation to you and representatives of your company Greensource to attend our community public meeting scheduled for 18th August at 7:30pm. The meeting will be held at Dromin Hall, Dromin North, Co. Limerick **V35 CP89.** The purpose of this meeting is to provide our community with an opportunity to collectively discuss the increasing concerns regarding your proposal to construct 17 large wind turbines, a sub-station, and related infrastructure within our densely populated area.

To date you have not agreed to hosting a public forum type event which would ensure information is accessible and inclusive to all members of our community and would allow meaningful interaction between the Greensource and our community. We believe everyone should be allowed to hear the same information and ask questions in the same space. We do not view one-on-one meetings behind closed doors as a valid form of public consultation as it puts several members of the community at a disadvantage. Therefore, we invite you to partake in our community discussion where we will ensure a balanced, respectful and structured discussion.

Please confirm your availability by 15th August 2025. Should you have any questions or require further information, contact us at email **ballinleecommunityactiongroup@gmail.com** . Alternatively, you can send your reply to the following address Ballinrea, Bruff, County Limerick, V35 XP48.

Your presence at this meeting will allow your company the opportunity to meet the Community as a collective and to listen to their concerns. Open dialogue and organic discussion contribute to the democratic process and affords people the opportunity to make informed opinions regarding this development. Your presence at this meeting will be seen as you contributing to beginning a relationship with the community in a transparent, reciprocal manner.

**Yours sincerely,**

**Members of the Bruff Dromin Athlacca – Ballinlee Community Action Group**
**ballinleecommunityactiongroup@gmail.com**

14.08.25

Letters are out to community, but only those within 1 KM of a turbine. Letter is dated "August 2025". Letter states that Ballinlee Green Energy "continue to design and develop in line with best environmental practice and community feedback" and is asking people to schedule an appointment for on the community clinics, restricted to a maximum of three people per session.


Correspondence Attached

IB Info Ballinleegreenenergy <info@ballinleegreenenergy.ie>
To: ballinleecommunityactiongroup@gmail.com

Reply | Reply All | Forward

Follow up.
If there are problems with how this message is displayed, click here to view it in a web browser.

Letter to the Bruff Dromin Athlacca-Ballinlee Community Action Group - August 2025.pdf
92 KB

Dear Members of the Bruff Dromin Athlacca-Ballinlee Community Action Group,

Please see attached correspondence.

Kind Regards,

Nadine

**The Community Team at Ballinlee Green Energy**
T: +353 (0)61 975 200
A: Station Road, Adare, Co. Limerick
E: info@ballinleegreenenergy.ie | W: www.ballinleegreenenergy.ie

28.08.2025

Additional request is made to applicant to host public meeting which is again refused.

11.09.2025

3rd community clinic is announced to take place on 18/09/2025 at the Deebert Hotel.

25.09.2025

At the time of this notice's publication, several community members had pending appointments arranged to meet with the applicant via Zoom for the purpose of seeking clarification on key elements of the proposal.

The question-and-answer programme for the project was completely inadequate for the purpose, was disingenuous and frankly insulting. When questions were put to the developer the answers were either stock cut and paste from the project information leaflets, off the point or obfuscating. In several instances the developer simply ignored the question. The tabulation appended (Questions and Answers / Correspondence – Community Engagement) is a transcript of a series of questions under different categories that were put to the developer by one small group of local residents, and the answers or lack of answers speak for themselves.

Given that the developer flatly refused to participate in any public consultation, used one-on-one meetings to brush off the legitimate concerns of the local people and states incorrectly that he reached out to local people by house calls and correspondence; and given that all this consultation took place at the eleventh hour shows a complete disregard for the concerns and welfare of the community.

This lack of attention to detail and science is carried into the planning application, rife as it is with cut and paste, stock drawings and descriptions that contain no site-specific information.

The community is being ignored and there will be a consequence to people's health and wellbeing for which this developer is responsible. There should have been proper and comprehensive community engagement at the time when the developer first came to the area and having failed to establish this process in accordance with the Arhaus protocols the application should be rejected on the grounds that there was no proper engagement with the community.

The Q&A enclosed is a representative sample of how the community was brushed off.

## Summary - Community Position and Statement of Non-Consent

Our community has not granted this developer a social licence to operate. The Environmental Impact Assessment Report (EIAR) fails to reflect either the lived reality or the will of our community. As with many of the developer's claims throughout the EIAR, their representations are misleading, incomplete, and self-serving.

We wish to state clearly that our community supports renewable energy and fully acknowledges the need to transition towards sustainable energy sources. However, what the applicant has failed to do is engage inclusively, openly, and honestly, and to integrate community feedback into their project design. Our community cannot be compensated by the outlined "community benefit fund", short-term jobs, or claims that 42,000 homes will be powered. These short-term incentives do not offset the long-term environmental, social, and health impacts that such a development would impose on the people who live here.

At the time of writing, we represent a large and active local network, including over 848 Facebook followers and more than 264 community members participating in our community WhatsApp group.

We have worked continuously to keep residents fully informed about the true implications of this project, something the applicant has consistently failed to do. To date, we have held two open and engaging public meetings to help people clearly see their proximity to the proposed site, turbines, grid route, substation, and site access points.

We remain committed to answering questions and addressing the very real concerns of worried residents about how this project will affect them, their homes, and their community.

In addition, we have hosted two public workshops to support residents in making their Observations to the Planning Authority ahead of the November 18th deadline, mindful that adult literacy challenges do not become a barrier for anyone wishing to participate. We also held a dedicated information session for residents of the Ukrainian Accommodation Centre in Bruff, attended by their translator, to ensure that language barriers did not prevent anyone from taking part.

Throughout the stress and upset this project has caused, we have remained a consistent and supportive source of information for our community.

A large section of our community has been deliberately kept uninformed. Restricting consultation to those living within 1 km of the proposed site served only to benefit the applicant, not the broader community. It is unreasonable to assume that residents would somehow become aware of the project and locate the developer's website without targeted outreach. The applicant's refusal to host a public forum demonstrates an engagement programme designed to control information rather than to facilitate genuine dialogue. This approach contradicts SEAI Good Practice Guidance, and breaches both the Aarhus Convention and EU Directive 2011/92/EU (as amended by 2014/52/EU) — the EIA Directive, which guarantee the public's right to full, timely, and effective participation in environmental decision-making.

Should planning permission be granted, it would stand in direct conflict with national policy, public participation rights, and the expressed will of our community. The applicant, Greensource, has not earned a Social Licence to Operate for the Ballinlee Green Energy Project.

# References


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# Health Survey Report

## Executive Summary

This report highlights the findings from a community health survey. The health survey identifies a high-vulnerability rural population living within the proposed wind turbine impact zone. The Findings demonstrate a significant prevalence of medical and social vulnerability across households, including children with autism and sensory processing disorders, individuals with epilepsy, chronic neurological and cardiovascular disease, respiratory illness, mental-health conditions, and older adults with age-related frailty. Sleep disturbance was widely reported, and a substantial proportion of households include shift-workers who depend on undisturbed daytime sleep. These factors collectively indicate a population with heightened sensitivity to environmental stressors such as noise, low-frequency vibration, and shadow flicker.

International public-health guidance is clear on the elevated health risks in such settings. The World Health Organization (WHO) Environmental Noise Guidelines (2018) link environmental noise and disrupted sleep to cardiovascular disease, cognitive impairment, and mental-health deterioration, noting that children, older persons, and those with chronic illness are disproportionately affected. The WHO Health Equity Framework further mandates enhanced protection for vulnerable groups and recognises anticipatory stress and perceived environmental threat as legitimate public-health burdens. EPA Ireland principles reinforce that planning decisions must consider cumulative impact, medically sensitive receptors, and the protection of amenity and sleep.

The qualitative responses in this survey demonstrate substantial and credible concern regarding health and wellbeing, including anticipated sleep disruption, sensory overstimulation in neurodivergent children, seizure risk from shadow flicker, deterioration in mental health, and loss of access to quiet outdoor therapeutic environments essential for disability support and recovery. Respondents also expressed fear, stress, and anxiety related to the proposal, indicating pre-impact psychosocial burden consistent with WHO-recognised anticipatory harm.

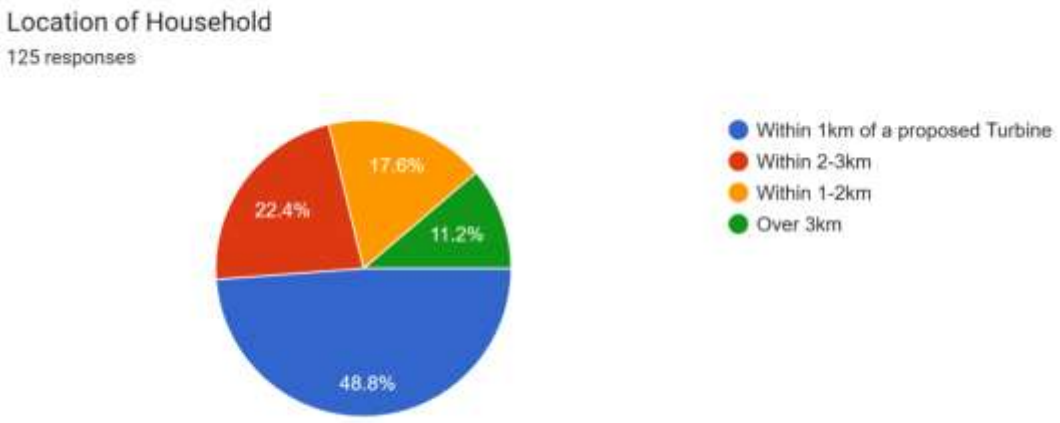
Based on the survey evidence and aligned with WHO, EPA Ireland, and EU Precautionary Principle requirements, the community presents as a medically protected cohort for whom potential risks cannot be discounted or deferred. Therefore:

A full independent Health Impact Assessment (HIA), including a vulnerability-weighted analysis of noise, vibration, and shadow flicker, is required prior to determination of this planning application.

Meaningful engagement with seldom-heard and medically vulnerable residents must be undertaken, and mitigation standards should reflect international best practice and the heightened protection for sensitive receptors outlined in WHO and EPA guidance. Failure to adequately assess and mitigate foreseeable health risk in this context would be inconsistent with established public-health and planning principles.

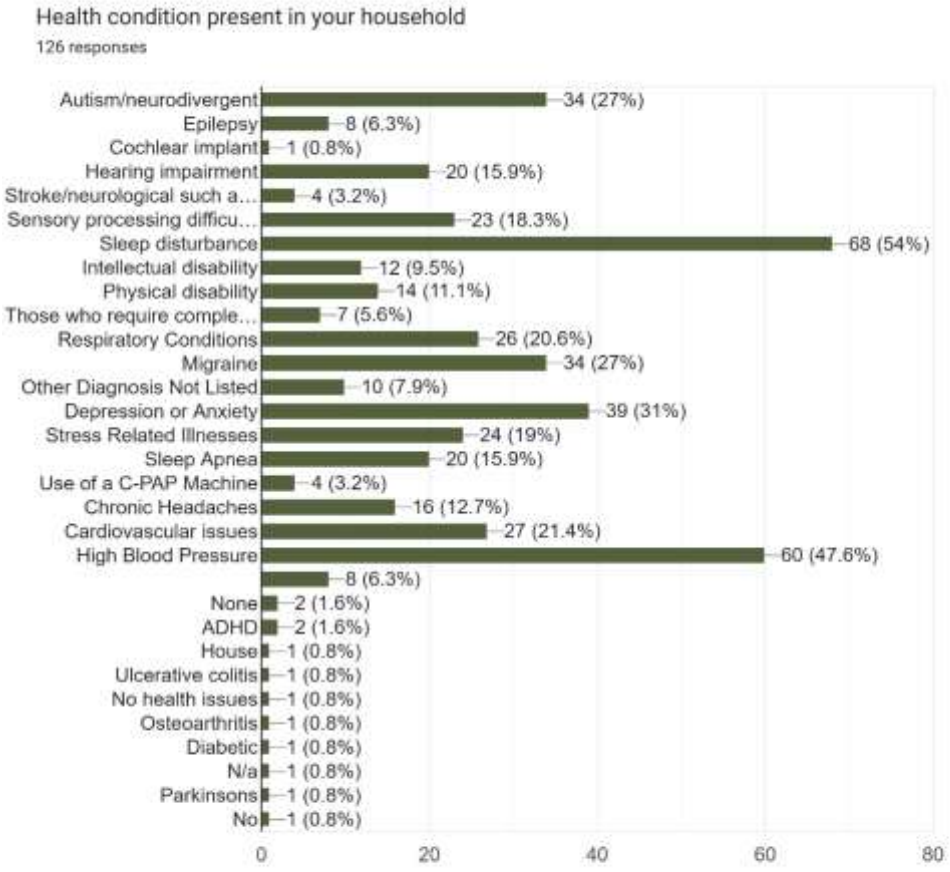
### Q1. Location of Household 125 responses

Respondents to the survey represent a geographically dispersed rural population within the community. While individual locations were not disclosed in this dataset extract, the spread of responses across the survey confirms broad community engagement and highlights that impacted households are situated across the proposed turbine catchment area. This reflects a wide distribution of residents potentially affected by the development, reinforcing that concerns extend beyond a single clustered zone.




### Q2. Health condition(s) present in your household 126 responses

A significant proportion of households reported chronic and complex health needs, including neurodivergence (34 cases), sensory processing difficulties (23), sleep disturbance (68), cardiovascular disease (27), respiratory issues (26), and mental health conditions including anxiety and depression (39). Additional reports included epilepsy, chronic pain disorders, cancer history, and disabilities requiring specialist supports. Only a small minority reported no health issues. The data demonstrates a medically vulnerable community with high prevalence of both physical and mental health conditions, suggesting heightened sensitivity to environmental stressors such as noise, vibration, and shadow flicker.



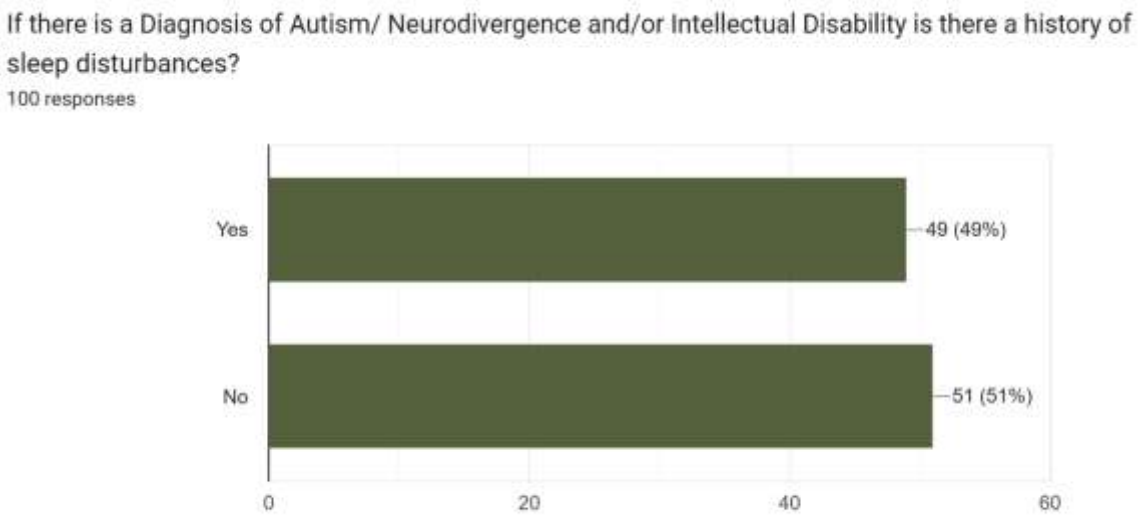

## Please list 'Other' diagnosis here. Include any information you feel is relevant. 21 responses

| |
|---|
| House flooding |
| Chronic Fatigue |
| Chronic Lyme disease Postural Orthostatic Tachycardia Syndrome Neurocardiogenic Syncope |
| Cancer |
| Cancer diagnosis |
| One member of the household suffers from sleep disturbance and is in remission from cancer following chemotherapy treatment. Another member is on medication for cardiovascular issues following a heart attack and has has a number of stints inserted also is recovering from a skin cancer diagnosis. |
| No health issues |
| Osteoarthritis |
| Cancer recovery |
| Sleep issues |
| Asthma |

| |
|---|
| Minears, |
| Myalgic encephomyelitis (ME), low blood pressure. ADHD query in house also. |
| At present sleeping is difficult at the best of times due to chronic back pain and heart disease. What will it be like if these go ahead |
| Cancer recovery |
| N/a |
| I have complex medical issues myself which includes, cyst in my spine for which I had a spinal cord stimulator inserted 3 years ago, so I am very limited with my physical health. |
| My father's health has been declining for years. He is house bound most days. He certainly doesn't needed the added stress of these massive industrial turbines. |
| Leukaemia |
| Stress caused by this turbine proposal |
| Hay fever, sinuses, asthma |

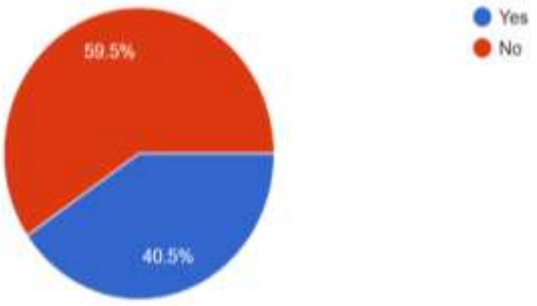
## Q3. If there is a Diagnosis of Autism/ Neurodivergence and/or Intellectual disability is there a history of sleep disturbances? 100 responses

Among households reporting neurodivergence or intellectual disability, many confirmed associated sleep challenges. Sleep disturbance is strongly linked with sensory dysregulation, anxiety, and neurological conditions. Respondents expressed concerns that turbine noise and flicker may exacerbate sleep difficulties, leading to heightened stress, reduced daytime functioning, and deterioration in behavioural regulation for affected individuals, including children.



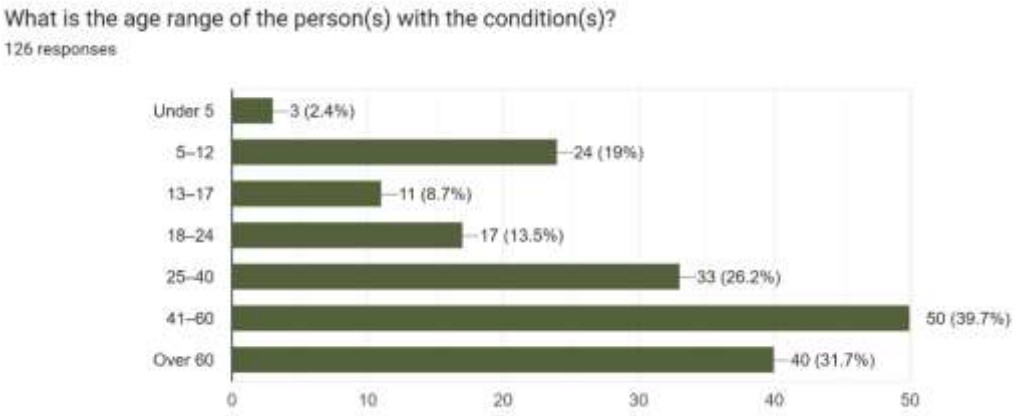

## Q4. Does Anyone in Your Household work Shifts? 126 responses

A substantial number of respondents reported shift workers in the household, including those working nights. Daytime sleep needs are particularly vulnerable to disturbance from intermittent noise and light flicker. Respondents highlighted concerns that turbine-related disruption would impair rest, impact work performance, increase fatigue-associated health risks, and reduce overall wellbeing for shift-working residents.




## Q5. What is the age range of the person(s) with the condition(s)? 126 responses

The survey data indicates that health conditions span all age groups, from young children through to older adults. This demonstrates multi-generational vulnerability within the community. Families reported children with sensory and neurological conditions, working-age adults with chronic illness or mental-health challenges, and older adults experiencing mobility, cardiovascular, and neurological issues. The data highlights the diverse health impacts that environmental disruption may pose across life stages.




## Q6. Please list anything else you feel is relevant or would like to share (remember to not use names in your response to protect privacy) 34 responses

Respondents provided detailed qualitative feedback emphasising deep concern regarding health, wellbeing, quality of life, property security, and environmental disruption. Key themes included stress and anxiety related to the proposal, concerns regarding sleep disturbance, risks to children with autism and sensory needs, potential triggers for seizure activity, mental-health impacts, and effects on animal-assisted regulation for neurodivergent children. Environmental and landscape impact, traffic concerns, and loss of rural tranquility were also frequently noted. The narrative reflects acute community distress and anticipatory harm associated with the project.

## Conclusion

The survey data indicates a medically and socially vulnerable population within the proposed turbine impact zone, including high incidences of neurodivergence, sensory processing disorders, sleep disturbance, chronic illness, age-related frailty, and mental-health conditions. Additionally, a significant cohort of shift-working residents requires protected daytime rest, increasing susceptibility to disturbance.

World Health Organization (WHO) Environmental Noise Guidelines (2018) highlight:

- Noise causes cardiovascular disease and stress-related illness
- Sleep disturbance is one of the most serious health consequences
- Vulnerable groups require enhanced protection
- Children and people with existing conditions are disproportionately affected

WHO Health Equity Framework recognises anticipatory stress and uncertainty as genuine health burdens and requires greater protection for disabled, chronically ill, and neurodivergent individuals.

EPA Ireland guidance reinforces that noise-sensitive receptors and vulnerable individuals must be considered in environmental assessment and cumulative burden must be assessed.

In line with WHO, EPA Ireland, and the EU Precautionary Principle, the evidence supports the requirement for a full independent Health Impact Assessment (HIA) and vulnerability-weighted planning evaluation prior to determination.

# Environmental Change, and the Health Effects of Imposed Development

Author: Marianne Nagle, Consultant Clinical Psychologist
Qualifications: BA (Hons) University College Cork, BSc (Hons) & MSc (Hons) University of Ulster, Diploma in Professional Psychology (Clinical), M.Ps.S.I

*"Community and stakeholder engagement is more than meeting the consultation requirements associated with a planning application process … it is about ensuring that the relevant project stakeholders are fully aware of its content and you give them opportunities to voice their opinions. It is also about being a good neighbour throughout the lifetime of a project.", SEAI, 2021*

## Introduction

The previous chapter addressed the specifics of the community engagement programme delivered to residents. Feedback received from locals illustrated a continued lack of clarity, unaddressed concerns and failure on the part of the applicant to acknowledge the needs of families, for example, that families especially those with young children, do not have the luxury of flexibility which the applicant has had. The community engagement process has now formally ceased.

The impact of imposed environmental change warrants further exploration and research pertaining to same is explored in the following paper, in the context of health and wellbeing. It is notable that demonstrable health impacts are already evident in the community, in the form of anxiety, disturbed sleep and feelings of helplessness and lack of control. The remit of community engagement is to allay fears and concerns; the previous chapter demonstrates that this remit was not achieved. In this context, the psychosocial impacts of an inadequate engagement process are discussed.

Environmental-health research increasingly recognises that the psychological response to unwanted or imposed environmental change can exert measurable effects on mental health, sleep, and overall well-being (Stansfeld & Matheson, 2003; Evans & Cohen, 1987). When individuals experience alterations to their surroundings that are unpredictable, uncontrollable, or perceived as unjust, chronic stress responses are triggered through activation of the hypothalamic–pituitary–adrenal (HPA) axis, resulting in elevated cortisol levels, anxiety, and disturbed sleep (Basner et al., 2018; Evans & Steptoe, 2001).

Large infrastructure projects such as wind farms can generate these responses not solely through physical emissions (e.g. noise or flicker) but through psychosocial mechanisms — including loss of control, perceived intrusion, and exclusion from decision-making (Devine-Wright, 2009; van Kamp & van den Berg, 2021).

## Perceived Intrusion and Loss of Control

Fieldwork in Norway found that residents near newly constructed wind farms experienced fear, frustration, sadness, and anger, emotions closely tied to loss of agency and environmental intrusion (Lundheim et al., 2025). Participants described the developments as something "done to them, not with them," leading to sustained psychological distress and distrust of authorities. Similar findings are reported by Dällenbach (2022), who observed that residents' familiarity with and sense of influence over projects significantly moderated their annoyance and stress levels: when people felt excluded, anxiety and resentment increased even if objective noise levels were moderate.

These outcomes align with established environmental-stress models showing that perceived uncontrollability and injustice are among the strongest predictors of chronic stress and mental ill-health (Evans & Cohen, 1987; Lercher, 1996). Under such conditions, physiological stress responses—heart-rate elevation, cortisol release, and muscular tension—can persist long after exposure, promoting fatigue and emotional dysregulation (McEwen, 2006).

## Psychosocial Stress Pathways and Mental Health

Psychological research demonstrates that a loss of control over environmental conditions often leads to a phenomenon known as learned helplessness—a behavioural and neurochemical state associated with depression, anxiety and reduced problem-solving capacity (Evans & Steptoe, 2001).
Rosciszewska et al. (2025) used a cognitive neuroscience approach to show that individuals exposed to wind-turbine noise displayed heightened anticipatory vigilance, especially those with personality traits linked to rumination and intolerance of ambiguity. This vigilance—constant monitoring for potential disturbance—corresponds to a sustained stress load that interferes with cognitive rest and restorative sleep (Basner et al., 2018).

Such findings mirror the broader public-health evidence base that chronic environmental stressors can degrade mental health, sleep quality, and day-to-day functioning (Clark & Paunovic, 2018). Sleep loss in turn amplifies irritability, impairs concentration and working memory, and increases risk of mood disorders and cardiovascular disease (WHO, 2018).

## Community Exclusion and Perceived Injustice

The social context in which environmental change occurs strongly influences psychological outcomes. Communities that perceive planning processes as transparent, inclusive, and fair report lower stress and annoyance (RIVM, 2020). Conversely, when engagement is procedural or tokenistic, residents experience betrayal, anger, and alienation, which aggravate physiological stress responses (Lercher, 1996; Dällenbach, 2022).

The Norwegian case study (Lundheim et al., 2025) found that exclusion from decision-making fostered a collective sense of loss and grief, with residents mourning both the visual transformation of the landscape and the erosion of trust in institutions. This form of psychological loss has been identified as a precursor to adjustment disorder and depressive symptoms (Brown et al., 2015).

These psychosocial reactions are not transient. Longitudinal research indicates that community conflict and perceived injustice following wind-farm construction can maintain high annoyance and low quality-of-life scores for years (van Kamp & van den Berg, 2021).

## Sleep, Cognitive Function and Everyday Life

Chronic stress from environmental intrusion interacts with sleep disturbance to amplify mental-health risk. Laboratory evidence confirms that exposure to unpredictable or uncontrollable noise increases micro-arousals during sleep and prolongs sleep-onset latency (Basner et al., 2018). Field studies show higher prevalence of sleep disorders and use of sedative medication in populations exposed to turbine noise (Godono et al., 2023; Poulsen et al., 2019).

Sleep fragmentation impairs executive function, emotional regulation, and attention (WHO, 2018). These deficits manifest in everyday life as irritability, poor concentration, and reduced work efficiency. In rural communities, where residents depend on consistent alertness for farming, transport, and caregiving, such impairments undermine both personal safety and social well-being. Chronic sleep restriction is also a recognised risk factor for metabolic syndrome, hypertension, and depression (McEwen, 2006; WHO, 2018).

Thus, when an external development like a wind farm disrupts sleep patterns through audible or visual stimuli, or through ongoing anxiety about disturbance, the outcome is a measurable decline in mental and physical health.

## Imposed Environmental Change and Mental Health

Environmental psychology differentiates between change by participation and changes by imposition. When individuals have a role in shaping change, they are more resilient; when change is imposed, stress and opposition intensify (Devine-Wright, 2009). The emotional response to perceived loss of home environment can be akin to grief, particularly when the change is irreversible (Lundheim et al., 2025). Residents often describe feeling like "strangers in their own landscape," an experience linked to depressive symptoms and diminished sense of belonging (Brown et al., 2015).

For the local community, whose identity and tranquillity are rooted in rural quiet and landscape continuity, the introduction of turbines represents an existential disruption—a shift from a restorative to a stressful environment. This transformation, combined with the absence of genuine health-

focused consultation, creates the psychological conditions for chronic stress, anxiety, sleep impairment, and reduced daily functioning.

## Conclusion

The literature consistently demonstrates that loss of control, perceived intrusion, and imposed environmental change are powerful psychosocial determinants of health. These factors intensify physiological stress, erode mental well-being, and impair sleep and everyday functioning.
The applicants EIAR fails to acknowledge or evaluate these pathways, despite their clear relevance to "population and human health" under EU Directive 2014/52/EU. Consequently, the project presents not only an environmental risk but a profound psychological and social health risk to the affected rural community.

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*and antidepressants. Environmental Health Perspectives*, 127(3), 037005.
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# Stress, Sleep, and Human Rights: A Critique of the EIAR and Mitigation Framework

**Author:** Marianne Nagle, Consultant Clinical Psychologist
**Qualifications:** BA Hons. (University College Cork), BSc Hons. & MSc Hons. (University of Ulster), Diploma in Professional Psychology (Clinical), M.Ps.S.I
**Date:** 25 October 2025

## Introduction

The proposed BGE Wind Farm, raises significant public-health and human-rights concerns. The Environmental Impact Assessment Report (EIAR) and associated Construction and Environmental Management Plan (CEMP) describe operational and construction effects primarily in engineering and regulatory terms, with little consideration of the psychological, physiological, and social dimensions of noise, vibration, shadow flicker, and landscape change.

This paper examines the stress, sleep, and mental-health implications of such developments in quiet rural environments, critiques the BGE mitigation framework, and situates these issues within European and international human-rights law.

## Health Pathways: Sleep, Stress, and Mental Well-Being

### Noise and Sleep Disturbance

Independent systematic reviews consistently link wind-turbine exposure with increased annoyance and sleep disturbance.

- Schmidt and Klokker (2014) found a dose–response relationship between sound exposure and sleep disruption.
- Onakpoya et al. (2015) reported odds ratios of 2.94 for sleep disturbance and 4.08 for annoyance near turbines.
- Godono et al. (2023) estimated a pooled prevalence of sleep disorders of ~34 %, rising to ~79 % within 500 m.

Sleep fragmentation activates the hypothalamic–pituitary–adrenal axis, elevating cortisol, impairing cognition and mood, and producing chronic stress (Riemann et al., 2021). These mechanisms constitute the principal pathway from environmental exposure to mental-health outcomes.

### Low-Frequency Noise and Infrasound

Large modern turbines emit proportionally more low-frequency and infrasound energy, especially under stable night-time conditions (Møller & Pedersen, 2011). Conventional A-weighted metrics

used in ETSU-R-97 and the Ballinlee EIAR filter out these frequencies, under-representing the true indoor exposure that can disturb sleep even when "compliant" (Evans & Blake, 2020; Nguyen et al., 2022).

### Shadow Flicker and Visual Stress

Shadow flicker—cyclic light–dark modulation from rotating blades—provokes annoyance and physiological arousal even at durations below the 30 min/day "significance" threshold (Pohl et al., 2020). Advising residents merely to "close curtains" is an inadequate mitigation that restricts normal domestic life and ignores the right to enjoy one's home.

### Vulnerable Groups

Shift workers, children, and individuals with pre-existing sleep or anxiety disorders are disproportionately affected. Shift workers already exhibit disrupted circadian rhythms; additional environmental noise and flicker amplify fatigue and stress (Kecklund & Axelsson, 2016). Children are sensitive to noise-induced sleep disturbance, which impairs learning and mood (Sheridan et al., 2011). The BGE EIAR identifies these demographics but offers no targeted protection. The community health survey identifies a high proportion of shift workers, individuals with preexisting sleep disorders together with a large cohort of neurodiverse individuals. For some of these individuals and families, the presence of such health and developmental issues was a contributory factor in moving to a quiet rural area, with minimal environmental stressors.

### Construction-Phase Stress

Predicted construction noise levels (64–68 dB LAeq) and 142 HGV movements/day (MWP 2025a, 2025b) will produce sustained daytime intrusion, with night deliveries permitted "as required". Tree felling (14 ha) and borrow-pit blasting compound noise with vibration and visual disturbance. The claim of "temporary" effects disregards evidence that even short-term construction noise elevates stress hormones and blood pressure (Basner et al., 2017).

## Psychological and Environmental Well-Being

### Solastalgia and Landscape Loss

Removal of forestry, hedgerows, and wildlife habitat erodes the natural buffer and sense of place valued by rural communities. Research on solastalgia—distress from unwanted environmental change—shows strong links to anxiety, grief, and depressive symptoms (Cianconi et al., 2023; Rafa et al., 2025). The EIAR's "compensatory planting elsewhere" does not mitigate the local loss experienced daily by residents.

### Cumulative and Interaction Effects

When operational and construction phases overlap, residents endure sequential stressors: dust, vibration, traffic, visual industrialisation, followed by 35 years of turbine operation. The cumulative psychological load is ignored, yet chronic environmental stress is a recognised determinant of mental ill-health (WHO, 2018).

## Critical Appraisal of BGE Mitigation

### Over-Reliance on Procedural Compliance

The mitigation schedule (MWP 2025c, Ch. 19) equates compliance with BS 5228 and ETSU-R-97 to health protection. These standards address annoyance thresholds for average adults, not sleep or stress outcomes for sensitive populations. No baseline or follow-up sleep-quality, cortisol, or mental-health monitoring is proposed.

### Inadequate Noise and Flicker Controls

There is no commitment to automatic flicker curtailment, no monitoring of amplitude modulation, and no low-frequency noise limit. Advising residents to self-mitigate by closing curtains or windows transfers responsibility to those affected—contrary to principles of environmental justice.

### Traffic, Vibration, and Night Operations

Night-time turbine deliveries are permitted "as required", creating unpredictable disturbance. The CEMP lacks binding curfews or independent enforcement. For shift workers sleeping by day, this equates to continuous exposure.

### Governance and Participation

Implementation is delegated to the developer; community participation and independent auditing are absent, conflicting with Aarhus Convention requirements for transparency and public involvement in environmental decision-making.

## Human-Rights and Legal Framework

### European Convention on Human Rights (ECHR)

Article 8 protects the right to respect for private and family life and the home. The ECtHR has recognised environmental interference—including noise—as a violation where it prevents "the ordinary enjoyment of life" (*Fägerskiöld v Sweden* [2008] ECHR 37664/04). Irish precedent (*Webster v MeenacloghSpear Ltd* [2024] IEHC 136) likewise found that turbine noise and flicker may constitute actionable nuisance despite planning compliance.

### UN and WHO Standards

The UN General Assembly Resolution 76/300 (2022) affirms the right to a clean, healthy and sustainable environment, encompassing protection from sleep-disturbing industrial noise and habitat loss.

The WHO Environmental Noise Guidelines (2018) recommend outdoor night-time levels below 40 dB Lnight for health protection—significantly lower than Ballinlee's predicted 43 dB(A).

### Health Equity

Failure to account for shift workers, children, and health-compromised residents breaches the UN Right to Health (ICESCR Art. 12), which obliges states to protect vulnerable groups from environmental hazards.

## Discussion: Stress, Sleep, and Rights in a Rural Context

For a rural population accustomed to background levels below 30 dB(A), the introduction of high-contrast turbine and construction noise, coupled with visible landscape change, constitutes a major psychosocial intrusion. Chronic stress arising from anticipated or actual disturbance is itself a health impact (Basner et al., 2017).

The mitigation regime—focused on compliance rather than well-being—fails to provide effective protection as required by ECHR and UN instruments. The combination of inadequate acoustic criteria, lack of flicker control, unmonitored construction disturbance, and absence of health follow-up represents a systemic disregard for residents' right to safe sleep and mental health within their home environment.

## Conclusions and Recommendations

1. Health Evidence: Independent studies confirm that wind-turbine noise and flicker increase annoyance and sleep disturbance, leading to stress and impaired mental well-being.
2. Mitigation Deficiencies: The EIAR omits low-frequency, amplitude-modulation, and psychological-health considerations; mitigation is procedural, not outcome-based.
3. Rights Breach: Persistent disturbance would contravene Article 8 ECHR and the UN right to a healthy environment.
4. Vulnerable Populations: Shift workers, children, and those with existing sleep or mental-health conditions are unprotected.
5. Environmental Loss: Habitat destruction contributes to solastalgia and community distress.
6. Required Safeguards:
    - Night-time and daytime sleep-impact monitoring using actigraphy or validated surveys.
    - Binding amplitude-modulation and low-frequency limits (< 20 Hz).
    - Automatic flicker-curtailment systems with independent verification.
    - Restrictions on night operations and heavy-vehicle hours.
    - Landscape and habitat restoration within the community view-shed.
    - Periodic mental-health and quality-of-life audits with transparent reporting.

Without these measures, the development risks violating the fundamental right to health, well-being, and peaceful enjoyment of the home.

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# Neurodiversity and Wind Farms: The Potential for Impact

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Identity-first language ("autistic person") is used throughout, reflecting community preference and current best practice. Autistic child/person is used interchangeably with neurodiverse and neurodiversity.

The author, Marianne Nagle, is a Consultant Clinical Psychologist with over 20 years' professional experience, including 15 years as Senior Clinical Psychologist in Early Intervention Services. Her specialist areas are autism and childhood disability.

## Abstract

This report evaluates the potential impact of the proposed wind farm on neurodiverse residents—particularly autistic children—living in the Bruff, Ballinlee, and Dromin and Athlacca areas. The developer has applied for 16 160m turbines, 1 150m turbine, an electrical substation, a meteorological mast and associated works. The area has several hundred homes within 1km of at least one turbine. A recent health survey identified at least 34 homes with a neurodiverse family member. Construction is predicted to take place over two years. The developer has applied for a 35-year operational duration, with the possibility of recommissioning for an additional period subsequent to this.

Wind turbines emit low-frequency noise, vibration, infrasound, together with repetitive visual motion and shadow flicker, all of which correspond directly to domains of known sensory vulnerability in autism: auditory hypersensitivity, visual flicker sensitivity, vestibular and proprioceptive dysregulation, and sleep disturbance.

No peer-reviewed research has specifically examined wind-turbine exposure in autistic or sensory-sensitive populations; existing Environmental Impact Assessments (EIAs) in Ireland and the EU assess neurotypical adult populations. The absence of such research does not equate to evidence of no impact. This report argues that failing to consider neurodivergent residents constitutes a material omission under Directive 2014/52/EU, the UN Convention on the Rights of Persons with Disabilities (UNCRPD), WHO noise guidelines, and HSE and local-authority duties.

Families in the affected area have deliberately chosen rural homes to provide quiet, low-stimulus environments for their autistic children. The outdoor settings within their homes serve as therapeutic extensions of their sensory regulation routines. Proceeding with the wind farm as proposed, risks

removing that therapeutic safety, with the possibility of generating chronic sensory stress, and breaching Ireland's human-rights obligations to protect vulnerable children and adults from foreseeable harm.

# Introduction

Autism is now recognised as one of the most common neurodevelopmental differences both globally and nationally. In Northern Ireland, the Northern Ireland Statistics and Research Agency (NISRA) published 2024/25 school-aged data showing a prevalence of 5.9% for children aged 4-15 years (roughly 1 in 17). These figures confirm that autism is not a marginal condition but a major public health and educational consideration, requiring its inclusion in all environmental and planning assessments where health and wellbeing may be affected.

A health survey was undertaken to ascertain incidence and prevalence of health conditions within the local community, of the respondents, 34 families were identified where there is a family member who is diagnosed as autistic/neurodivergent. The majority of the neurodivergent individuals are children. It would be remiss of us, as caregivers, educators and fellow community members to not advocate on their behalf and ensure that their voice and needs are asserted when considering the wind farm proposal. The remit of this paper is to assist the reader in making an informed consideration of the potential impacts in the context of neurodiversity and associated sensory processing needs.

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterised by differences in social communication, restricted and repetitive behaviours, and atypical sensory processing. Sensory features were formally recognised in the DSM-5-TR (2022) under Criterion B:

"Hyper- or hyporeactivity to sensory input or unusual interests in sensory aspects of the environment (e.g., adverse response to specific sounds or textures, visual fascination with lights or movement)." (APA, 2022)

Autistic individuals may experience hyper- or hypo-sensitivity across auditory, visual, vestibular, tactile, proprioceptive, and interoceptive systems. Such differences can produce heightened physiological stress, avoidance behaviours, or, conversely, sensory seeking.

The proposed development by Greensource Ballinlee Green Energy Ltd (BGE) raises public-health, ethical, and developmental concerns for neurodiverse residents—particularly autistic children—within the Bruff, Ballinlee, Athlacca and Dromin regions.

This paper focuses on:

- Potential sensory, physiological, and behavioural impacts on autistic children.
- The omission of neurodiversity from the developer's Environmental Impact Assessment Report (EIAR);

- The responsibilities of Limerick City and County Council, the HSE, and national authorities to protect vulnerable citizens.
- The therapeutic significance of rural environments deliberately chosen by affected families.

## Current Research and Methodology

There are no direct, peer-reviewed studies which have measured the physiological or behavioural effects of wind-turbine exposure—noise, visual motion, vibration, or infrasound—on autistic or otherwise neurodiverse individuals. No Environmental or Health Impact Assessment in Ireland, in the context of wind turbine developments have evaluated:

- Autistic individuals,
- People with Sensory Processing Disorder (SPD), or
- Other neurodivergent groups with atypical sensory integration.

This omission is critical: autistic sensory systems are known to process sound, light, and motion differently, leading to increased physiological stress, sleep disruption and behavioural dysregulation.

To illustrate local sensory vulnerabilities, a small-scale psychometric study was undertaken. Caregivers and teachers of five autistic children residing within 1.5 km of the proposed turbine sites completed the Sensory Processing Measure, Second Edition (SPM-2, Parham et al, 2021). The SPM-2 is a standardised psychometric instrument used internationally to evaluate sensory processing, praxis, and social participation in home and school contexts. It is notable that for two of the children, there will be several turbines within 900m and less from their homes.

Results revealed statistically significant sensory processing difficulties across all participants, consistent between home and educational settings. This data provides ecological validity for extrapolating potential sensitivity to wind-turbine stimuli.

All five participants scored within the Severe Difficulties range across home and school settings, indicating pervasive sensory vulnerabilities. These empirical findings are discussed within each sensory domain below.

Sensory processing differences are integral to autism. The sensory systems most affected — auditory, visual, vestibular, proprioceptive, tactile, and interoceptive — interact dynamically, and dysregulation in one can destabilise the others. When environmental stimuli exceed a child's sensory threshold, distress and physiological stress responses ensue, often resulting in behavioural outbursts or withdrawal, a deterioration in acquired skills and indeed, can impact on all areas of development.

## Auditory Hypersensitivity and Low-Frequency Sound

Autistic people frequently display hyper- or hyporeactivity to sound, now formally recognised in DSM-5-TR (APA, 2022). EEG and neuroimaging research (Jones et al., 2009; Ludlow et al., 2019) demonstrate atypical auditory-cortex responses, with reduced sensory gating and delayed habituation.

Wind-turbine noise is dominated by low-frequency amplitude-modulated sound (0.5–5 Hz) and infrasound (< 20 Hz)—patterns that are unpredictable and persistent. Even when below conscious hearing thresholds, these modulations can activate the autonomic stress response, elevating cortisol and causing anxiety, hyperarousal, and sleep disturbance (Marshall et al., 2013).

In the SPM-2 sample, all caregivers reported that their children *always* noticed or were distressed by sounds unnoticed by others and *always* sought to escape or block loud or low-frequency noise. Clinically, such reactivity can manifest as covering ears, fleeing perceived threats, self-injury, or social withdrawal. All the children have in the past or currently wear ear defenders as a means to alleviate unwelcome auditory stimuli. Nonetheless, employing ear defenders can serve to minimise the stimuli but it does not diminish entirely, and all caregivers reported that they are always cognisant of the presence of noise within all environments. Several caregivers reported that their child displayed exceptionally sensitive hearing acuity, displaying a behavioural response to an unwanted noise many minutes before such noise becomes audible to others. It can take a considerable period before calm returns when exposed to such unwanted and uncomfortable stimuli. Consequently, there is an ever present hypervigilance to the impact of auditory stimuli for both the child and their caregivers.

Recent comprehensive reviews (Mehrotra et al.,2024) emphasize that low-frequency environmental noise exposure affects not only hearing but also neurodevelopmental pathways, including attention regulation, emotional stability, and vestibular processing. This substantiates clinical observations that infrasound can be felt through bone conduction and inner ear fluid displacement, potentially provoking sensory overload or disequilibrium in individuals with vestibular defensiveness (a common subtype in autism-related SPD).

The developer's conclusion that turbine noise is "slight" or "not significant" cannot apply to autistic children, whose auditory thresholds and stress reactivity are physiologically distinct from neurotypical adults on which baseline noise studies are derived.

## Visual Motion and Shadow Flicker Sensitivity

Autistic visual processing shows heightened motion detection and reduced cortical inhibition (Robertson & Baron-Cohen 2017; Foss-Feig et al. 2013). Flickering or rotating visual stimuli can evoke discomfort or pain (Uljarević et al., 2016).

Wind-turbine blades create repetitive large-field motion (0.5–1 Hz) and shadow flicker (0.5–30 Hz), both capable of entraining cortical rhythms. For autistic viewers, this can cause visual overstimulation, dizziness, or nausea (Bakroon & Lakshminarayanan 2016; Tempesta 2021). The interaction of

repetitive visual motion with low-frequency auditory input creates a form of multisensory discordance, which is particularly destabilizing for autistic individuals with impaired sensory gating. Such environmental unpredictability contradicts the controlled and graded exposure needed for effective sensory therapy.

The SPM-2 visual-processing items for all five children scored within *Severe Difficulties*: distraction by movement, distress from flicker, and avoidance of visually complex environments. Several of the children are reported to occasionally visual observe out of the corner of their eye and twirl items repetitively in front of their eyes. With this predilection for seeking peripheral motion, the presence of a repetitively rotating large scale stimulus could become an object of fixation and as such, detract from engaging in more purposeful activities.

## Auditory-Visual Coupling and Sensory Integration

Effective sensory integration depends on the brain's ability to synchronize multimodal input. When an environment delivers continuous, low-frequency auditory energy and intermittent visual motion, the temporal synchrony of sensory signals becomes distorted.

Because vision, balance, and body awareness integrate tightly, visual overstimulation can cascade into vestibular and proprioceptive dysregulation

## Vestibular and Proprioceptive Dysregulation

Research shows autistic individuals rely more on proprioceptive than vestibular input for balance (Green et al. 2016) and display atypical multisensory integration (Fournier et al. 2010; Brandwein et al. 2015). Many children also experience recurrent otitis media or grommet insertion, affecting inner-ear stability (Rosenhall et al. 1999).

Low-frequency vibration and infrasound stimulate the otolithic organs—vestibular gravity sensors—causing sensations of pressure, disequilibrium, or nausea (Salt & Lichtenhan 2019). For children with pre-existing vestibular hypersensitivity, even imperceptible vibration may provoke imbalance or panic.

Homes nearby to wind turbines could experience continuous low-frequency oscillation; for autistic children, this additional sensory burden risks cumulative dysregulation across hearing, balance, and body awareness.

All of the children's scores on the SPM were significantly elevated on the body awareness scale. This scale measure body awareness, or proprioception, a child's ability to sense precisely both the static position and dynamic changes in the position of limbs, fingers, and other body parts. A score in the Severe Difficulties range likely indicates frequent and consistent problems in many aspects of proprioceptive processing and body awareness. Additionally, proprioceptive-seeking behaviour is often noted in individuals with over-reactivity in other senses. Such co-occurrence may not reflect a

difficulty with proprioception so much as the use of intense proprioceptive inputs to minimize or block out other sensory inputs.

## Sleep Regulation and Chronic Noise Exposure

Sleep disturbance is one of the most consistently reported community impacts near wind turbines (Knopper et al., 2011). For autistic individuals, this risk is amplified. Autism is already associated with chronic sleep difficulties, including prolonged sleep latency, frequent awakenings, and poor sleep efficiency (Malow et al., 2006; Cortesi et al., 2010). Sleep deprivation is associated with obesity in children which often persists into adult life, which is associated with Diabetes and CVD (Miller et al.,2015). Alun Evans asserts "the evidence for adequate sleep as a prerequisite for human health, particularly child health, is overwhelming" and continues that noise from industrial wind turbines (including infrasound and low-frequency noise) is linked to sleep disturbance (Evans and Hanning, 2012).

Even low-intensity environmental noise can trigger micro-arousals in sensitive individuals. Studies indicate that chronic nocturnal noise as low as 35–45 dB(A) can fragment sleep architecture, disrupt REM cycles, and elevate cortisol levels (Ballester et al., 2019). Because autistic children exhibit heightened arousal and reduced adaptability to unpredictable stimuli, turbine-related amplitude modulation or infrasound could perpetuate insomnia, daytime fatigue, and behavioural dysregulation.

Once a sleep pattern is disrupted, re-establishing stability can take months or years. For families of autistic children, disrupted sleep reverberates throughout the household, impacting siblings, caregiver mental health, and overall family functioning.

The impact of disturbed sleep routines and poor sleep quality on all areas of child development is well established. Sleep is fundamental to brain maturation, learning, and emotional regulation. In autistic children—who already exhibit altered melatonin cycles, sensory sensitivities, and higher arousal—sleep disruption has amplified consequences. Poor sleep is linked to impaired attention, reduced cognitive flexibility, and increased irritability and anxiety (Malow et al., 2006; Cortesi et al., 2010). When a child's sleep is persistently fragmented by environmental factors such as low-frequency noise, the resulting fatigue compounds behavioural dysregulation and sensory overload, often triggering regressions in communication, play, and adaptive skills.

In discussions with parents, all the children evidenced some form of sleep disturbance, varying from mild to chronic. Parents report of prolonged sleep latency, sleep fragmentation and premature termination of sleep cycle. These patterns aren't the occasional sporadic one or two nights of disturbed sleep, it reflects years of consecutive nights of erratic and disturbed sleep for the autistic individual and of course, for their family. The impact of this over a sustained period needs no expansion, its impact is considerable for all family members. The impact of additional sensory stimuli from wind turbine emissions has thus, the potential to add considerable overload to an already disrupted sleep cycle.

## Amplitude Modulation (AM)

Recent peer-reviewed wind-turbine research, including studies cited by Huson in his peer review of the Winterbourne Wind Farm EIS, demonstrates that amplitude modulation (AM) and infrasound-rate fluctuations are central drivers of human annoyance and sleep disturbance rather than overall noise level alone. Nguyen, Hansen and Zajamsek (2019) showed that wind-farm infrasound at realistic residential levels around 48 dB(G) is detectable *above chance* by individuals who identify as noise-sensitive, and that the presence of low-frequency infrasound increases the perceptual salience of amplitude modulation—the characteristic "thump" or "swish" created by blade-pass events. Long-term field measurements confirm that AM is substantially more prevalent at night, with modulation depth often greater indoors than outdoors, and that deeper modulation correlates with higher annoyance and changes to self-reported sleep patterns (Nguyen et al., 2022; Hansen et al., 2021).

These AM characteristics are particularly relevant for autistic children, who exhibit atypical auditory temporal processing, including reduced tolerance for temporally modulated or fluctuating sounds. Research demonstrates that autistic individuals show differences in neural and behavioural responses to changes in duration, rhythm, and temporal envelope (Alcántara et al., 2012; Rotschafer and Razak, 2021), and that hyperacusis and decreased sound tolerance affect a large proportion of this population (Williams et al., 2021). Low-frequency amplitude-modulated noise—especially when pulsing at infrasound rates between 0.5 and 4 Hz, as documented by Cooper (2019)—aligns closely with sensory features that autistic listeners find most difficult to filter or habituate to.

For autistic children, AM-dominated sound fields are therefore unlikely to be experienced as steady or ignorable background noise. Instead, the rhythmic pulsing, unpredictability, and depth of modulation may be perceived as intrusive, noxious, or threatening. Given the established links between sensory over-responsivity, physiological arousal, and sleep disruption in autism (Marco et al., 2011; Williams et al., 2021), amplitude-modulated turbine noise represents a mechanistic pathway through which wind-farm emissions may trigger heightened autonomic stress, distress behaviours, and night-time sleep fragmentation in neurodivergent children.

## Somatosensory and Interoceptive Impacts

Autistic children often experience tactile defensiveness or crave deep pressure input (Cascio et al., 2019). Continuous low-level vibration transmitted through walls or floors could therefore cause discomfort or confusion—too subtle to satisfy sensory-seeking needs, yet persistent enough to aggravate tactile hypersensitivity.

Autistic interoceptive processing—the ability to interpret internal body signals such as heart rate or tension—is also frequently atypical (Mahler, 2016; Schauder & Bennetto, 2016). Environmental vibration and chronic noise can elevate baseline arousal, leading to sensations of unease or nausea

that may be misinterpreted as internal distress. For a child with limited communication, this can manifest as anxiety, aggression, or withdrawal.

Results from the SPM illustrate that four of the five children experience clinically significant difficulties with tolerating and processing a wide range of vestibular inputs. Tactile hypersensitivity was identified as significantly elevated in four of the children, with the remaining child experiencing moderate difficulties in tolerating tactile stimuli.

For those with proprioceptive dysregulation, as identified in all five of the children in this local study, constant low-amplitude vibration may degrade body-awareness and movement control, increasing sensory load and behavioural stress.

## Construction-Phase Impacts

The developer describes construction impacts as "temporary" and "not significant." Yet construction is predicted to last approximately two years—a substantial proportion of early childhood. For a developing child, this is not temporary but significant. The construction phase involves heavy-vehicle movement, ground excavation, concrete pouring, and turbine assembly—all sources of intermittent high-decibel and low-frequency noise. WHO environmental-noise guidelines recommend daytime limits of 45 dB LAeq for learning environments; the BGE construction projections of 65–68 dB exceed this by 20–30 dB.

Children's auditory systems differ anatomically and physiologically from adults: shorter eustachian tubes and stiffness-dominated middle ears amplify lower frequencies (Iqbal, 2024). Combined with the high prevalence of otitis media and grommet insertion in autistic children, this increases susceptibility to discomfort and stress. Four of the five children who contributed to the SPM assessment have had a medical history of recurrent otitis media and grommet insertion.

It is clinically inaccurate to describe these effects as "slight." A "slight" disturbance for a typical adult may constitute a significant developmental or behavioural regression for a sensory-sensitive child.

The American Academy of Paediatrics (2023) emphasises that children's smaller ear canals amplify higher-frequency sounds and that safe thresholds for adults are not transferable to children. The WHO (2018, 2024) similarly recognises children as particularly vulnerable to environmental noise. Thus, "slight," "temporary," or "not significant" effects for neurotypical adults may constitute substantial health and educational impairment for autistic children.

## Outdoor Space and Gardens in Present Context

All caregivers' responses illustrated the importance of the outdoor space whether in their own gardens or in the local park as a space that is accessed during regular intervals of both day and night. Several parents reported that the garden represents the most important room in the home and parents have gone to considerable effort in providing safe, enclosed spaces. For some

children, the presence of sensory sensitivities is such that accessing local playgrounds and play centres is not feasible, and so parents have created such spaces within their own gardens. Modifying play equipment to ensure it is accessible, creating stimulating spaces and age-appropriate swings, building fences to ensure their children are safe and secure – these are but a few of the actions local parents have undertaken, often at considerable expense and effort.

For some of the children, the outdoor space within their home is the place where they interact with beloved pets, such as dogs and horses. Interactions with animals provide rich but controllable multisensory input—tactile, proprioceptive, and vestibular—which can modulate arousal and support sensory integration.
A 2024 systematic review and meta-analysis by Xiao et al. found that animal-assisted therapies (AAT) particularly involving dogs and horses, significantly improve sensory modulation, emotional regulation, and adaptive functioning in autistic children. The authors highlight that the rhythmic, repetitive movement in equine interaction (e.g., grooming or riding) promotes vestibular and proprioceptive stability, while the tactile consistency of petting dogs supports deep-pressure regulation similar to weighted therapy.

Interactions with animals provide meaningful reciprocal interactions without the need for verbal interaction or the social pressure of reading social cues. For autistic children who experience social overwhelm, animals' predictable emotional signalling and nonverbal communication reduce cognitive and affective load. This allows authentic engagement and reward-based learning through companionship and routine. These interactions occur within the outdoor areas of the children's home, allowing them to be readily accessible, without the need for scheduling or planning.

Peuters et al. (2024) in *Environmental Exposures and Child Neurodevelopment* found that autistic children do not derive equivalent restorative benefits from greenspace when noise pollution is present, suggesting that noise-mediated sensory stress overrides the potential calming effects of natural settings. This parallels findings in nature-based occupational therapy, where therapeutic benefit depends on sensory predictability and control, both of which are compromised near turbine arrays.

Even when not consciously perceived as "loud" or "intrusive," the continuous multisensory stimulation (auditory, vestibular, visual) alters the neurological threshold balance essential for sensory regulation.
This creates a chronic sensory stressor, potentially undermining the therapeutic and developmental benefits of outdoor safe spaces designed for these children.

## Legal and Policy Obligations

Directive 2014/52/EU (amending Directive 2011/92/EU) requires Environmental Impact Assessments to evaluate "the likely significant effects of a project on human health, including on vulnerable groups of the population." The BGE EIAR fails this test.

The report defines "sensitive receptors" only as *buildings*—Noise Sensitive Locations (NSLs)—rather than the people inhabiting them. No reference is made to autism, disability, neurodiversity, or sensory vulnerability. This omission breaches:

- EPA Guidelines (2022): requiring explicit assessment of impacts on health, wellbeing, and sensitive population groups.
- IEMA Human Health Guidance (2022): identifying children, the elderly, and disabled people as groups requiring specific assessment.
- WHO Environmental Noise Guidelines (2018): setting lower protective thresholds for children and sensitive individuals.
- UN Convention on the Rights of Persons with Disabilities (UNCRPD): obligating signatory states, including Ireland, to protect disabled persons from environmental harm and ensure accessibility and inclusion in community life.

Furthermore, Limerick City and County Council have acknowledged autism as a sensory disability in its social housing allocations and has implemented autism-friendly initiatives, quiet zones, and sensory-friendly public spaces. The HSE likewise recognises hyperacusis and sensory sensitivities as clinical features requiring management and protection.

For these authorities to approve or permit a development ignoring these same vulnerabilities would be inconsistent with their stated policies and public-health duties. Protecting these children from foreseeable harm outweighs abstract climate targets—particularly as the affected area already enjoys good air quality, and the proposed turbines would operate for 35 years, imposing immediate and prolonged effects.

## Family and Community Impact

When an autistic child experiences sensory distress, the entire family is affected. Parents witnessing ongoing distress in a child—especially when the home, once their safe place, becomes intolerable—experience guilt, helplessness, and anxiety.

Siblings often absorb the emotional and behavioural fallout: disrupted sleep, parental preoccupation, and restricted outdoor play. Family routines fracture, and social participation declines. In clinical terms, the child's distress radiates through the household system, impairing family functioning and mental health.

These families have intentionally chosen rural homes to provide quiet, low-stimulus environments suited to their children's sensory profiles. Their gardens and outdoor spaces function as therapeutic extensions of the home—a "third therapy room" for self-regulation and play. If turbines dominate the auditory and visual landscape, that therapeutic refuge will be lost.

Once fear or sensory aversion is established, it can be extremely resistant to reversal. A child who begins to associate outdoor space with discomfort or pain may withdraw entirely, reducing movement, social engagement, and independence.

# Educational and Community Context

Limerick City and County have demonstrated increasing awareness of the sensory and accessibility needs of neurodiverse citizens. The region has taken progressive steps to create autism-friendly environments across public, commercial, and educational settings. For example:

- Parkway Retail Park has been designated Ireland's first autism- and sensory-friendly retail park, adjusting lighting and sound levels during specific hours.
- Several mainstream retailers operate "Quiet Hours" with reduced lighting and noise to accommodate sensory-sensitive customers.
- Limerick City and County Libraries, the University of Limerick (UL), and Mary Immaculate College have installed sensory rooms and quiet zones and actively promote neurodiversity inclusion.
- Shannon Airport and University Hospital Limerick both provide sensory rooms where auditory and visual stimuli can be adjusted to individual needs.
- Sensory processing difficulties are recognised by Limerick County Council as a health need in housing allocation

This county-wide recognition reflects a public and policy acknowledgment that sensory processing differences are not simply preferences but health-related access needs.

According to the National Council for Special Education (NCSE, 2025), there are approximately 110 autism-specific classes attached to mainstream schools within Limerick City and County for the 2025–2026 academic year. Within a 10 km radius of the proposed BGE Wind Farm, there are 28 autism classes across primary and post-primary schools. Many of these classes operate with waiting lists, indicating significant demand and confirming a high concentration of autistic pupils in this area.

These children represent a particularly sensitive subgroup of the population due to sensory processing vulnerabilities, communication challenges, and developmental challenges. Any environmental disturbance affecting their learning or regulation will therefore carry magnified educational and psychosocial consequences.

Furthermore, Bruff Scoil Dean Cussen, with two autism classes and additional autistic pupils within the mainstream classes is sited within potential exposure zones for turbine noise and vibration. The EIAR did not assess the Primary School for shadow flicker as it falls outside of the study area (1.36 km zone / 10 x rotor diameter). Best practice identifies 10 × rotor diameter as a practical assessment distance which is not an absolute physical limit and the precautionary principle should have included the school in the study area. School environments are crucial for stability and learning; disruption to sensory safety in school can undermine concentration, emotional regulation, and academic performance.

Clinically, children who experience dysregulation in one setting often "carry over" their distress to others. Thus, if a child's sleep or sensory equilibrium is disturbed at home due to environmental

noise, that same dysregulation can manifest as behavioural and learning difficulties at school—and vice versa. Both domains are interconnected, and both can be affected by turbine emissions.

Given this close integration of home and school environments in developmental psychology, and the concentration of neurodiverse pupils locally, the omission of these children from the developer's population and human-health assessment represents not only a scientific oversight but an ethical one.

## Ethical and Clinical Interpretation

Describing turbine impacts as "brief," "slight," or "not significant" reflects adult-average metrics, not clinical or developmental relevance. The use of these terms is misleading when applied to a neurologically sensitive population.

Health-protective thresholds for adults cannot be extrapolated to children with sensory hypersensitivity or developmental differences. Autistic children have lower tolerance for unpredictable stimuli and slower physiological recovery from stress. Chronic low-frequency noise or visual flicker can therefore maintain a state of autonomic dysregulation, impeding learning, emotional control, and sleep.

From a clinical perspective, persistent exposure to stressors that trigger pain, hyperarousal, or avoidance is ethically unacceptable, particularly when the population affected includes non-verbal or minimally verbal children unable to speak for themselves.

The proposed windfarm would operate for approximately three decades, producing low-frequency emissions, shadow flicker, and vibration. These are not short-term or speculative effects but potentially chronic environmental intrusions into homes and schools occupied by neurodivergent children.

The area currently enjoys good air quality and low industrial noise; thus, the claimed contribution to distant climate goals cannot ethically or legally outweigh the *immediate, local, and ongoing health risks* posed to identifiable children. Sustainable policy cannot sacrifice the wellbeing of specific disabled residents in pursuit of abstract future benefits elsewhere.

## Conclusion

Given the sustained rise in autism incidence and the known physiological basis for sensory hypersensitivity, it follows that environmental developments must explicitly assess their potential to cause harm to neurodivergent and sensory-sensitive populations. Failure to do so constitutes not only a clinical oversight but a breach of Ireland's obligations under both EU environmental law and the UNCRPD.

The EIAR fails to recognise or assess autistic or sensory-sensitive residents. It assesses noise and vibration only in relation to buildings and neurotypical adults.

Families in the area—many with autistic children—explicitly informed the developers of their presence and concerns, yet these were dismissed with the assertion that impacts would be "not significant." This conclusion lacks validity because it rests on inappropriate population data and omits mechanistic evidence that wind turbines impinge on autistic sensory vulnerabilities. It is simply incorrect to state that no impact will occur when there is no research to support such an assertion. There is however a wealth of research demonstrating the impact of environmental stimuli on the development of the neurodiverse and sensory sensitive population.

Therefore, when considering the issues discussed throughout this paper, supported by peer reviewed research, proceeding with this development under such conditions would breach obligations under:

- Directive 2014/52/EU (assessment of vulnerable populations),
- UNCRPD (protection from environmental harm),
- EPA (2022) and IEMA (2022) health guidance,
- HSE and Limerick County Council policies recognising sensory disability.

Beyond statutory duties, this is an ethical matter. These children's homes and gardens are not merely residences—they are carefully curated therapeutic spaces essential to their regulation, development, and wellbeing.

Approving this project without autism-specific health data, mitigation, and inclusion constitutes a failure of care and governance. Local councillors, HSE officers, and planning authorities have an unequivocal duty to safeguard these children. Should this project proceed unchanged, there is potential for harm that will persist for decades.

The precautionary principle — embedded in EU environmental law — dictates that when plausible mechanisms of harm exist for a vulnerable subgroup, preventative action must be taken. Ignoring known autistic residents—whose presence was reported to the developer during consultation—constitutes procedural negligence and undermines the integrity of the EIA process. Ireland's obligations under the UN Convention on the Rights of Persons with Disabilities (UNCRPD) further require protection and inclusion of disabled individuals in policy decisions affecting health and wellbeing.

Directive 2014/52/EU, which amends the EIA Directive (2011/92/EU), explicitly requires that environmental assessments evaluate "the likely significant effects of a project on human health, including on vulnerable groups of the population." By defining "sensitive receptors" solely as buildings rather than people, the developer's report fails to meet this fundamental criterion.

This omission is not a procedural detail — it is a public-health failure. The auditory, visual, vestibular, and sleep-related emissions produced by wind turbines align precisely with the sensory domains most affected in autism. To proceed with industrial-scale wind energy development in the absence of autism-specific data is to act in direct conflict with the EU's precautionary principle, enshrined in Article 191 of the Treaty on the Functioning of the European Union (TFEU).

Furthermore, while EU climate and renewable-energy policies aim to mitigate long-term global risks through decarbonisation, they cannot ethically or legally justify local, immediate harm to identifiable vulnerable populations. The UN Sustainable Development Goals (SDGs) reinforce this position:

- Goal 3 commits States to ensure healthy lives and promote well-being for all at all ages.
- Goal 10 seeks to reduce inequalities, including those affecting persons with disabilities.
- Goal 11 calls for inclusive, safe, and sustainable communities.

Advancing renewable energy at the expense of disabled or neurodivergent children contradicts the spirit and letter of these commitments. The (UNCRPD)—ratified by Ireland in 2018—further obligates the State and its agencies to ensure that persons with disabilities are protected from environmental harm and are fully included in decisions affecting their lives.

From a clinical perspective, the likely impacts on autistic children are not abstract.

Chronic exposure to irregular low-frequency noise, vibration, or flicker can cause sensory dysregulation, sleep disruption, and autonomic stress. Once established, these disturbances can become long-standing or irreversible, impeding cognitive development, learning, and emotional regulation. The distress caused extends beyond the individual child, affecting siblings, parents, and family cohesion. When the home environment—consciously chosen by many families for its quiet, rural stability—ceases to be a refuge, the consequences are profound and enduring.

In balancing national renewable-energy goals with human health, ethical climate policy demands inclusion, not exclusion. Protecting vulnerable children is not inconsistent with sustainability — it is a prerequisite for it. To disregard these children's needs is to reduce climate policy to an arithmetic of megawatts, stripped of humanity.

Therefore, until autism-specific environmental health assessments are conducted and adequate mitigations are designed in collaboration with affected families, the proposed wind farm development cannot be deemed compliant with Irish law, EU environmental standards, or international human-rights obligations.

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# Civil Engineering

*Submission on EIAR Volume 2 Chapter 4 | Civil Engineering | Michael Duffy BE CEng*

## Overview:

There is a common theme throughout this application that in spite of the voluminous application including a large proportion of non-specific generic material, there are gaping holes in vital areas. In the Introduction in section 4.1 it is claimed that *"surface water principals and controls applied to the proposed development, including requirement, function and maintenance are included in the SWMP. The GCRR includes details on the initial and preliminary design as well as construction methodologies for the grid connection*." For example, of the lack of information there is no account of the length of trenching intended for surface water and most importantly there is no investigation of existing land drains on lands which will have 10.8km of internal tracks excavated. Another example is the indicative nature of the application where in places it is stated that turbine base design will as the manufactures design. There are other examples of non-specific design which has been found to be contrary to proper planning and sustainable development. In that regard I refer An Coimisiún to established case law in Sweetman v. An Bord Pleanála [2020] IEHC 390, [2021] 6 JIC 1601 (Unreported, High Court, 16th June, 2021) and Sweetman v. An Bord Pleanála [2021] IEHC 662.

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## Site Access

In section 4.2 site entrance visibility distances of 160m for regional roads and 90m for local roads are required. Given a plethora of inaccuracies discovered in this application my client wants the Coimisiún to satisfy itself that the Roads Section of Limerick County Council confirms these sightlines are actually available and not simple read from the referenced drawings which can be easily manipulated.

## Internal Tracks

Section 4.3 refers to the internal wind farm access tracks the construction and use of these track by heavy trucks and equipment will destroy the vast network of farm land drains in the fields over which these extensive access tracks are proposed. These field land drains were never designed for heavy traffic. The proposed wind farm will require approximately 10.8km. 8.3km, will be new founded tracks and 0.5km of existing track will be upgraded. Finally, 2.0km of new floated tracks are required for the potential areas where depth to a solid base is excessive. They will have a running width of 5.5m along straight sections. There is no assessment identifying the location these land drains or where they discharge. Damage to these by cumulative loadings from heavy traffic will alter the long term hydrology forever. The proposed surface water regime will do nothing to address field drainage when the construction phase has been completed. This may have been short-sighted by the landowners, which is their own outlook, but the cumulative and in-combination flooding arising will impact the wider community into the future. There is a disingenuous claim that these access tracks are located to minimise visual impact considering the size and bulking of the turbines proposed.

The application states that the design of the site access track will depend on local geotechnical, topographical, and hydrological conditions. Founded, floated and upgraded access track construction methods will be employed to achieve an access track structure appropriate to the site conditions, for further details on the construction of the access tracks refer to Construction Environmental Management Plan (EIAR Volume III, Appendix 2A). This indicates that there has been no site assessment of the ground conditions for the internal tracks. How then can the proposal state the lengths of the different types of track proposed? My client requires a proper geological

assessment of the ground conditions on which the tracks are to be constructed. For example, if deep peat is encountered it will require special conditions which must be assessed now in the planning process and not left to the whims of a developer or sub-contractor to decide important environmental issues on the hoof.

It is stated that "*the aggregate required for the construction of the internal access tracks, hardstands and substation compound will be sourced from local quarries and two on site borrow pits, details on material volumes for construction are in Section 4.12. The access tracks will be finished with a top layer of imported aggregate to give a clean hardwearing running surface for the delivery of turbines. Refer to Planning Drawing No. 22635-MWP-00-00-DR-C-5406 for further details.*" The reference drawing gives no depths for excavation of internal access tracts. The drawings are indicative and unacceptable. It is difficult to understand where the volumes claimed in Table 4-1 originate. Similarly, in Volume 3 Appendix 4B there is no explanation of material volume calculations presented. Given that most of the excavation depths are undefined, because there is a distinct paucity of geological investigation and other details such as the lengths, depths and widths of surface water trenches are not provided, the volumes presented cannot be interrogated.

## Turbine Foundations

Section 4.4.3 refers to turbine foundations where it claims that each turbine base will be constructed on suitable bearing stratum and will be constructed utilising a spread foundation, which is wide and shallow. It claims that "*a typical foundation will be approximately 27m in diameter and will generally be installed to a depth of approximately 3.5m below ground level. Approximately 1125m$^3$ of concrete and 170 tonnes of steel will be used in the construction of each turbine base. Estimated material quantities required for the construction of the turbine bases are shown in Section 4.12. Refer to Planning Drawing No. 22635-MWP-00-00-DR-C-5403 for further details on the wind turbine foundations. The Construction Environmental Management Plan (EIAR Volume III, Appendix 2A) provides information on the construction of wind turbine foundations.*"

22635 MWP 00 00 DR C 5402 states that foundation design will be to turbine supplier's specification. 22635 MWP 00 00 DR C 5403 gives dimensions for a standard type turbine foundation and a some, but not enough details for a piled foundation. These are indicative and not specific. My clients are entitled to know the type and actual dimensions for each turbine foundation following a considered assessment of ground conditions at each proposed turbine location. Another consequence of not carrying proper investigative assessment of ground conditions is that there are no quantities or volumes of stone required in turbine foundations. This information must be provide to inform proper submissions and any planning assessment. Indicative design has been found to be inappropriate. I have referred An Coimisiún to established case law in this regard.

## Internal Collector Circuit

In section 4.5 the internal collector circuit is discusses but there is no reference to field drains which will be destroyed by this process or how these field drains will be repaired or replaced. This is not an insignificant issue as there are 15.3 Km of these electrical trenches in this proposed development. This issue is addressed further below.

## External Grid Connection Route (GCR):

Section 4.6 refers to the external grid connection. The grid connection route consists of an underground electrical cable from a new on-site 110kV electrical substation to be constructed in the wind farm site to the existing 220/110 kV Killonan substation 27.6Km north of the main wind farm substation site.

### BFA Preferred Grid Route Option Assessment Report" (EIAR Volume III, Appendix 4A)

We are referred to "BFA Preferred Grid Route Option Assessment Report" (EIAR Volume III, Appendix 4A) for further details on the selection of the external grid route on public roads. In that report it is stated that;

> *This "Grid Route Options Assessment Report" whereby several potential grid connection route options were assessed a preferred route identified. This assessment is contained with the report 24007-BFABE- XX-RP-C-6001.*

Where is this report? There is no guidance to an interested party as to the location of this referenced report and it is not in the Bibliography at the end. This is an absolutely incredible situation. The GCR form a fundamental part of this application. To comply with established case law on project splitting it must be undergo both Environmental Impact Assessment (EIA) and Appropriate Assessment (AA) prior to a planning decision being made.

From what has been presented there is no evidence of any input from statutory bodies and in particular Eirgrid. One hopes and expects that this developer did not unilaterally decide to plug-in to Killonan substation. Was this "Option 1" decision made unilaterally? If for any reason the statutory body decides that this proposed development is to connect elsewhere in the network where do that leave the principle of project splitting.

The results of this assessment identified "Option #1" as being the preferred grid connection route for the project. Subsequent to this assessment, BFA Consulting have completed an in-depth civil engineering assessment of Option #1, the results of which are contained within this report.

2.1. Scope of Report

> The purpose of this report is to assess the preferred grid connection route associated with Ballinlee Green Energy Project from a civil engineering perspective. Electrical engineering parameters such as grid connection capacity and cable de-rating, are also outside the scope of this report.

3.1. Distance

> The length of a given route will impact on the environmental and economic cost of the construction works, as well as impacting the scale of the inconvenience caused to the local population. Therefore, a shorter length of grid route will be deemed "Advantageous" as part of this report.

4.8. Route Selection Summary

> Based on the above, it is assessed that Option#1 grid route for Ballinlee Green Energy Project is an appropriate grid route from a civil engineering perspective.

So, based on the above, it is assessed after 15 pages, 8 of which contain nothing but photographs, that Option#1 grid route for Ballinlee Green Energy Project is an appropriate grid route from a civil engineering perspective.

## Volume 3 Appendix 2D GRID CONNECTION ROUTE REPORT.

Notwithstanding that my client reserves its position on the process to identify "Option 1" it wishes to make the following comments on the assessment of the "selected" route.

2.1 Route Description –

> *The exact location of the underground HV ducting may be subject to minor modification following confirmatory site investigations, to be undertaken prior to construction and following consultation with Limerick City & County Council and all other relevant stakeholders, having regard to all environmental protection measures outlined in the planning application and accompanying technical reports. Any such minor modification will be within the planning application boundary.*

As Humphreys J. said in Sweetman [2021] IEHC 662

> *15. I am in no way dismissing the argument that there are many sound economic and engineering reasons why turbine design has to be kept flexible to some extent until nearer the construction date. However, as the notice party acknowledges at para. 35 of submissions, the fact that any applications have been prepared on a similar basis to that here does not have a bearing on the question of interpretation of the regulations. As I endeavoured to point out in the No. 1 judgment, an open-ended permission is not self-evidently the only or best solution for such a problem and as, the applicant in effect perceptively points out at para. 4.5 of the written submissions on the leave to appeal application, one woman's flexibility is another woman's uncertainty.*

2.2 Major Infrastructure

2.2.1 TII Road interactions

> To facilitate ongoing maintenance of motorways and national primary roads and avoid disruption to traffic flows, Transport Infrastructure Ireland (TII) has previously refused permission to install high voltage cables within their motorway and national primary roadways. Based on the above the installation of high voltage cables along motorways and national primary roadways is avoided where practicable.

Was TII policy assessed with respect to s.15(1) of the CLIMATE ACTION AND LOW CARBON DEVELOPMENT ACT 2015 as amended?

> Section 15 of the Principal Act is amended by the substitution of the following subsection for subsection (1):
>
> > "(1) A relevant body shall, in so far as practicable, perform its functions in a manner consistent with—
> >
> > (a) the most recent approved climate action plan,
> >
> > (b) the most recent approved national long term climate action strategy,
> >
> > (c) the most recent approved national adaptation framework and approved sectoral adaptation plans,
> >
> > (d) the furtherance of the national climate objective, and
> >
> > (e) the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State.".

It is stated in section 2.5.1 that the Electricity Supply Board (ESB) was consulted by MWP to ensure that all known and mapped ESB infrastructure was identified prior to the development of the grid connection route design. Was it consulted about the decision on the actual route of the GCR?

3. Grid Connection Route Design

> 3.1 Initial Design
>
> The grid connection route was selected following an assessment of a number of potential options. Further information on the assessment can be found on the grid route options in Volume II Chapter 03 Consideration of Alternatives of this EIAR.

Section 3.1.1 gives trench detail including a figure showing a section of the proposed trench with 5 No. ducts installed. It does not indicate how many of these ducts relate to the Ballinlee proposed development or how many will be redundant and the basis for any redundancy. This design conflicts

with the statement in Chapter 4 of the Civil Engineering Report which claims that "*The excavated material generated from the trenches will be reused as backfill where possible or alternatively it will be deposited within the proposed on-site borrow pits as part of their reinstatement or the material deposition areas.*" This has implications, as have other conflicts identified herein, for the volumes of waste/spoil provided in this application. Finally, the construction waste from the grid connection route are covered in the Resource Waste Management Plan (EIAR Volume III, Appendix 2B).

Appendix 2B refers to the grid route is in the following sections.

2.5.4 Bituminous material

> During the underground grid route works, excavated material will be generated. Any hazardous or bituminous material (asphalt, coal tar, and bitumen) will be sent to the licensed waste authority for treatment/disposal.

2.4.2 Excavated Materials

> An estimated total of 24,840m3 of excavated materials, this includes tarmacadam, concrete, backfill aggregate and mineral soil, will be produced during the construction phase of the external grid connection route. Public road excavations can generate some small quantities of tarmacadam which will require off-site disposal by a permitted waste contractor to an appropriately licensed facility.
>
> In Chapter 4.6 (EIAR Civil Engineering) the applicant submission states;
>
> The design of the external grid connection will comply with EIRGRID Group - CDS-GFS-00-001-R0 110 kV - 220 kV and 400 kV Underground Cable Functional Specification General Requirements 2020 and EIRGRID Group – XDN-CBL-STND-H-001 to 013 – 110kV Cable Standard drawings. The excavated material generated from the trenches will be reused as backfill where possible or alternatively it will be deposited within the proposed on-site borrow pits as part of their reinstatement or the material deposition areas. Construction information on the external grid route is included in Grid Connection Route Report (EIAR Volume III, Appendix 2D) and Construction Environmental Management Plan (EIAR Volume III, Appendix 2A).

The reality of the grid connection route in a waste context is that is a separate construction site. Therefore any material to be removed off site should be considered as waste whether bituminous or other types of waste including soil/stones. As identified waste this should not be permitted to be disposed of in the wind farm site but removed to an appropriate licensed facility.

4. Conclusion

> *During the preliminary design stage of the Ballinlee Wind Farm grid connection route, MWP drew on its extensive experience from similar engineering projects. The team liaised with the local authority, consulted all known utility providers to identify existing infrastructure, and underlying geological conditions, areas of environmental conservation, and sites of archaeological significance were investigated to further inform route selection. In addition, MWP engaged an independent contractor, Precision UM, to complete site investigations, a topographical and ground penetrating radar surveys to ensure a comprehensive and informed design could be developed.*

The Applicant has not disclosed or provided detail on the liaison in particular with ESB/Eirgrid on options and the actual decision on this proposed GCR.

5. Recommendation

> *A grid route design suitable for planning purposes has been developed and discussed in this report. The preliminary design has considered road types, route distance, existing utilities, existing watercourse, crossings points & methods and more constraints that are listed above in the report. The preliminary design ensures a technically feasible and environmentally acceptable route is put forward in the planning process. A detailed design of the grid route shall be developed to confirm the alignment, joint bay locations and watercourse and service crossing methods prior to construction.*

The Applicant needs to explain what it means by *preliminary design* and *detailed design* having due regard to the sentiments quoted by Humphreys J. above.

## Viability of GCR

To any interested observer it is incredible that a 27.6km grid connection route will be provided for this proposed wind farm. On the basis of the established theory of "*one woman's flexibility is another woman's uncertainty*" my client has grave concerns that this proposal is the thin end of the renewable energy wedge. The Applicant should be required to address the viability of this GCR and any plans it or anyone else has for the use of this proposed grid connection. In such circumstances the Commission for Regulation of Utilities (CRU) should be a notified body or its opinion requested on the viability of this grid connection. The viability or efficiency of this proposal is addressed elsewhere

in this submission in the context of poor quality raw wind and the massing of the turbines. If public monies in the form of subsidies for generation of electricity is provided to the applicant/operator of this windfarm then this is a material consideration at this stage. There is a perception abroad that locating renewable energy development, not in the most productive locations, but where agreeable landowners can be cocooned at a suitable cost to the proposed, then the subsidy harvesting can drive the development. This is also a matter for consideration under s.15(1) of the Climate Action and Low Carbon Development Act 2015 as amended.

## Project Splitting.

If it is intended that other renewable energy developments are to be connected to this GCR then AIE/AA for those projects must be carried out in this process prior to a planning decision being made. Project splitting case law. Approximately 3.2km of the external grid route will be within the wind farm site while the remaining 24.4km will be within public road carriageways. Refer to BFA Preferred Grid Route Option Assessment Report (EIAR Volume III, Appendix 4A) for further details on the selection of the external grid route on public roads.

> Project Splitting
>
> Project splitting refers to the practice of dividing a single, integrated project into multiple sub-projects to circumvent regulatory requirements, such as those mandated for Environmental Impact Assessments. This tactic undermines the intent of environmental regulations by allowing significant environmental effects to be overlooked due to procedural division.

A project, such as the grid connection route, cannot be environmentally piecemeal. If it is intended to use this GCR for other renewable energy developments then they must be environmentally assessed as part of this process. Otherwise impermissible project splitting exists.

My clients have evidence, appended to this submission, from a landowner who was engaged by another renewable energy developer seeking to contract with the landowner to facilitate another wind development on contiguous to the proposed GCR at Fedamore which is between Bruff and the Limerick City Killonan substation.

## Permanent Meteorological Mast

Section 4.8 Detailed design of the permanent meteorological mast will be completed post planning. Plate 4-6 is an example of a wind farm met mast. This is impermissible indicative design are referred to above.

## Temporary Construction Compounds

In section 4.9 it is stated;

> 3. During the construction stage, a self-contained port-a-loo with an integrated waste holding tank will be used on site for toilet facilities. This will be maintained by the service contractor on a regular basis and will be removed from the site on completion of the construction stage.
>
> 4. Upon completion of the construction stage, the compound will be decommissioned by backfilling the area with the material arising during excavation, landscaping with topsoil as required.

## Borrow Pits:

Reference is made elsewhere in this submission to the methodology of the trial pits assessment and the outcomes. I concur with that submission. The machinery and methodology used was deficient to establish the potential for borrow pits in these locations. The applicant has not established that rock exists, its quality, or potential volumes as submitted in the application. As has been experienced on other wind developments has the Applicant thrown this in with the intention of having a root around elsewhere on the site to source rock fill?

It has suggested on a whim by the Applicant that 30% of the won rock will be waste. No rock has yet been identified in either the desk study or the trial pit assessment.

> The combined areas of the borrow pits is 60,700m$^2$. The topsoil layer, which has an average thickness of 0.3m, and mineral soil layer, which has an average thickness of 0.6m, above the rock layer will need to be excavated to facilitate the extraction of rock from the borrow pits. A rock layer of 2.350m is required which results in a minimum borrow pit depth of 3.250m. The rock layer produces, approximately, 142,650m$^3$ of rock that will be processed into suitable site won aggregate. A 30% contingency factor was applied based on the desktop study of the

> geology and trial pits at the locations of the borrow pits. It has therefore been assumed that 70% of the rock excavated, when processed, will be suitable for use as aggregate on site. This results in 99,852m$^3$ of usable site won aggregate.

There are several errors in this statement. The insinuation is that rock exists at 0.9m BGL. There is no evidence. There is no basis for the presumption the 30% will be waste, or that only 30% will be waste. There is no provision of whatever portion is waste in deposition calculations.

What does "processed" mean? Blasted? Rock-breaker? Ripper? Crushed? Screened? There is no assessment of blasting, crushing or screening and no application made for such processing in the description of development. Figure 4-9: Map showing the location of the proposed borrow pits in very close proximity to dwellings with no proper assessment.

## Temporary Deposition Areas

> Section 4.11.1 states that the excavated overburden (topsoil and mineral soil) from the borrow pits will be temporarily stored at 1 of the 2 temporary deposition areas until the completion of the rock/aggregate extraction. The northern and southern temporary deposition areas are shown in Figure 4-10.

The actual available quantities or the depths required to be excavated to provide the required quantities have not been determined. Depth to bedrock, water table depth, any likely impacts on groundwater, whether rock-breaking, blasting and/or crushing will be required have not been assessed. Therefore discussing temporary deposition areas is premature as quantities involved remain unknown.

> Material will only be deposited on slopes of less than 5 degrees to the horizontal and greater than 10m from the top of a cutting. The exact location of such areas will be confirmed on consultation with the geotechnical engineer.

Once again the applicant falls into its default position of indicative design which of course is impermissible.

> Upon commencement of the restoration phase, guidance from a suitably qualified environmental professional will be sought to confirm the methodology and programme. The material in the temporary deposition areas will be removed and placed in the borrow pits as part of their restoration.

Such proposal or commentary is premature in the absence of the actual quantities involved.

## Permanent Deposition Areas

> 4.11.2 The wind farm includes nine (9 No.) permanent deposition areas in addition to the two (2 No.) temporary deposition areas. Figure 4-11 shows the location of the deposition areas. The permanent deposition areas are proposed throughout the site in close proximity to areas where high quantities of excavated material are expected i.e. wind turbine foundations and the excavated material from other infrastructure.

Again there is an undefined indicative element to this statement. There is no measured assessment of volumes to be excavated from turbine bases, hard standing areas, crane stands, surface water trenches, open or piped, wheel-washes, surface water attenuation ponds or indeed extensive access tracks. No geotechnical assessment was carried out on these locations and there is not information provided to substantiate the volume claimed in the application. The relevant drawings do not indicate the depths to be excavated.

## Waste Spoil Volumes & Disposal

The application is ambiguous, contradictory and conflicting in many places particularly regarding volumes of excavated material. This originates in the applicant's desire for indicative design. The lack of proper initial site investigation ensures there is no proper information on the geology of the application site.

For whatever reason the application does not indicate the depths of excavation.

## Substation Compound Water Design

> 4.16.1 Surface Water
>
> Autodesk Info Drainage software was used to model the surface water network, run simulations and to produce a model output and simulation data report. Information regarding the construction of each of the surface water controls is provided in the Construction Environmental Management Plan (EIAR Volume III, Appendix 2A).

It is to be expected that the Inspector will be provided with the resources to interrogate the submitted surface water network modelling and simulation results.

4.16.1.2 Surface Water Treatment

The hydro brake will limit the discharge from the detention basins. The surface water discharge rates, $Q_{bar}$ and $Q_{100}$, for the IPP compound are $Q_{bar}$: 1.01 l/s & $Q_{100}$ year: 1.97 l/s. The surface water discharge rates for the EirGrid compound are $Q_{bar}$: 2.63 l/s & $Q_{100}$year: 5.55 l/s.

This does not declare the rate of discharge or flow to be set for the hydro brake.

## Wastewater

The following sections describe the design of the wastewater network and holding tank.

### 4.16.2.1 Wastewater Network

The operational stage of the wind farm and substation will utilise a closed piped wastewater network.

### 4.16.2.2 Wastewater Holding Tank

Wastewater during the operational stage of the wind farm and substation will not discharge to an existing public closed piped network, instead wastewater will discharge and be collected in a new wastewater holding tank. Plate 4-12 is an example of a holding tank typically used on wind farms.

"Typically used on windfarms" is no basis for design. The European Waste Directive 91/156/EEC, the Waste Management Act 1996 as amended and associated regulations require that waste is managed as close as possible to where it arises in the moist sustainable manner to protect the environment.

The application has not complied with Article 2(2)(C) of the Planning and Development Regulations 2001 as amended which requires

(c) where it is proposed to dispose of wastewater from the proposed development other than to a public sewer, information on the on-site treatment system proposed and evidence as to the suitability of the site for the system proposed,

That information was not provided in the application. It is not permitted to remove wastewater from the site for treatment. Licensed operators are only permitted to remove sludge or washings, not untreated wastewater. The wastewater arising should be treated on-site as with any other rural development. There is no special dispensation for windfarms to use a "typical wastewater holding tank used on wind farms".

The location for disposal of this wastewater is not declared. The destination would need to undergo AIE/AA prior to any planning decision.

It is claimed that the design follows the specifications and guidelines set out in Environmental Protection Agency - Code of practice Domestic Wastewater Treatment Systems (Population Equivalent ≤10) 2021. This is a false claim. There is nothing in the EPA CoP that allows for the use of what is in effect a cess pit.

## Major Watercourse Crossing

### Section 4.17.4

> There is one major watercourse crossing within the wind farm site crossing the Morningstar River between temporary construction compound No.1 and turbine No.4. Figure 4-16 is an extract from planning drawing 22635-MWP-00-00-DR-C-5009, showing the location of the crossing.
>
> The preliminary design for the crossing is a clear span pre-cast concrete bridge and is shown in planning drawing 22635-MWP-00-00-DR-C-5401. The bridge span, deck level and abutment locations have been designed based on the information from the Flood Risk Assessment (EIAR Volume III, Appendix 9B). See also the Construction Environmental Management Plan (EIAR Volume III, Appendix 2A).
>
> Post planning detailed design of the bridge is required in consultation with a precast manufacture, Office of Public Works (Section 50), Inland Fisheries Ireland and the Environmental Protection Agency. Plate 4-16 is an example of a typical clear span watercourse crossing used on wind farms.

Once again, this indicative post decision design is impermissible and unacceptable to my client.

# Minor Watercourse / Surface Water Drain Crossing

Section 4.17.5

> Minor watercourse/surface water drain crossings will be needed where the crossing is unavoidable for an access track, turning head or wind turbine hardstand. All such crossings will be in accordance with this application and/or conditions attached to a grant of planning permission and agreed with the Office of Public Works and Inland Fisheries Ireland prior to construction. No work will take place within buffer zones of watercourses identified in Volume II, Chapter 09 Water of this EIAR except for minor watercourse/surface water drain crossings and associated access track construction. The crossing can either be a clear span crossing or closed pipe culvert depending on the site restrictions. The site restrictions can be, but are not limited to, boundary encroachment, existing vegetation or proximity to protected structures/areas. Refer to planning drawing 22635-MWP-00-00-DR-C-5417 for further details.

Once again this indicative post decision design is impermissible and unacceptable to my client. All watercourse crossings or drain crossings must be identified and specific designs for each provided in this application process.

> There will be no in-stream works in EPA mapped watercourses. Clear span pre-cast concrete culverts are the preferred installation. Also, as spans increase the height can increase accordingly allowing significant light penetration under the culvert. The increase in height is complimentary to the vertical alignment requirements for access track design. An example of a permanent clear span pre-cast concrete box culvert watercourse/drain crossing is illustrated in Plate 4-17.

There should be no in-stream works in any stream, EPA mapped or otherwise. A proper site assessment would have identified all surface water streams on-site and all surface water drains. In-stream works in a partly filled drain leading to an "EPA mapped stream" is the very same as working mid-stream.

> The above design describes a crossing with no in-stream works. No in-steam works will be required in EPA mapped watercourses. Minor works will be required to existing land drains as part of culvert works including the installation of closed conduit, either pipe or box culverts, if the site conditions restrict the use of clear span pre-cast concrete culverts. If the appointed contractor proposes a closed conduit for crossings over land drains, that are periodically dry,

> all such crossings will be in accordance with the CEMP management plan and/or conditions attached to a grant of planning permission and agreed with the OPW and IFI prior to construction. Plate 4-18 is an example of a closed conduit watercourse crossing.

The Applicant or its agent is getting ahead of itself. It is anticipating or predicting conditions An Coimisiún may or may not apply. The applicant wants a pick & match scenarios at its own discretion post decision making "*if the site conditions restrict the use of clear span pre-cast concrete culverts*."

"*If the appointed contractor proposes a closed conduit for crossings over land drains*," is a new concept in planning applications. Hopefully An Coimisiún will have an opinion on this Developer-led planning process.

As a matter of interest my client would like to know what the Applicant considers Plate 4-18 to demonstrate. A drain, a watercourse or an EPA mapped stream?

## Land Drain Removal

### Section 4.17.6

> Existing land drains in some instances are required to be removed or in-filled due to the location of access tracks, turning heads or wind turbine hardstand areas. As these land drains are not listed on the EPA watercourse GIS map, they do not have a watercourse buffer zone as identified in Volume II, Chapter 09 Water of this EIAR. In these instances, a culvert is not practical, and removal is unavoidable. Disruption to the existing land drains will be mitigated by the construction of swales. The swales will be constructed first prior to the removal of the existing land drain. Surface water runoff that would have utilised the existing land drain being removed will be collected by the swale. The swales will convey surface water to, or in close proximity to, the same outfall point as the existing land drain that's being removed. The surface water swales will provide the same function as the land drains being replaced.

This is incorrect. In the first instance the applicant recognises that it does not know where land-drains are located. Therefore it cannot know to where they discharge. In any event all existing land-drainage on these lands will be destroyed by the imposition of heavy traffic, never before experienced, on these simple land drains. This will fundamentally alter the hydrology of the subject lands with unknown impacts on future flooding. All baseline assessments are taken with these drains in their current working mode. Future modelling has not taken account of the significant damage which will occur to

the drainage network. This means that the volumes of run-off post development will be significantly higher than proposed.

## Decommissioning and Restoration

4.18.1 Wind Farm

Prior to wind turbine removal, due consideration will be given to any potential impacts arising from these operations. Some of the potential issues include:

· Potential disturbance to the community, flora and fauna by the presence of personnel on-site, heavy goods vehicles and cranes.

· On-site temporary compound will be located appropriately.

· Time of year and time-scale (to be outside sensitive periods); and

· Access tracks (tracks may remain in use for the benefit of the landowner).

Prior to the decommissioning work, a plan will be drawn up to ensure the safety of the public and workforce and the use of best available techniques at the time.

Prior to the decommissioning work, a comprehensive reinstatement proposal, including the implementation of a program that details the removal of all structures and landscaping, will be submitted to the planning authority for approval. Wastes generated during the decommissioning phase will be taken off site and disposed of appropriately by a licensed waste operator.

This is a worthless statement. EIA and AA must be carried out now for the decommissioning process. Any other procedure would be project splitting. An assessment of leaving any of the infrastructure in the ground ad infinitum must be environmentally assessed as part of this process prior to the making of a planning decision.

# Grid Connection

## Section 4.18.2

> The grid cable will remain a permanent part of the national grid and therefore decommissioning is not foreseen. In the event of decommissioning, it will involve removing the cable from the ducting but leaving the ducting and associated supporting structure in place. The ducting will not be removed if the environmental assessment of the decommissioning operation demonstrates that this would do more harm than leaving them in situ. The assessment will be carried out closer to the time to consider environmental changes over the project life. The removal of the ducts would also cause some limited disruption to road users. Leaving the ducts in place would avoid disruption to road users without compromising the structure of the roadway.

The same applies to the GCR in that any potential decommissioning must be environmentally assessed as part of this process prior to the making of a planning decision. Irony is truly dead if the Applicant, after 35 years, or is it 45 years, is concerned about traffic avoiding "*disruption to road users without compromising the structure of the roadway*."

The applicant raises another interesting point for the consideration of An Coimisiún. If, as proposed, it is prudent that "*assessment will be carried out closer to the time to consider environmental changes over the project life*" how would the applicant feel about a new application in 9 years 6 months' time being closer to the time for construction of this proposal so as to consider environmental changes in the interim?

Of course the suggestion of a review is poppycock. It knows there is no mechanism to mandate any assessment prior to decommissioning. That is why it must be carried out as part of this process to assess the future development of decommissioning as part of this project.

> The substation will remain in place and will previously have been taken in charge by the system operator, after the wind farm is connected to the national electricity grid.

The applicant needs to clarify this. My understanding is that the Network Operator will not connect to the grid unless it owns the land and the sub-station in advance. Also, if the development is decommissioned why would the sub-station need to remain in place?

This submissions raises many questions for the applicant to answer before An Coimisiún can make the prerequisite determination in advance of a planning decision on this application.

Michael Duffy

## Appendix 9

Correspondence from landowner in Fedamore

# Population and Human Health

*Prepared by Edel Foster, BSc Hons Quantity Surveying., MA by Research in the Built Environment, Prof Diploma Human Rights and Equality on behalf of the Bruff–Dromin–Athlacca–Ballinlee Community Action Group*

## Executive Introduction

This submission is lodged by the Bruff–Dromin–Athlacca–Ballinlee Community Action Group in response to the proposed Ballinlee Wind Farm. We are a non-partisan, volunteer-led alliance of residents, community members, carers and local business owners living in and around Bruff, Dromin, Athlacca and the wider Lough Gur cultural landscape. We support the transition to renewable energy and recognise the imperative to decarbonise in line with national climate targets. However, we contend—based on the evidence set out in this document—that the current proposal does not satisfy the standards of the Environmental Protection Agency's Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022), nor does it meet the Irish Human Rights and Equality Commission Act 2014 duty, the Climate Action and Low Carbon Development Act 2021 commitment to a Just Transition, or the European Union's Charter of Fundamental Rights (Article 35) obligation to ensure a high level of human-health protection in public policy.

Our objection focuses on the people who will live with the day-to-day realities of this industrial-scale development. The receiving population is not a uniform statistical construct but a community with identifiable vulnerabilities, including higher levels of disability, caring responsibilities and self-reported fair to poor health. Those characteristics increase sensitivity to construction disturbance, operational noise, shadow flicker and persistent changes to amenity. The developer's EIAR treats these residents as generic 'receptors' and concludes that effects are imperceptible or slight. That conclusion is not borne out by Central Statistics Office (CSO) data, by the peer-reviewed literature on wind-turbine noise and visual effects, or by national and European policy commitments to protect human health and community wellbeing.

This document presents an integrated assessment of population vulnerability, human-health pathways, economic claims and amenity impacts, tourism and cultural-landscape effects, cumulative risk and rights-based duties. It demonstrates that the EIAR omits essential demographic analysis required by EPA (2022), underestimates health and amenity impacts identified in international research and WHO (2018) guidance, and fails to evidence local economic benefits or fair benefit-sharing. The impact on local communities enjoyment of their local amenities, homes and communities and local town are a This development is a significant contravention of National Policy Objectives (NPOs) and Regional Policy Objectives (RPOs)

National Policy Objective 26 (NPO 26) ) from Project Ireland 2040 – National Planning Framework:

"Support the objectives of public health policy including Healthy Ireland and the National Physical Activity Plan, though integrating such policies, where appropriate and at the applicable scale, with planning policy".

Improving Regional Quality of Life through Infrastructure-Led Planning (RPO 175)

> *"It is an objective to support sustainable infrastructure-led planning … ensuring the development of social infrastructure in tandem with population and jobs growth … Local authorities should ensure that decision making in relation to new development/infrastructure is informed by an appropriate level of environmental assessment."*

In its present form, the proposal imposes disproportionate and enduring burdens on nearby households while externalising most benefits, contrary to the principles of distributive, recognitional and procedural justice that underpin a genuine Just Transition. On these grounds we respectfully submit that permission should be refused, or at minimum that the application should be fundamentally revised and resubmitted with a compliant, human-centred assessment and enforceable mitigation and compensation measures. I

# Local Area and Population

## Local Context Overview

The communities of Bruff, Dromin and Athlacca are not outliers at the edge of a regional map; they are the social and service heart of this part of County Limerick. Daily life is organised around the GP practice, public health centre, pharmacies, schools, shops, childcare, churches and a dense network of clubs and volunteer groups that sustain social cohesion and mutual support. The developer's framing, which elevates Charleville—twelve kilometres distant—above the nearer towns, is not a neutral cartographic choice. It underplays the self-contained and vibrant nature of Bruff and its hinterland and risks mischaracterising the area's real dependency on local amenity, short-trip access and rural tranquillity. A proper baseline must begin with the lived geography of those most affected and with an appreciation of how everyday routines—school runs, caregiving, farming, small business operations and community sport—depend on quiet local roads, clean air and stable neighbourhood settings.

## Local Area & Population

With describing the local area, the developer proposes that the town of Charleville, 12km from the proposed site, is of more significance than the town of Bruff, Croom and Kilmallock itself. The developer states that:

These towns provide a range of local community facilities, including primary schools, sporting clubs, churches, general shops, and post offices to those residents in the vicinity.

## Bruff:

Bruff is a town in east County Limerick, located on the old Limerick - Cork Road (R512), in the Ballyhoura region. The town lies on the Morning Star River, with two town bridges crossing the river. Bruff has a pretty streetscape with many traditional shop fronts. The town played its part in the Irish Civil War and there is a memorial to Sean Wall commemorating his role in the struggle for Irish Independence.

Bruff also has a strong tradition of sport and Bruff RFC is the home club of former Irish international rugby player John (The Bull) Hayes. Bruff is home to the Thomas Fitzgerald Centre, dedicated to the memory of Thomas Fitzgerald, grandfather of President John Fitzgerald Kennedy.

The story connecting the rural town of Bruff in County Limerick and the 35th President of the United States of America began in 1852. Following the great famine, Thomas Fitzgerald, a young emigrant, left his native home in Bruff and made his way to America in search of a better life.

A life-size bronze statue of John F Kennedy was unveiled in the town May 2019. The bible that is part of the statue is the one his great-grandfather, Thomas Fitzgerald, brought with him when he emigrated from Bruff to Boston in 1852, and it was the same one that was used by JFK when he was inaugurated as US President in January 1961.

The countryside surrounding Bruff is very scenic with Lough Gur, one of L major tourist attractions and assets, nearby. This area is a rich archaeological and historical site and it is viewed as an area of significant national and international importance. Lough Gur is a Wildfowl Sanctuary and proposed Natural Heritage Area (pNHA).

Lough Gur Heritage Centre interactive multimedia exhibition brings to life over 6,000 years of archaeology and history starting during the Mesolithic (Middle Stone Age) Era and progressing until the 19th century (1800's).

Bruff is a hive of activity with a diverse range of businesses in the area namely:

- An extremely busy medical practice
- Public Heath Centre
- 3 Pharmacies
- Petrol station
- 2 large shops
- 3 barbers
- 2 beauticians
- 7 café's/restaurants
- Post office
- Fuel provider
- Car wash
- Car mechanic
- Building supplies

- Engineering companies
- Clothes shop
- Guest House ("The Old Bank" Townhouse)
- Credit union
- Broadband providers
- Wellness Centre
- Gym and P/T
- Church
- Primary School
- Pre and After School
- Playschools
- 3 public houses
- Veterinary Clinic & a Groomers .
- A playground amenity.

There are a range of clubs and societies in the area:

- Bruff GAA Club with large clubhouse and fields
- Bruff Camoige club
- An Brú running club
- Thomas Fitzgerald Historical Society
- Scouts group
- Ladybirds / Irish Girl Guides
- Weekly exercise classes
- Holycross soccer with over 500 members
- Holycross Football For All (inclusive football for children with disabilities)
- Bruff RFC
- Lough Gur Historical Society
- Bruff Grange Meanus Development group
- Meanus FC
- Camogue Rovers GAA
- The Deise Community Club
- Bruff Point to Point
- Bruff Tidy Town
- Bruff Heritage Group
- Bruff & District Golf Society
- Munster Martial Arts
- Bruff Lottery Committee

## Dromin - Athlacca Area

The parishes of Dromin and Athlacca amalgamated in the 17th century to form Dromin/Athlacca, which is situated south of Limerick City on the Morningstar River. It is situated 26 km south of Limerick City, on the Morningstar River.

There are many businesses and amenities in the area including:

- two pubs in the village,
- a national school,
- Community PreSchool (Star Kids)
- Community Afterschool
- Two churches.
- GAA field and clubhouse
- Community hall in both Dromin and Athlacca
- Rathcannon Castle
- Dawn Court - sheltered housing for older people

Athlacca parish extends from Rathcannon in the south to Crean in the North Athlacca is in a rural area where farming is still the biggest employer

Rathcannon Castle, which was a manor of the Earls of Kildare after the Rebellion of Silken Thomas Fitzgerald of Kildare House in 1534, is a charming castle in the area which will be dominated by the proposed wind farm.

## Thomas Fitzgerald Centre Bruff

We note there is a deliberate omission from the EIAR. This is the ancestral home of JF Kennedy and the centre hosts frequents events including guest speakers from international, national and local areas. It is a focal point within the town and local area, hosting weekly community events such as dance, arts, crafts, and community fundraisers.

## CareBright Centre

The Care Bright facility is also not referenced in the EIAR and notably, not included in any community engagement attempts by the Applicant.

As per the Limerick Development plan

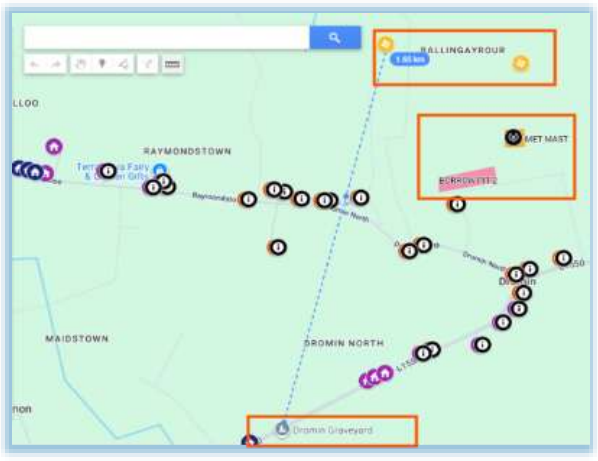
"It provides a social enterprise function for care in the home and at its facility, for those living with dementia. It is Ireland's first purpose-built community for those living with dementia and is widely recognised as a pioneering venture in the field of care. The centre provides three bungalows, each containing private living spaces and gardens along with a seating area.

## Local Graveyards

There are three graveyards located in very close proximity to the proposed wind farm site. When members of our community visit their loved ones, they expect peace and quiet, a place for reflection and remembrance. This serenity will be lost, particularly at Dromin Graveyard and Knockuregare Graveyard, which will be directly overlooked by several turbines. The presence of a wind farm so close to these sacred resting places is wholly inappropriate and deeply disrespectful to both the deceased and their families. According to the Limerick Development Plan 2022-2025, Section 6.3.3 ("Conservation Outside Protected Areas"), graveyards and cemeteries are recognised as important cultural and historical features of the landscape which must be protected where possible.

Dromin Graveyard (LI-DMNS-): 1.6 KM from nearest Turbine T9 and 1.8km from T12. The Graveyard is also situated close to Borrow-Pit 2 (1.1km) where a significant amount of noise will be generated over a large portion of the 2-year expected construction period.

VP10 in the Photomontages confirms the major adverse visual effect the siting of this windfarm will have on Dromin graveyard, impacting on its cultural and spiritual value, and ability for people to pay their respects in a manner they are used to currently




Knockuregare Graveyard (LI-KNUR): 740m from the nearest turbine T17




Templain Graveyard (LI-NWTP): 2.5 KM from nearest Turbine T5

Bruff (LI-PPBR): 2.3KM from nearest Turbine T15

## Demographic and Vulnerability Analysis

The EIAR reports headline population change but omits the demographic composition that the EPA (2022) explicitly requires for a meaningful human-health assessment. CSO Census 2022 shows that the Electoral Divisions of Bruff, Dromin, Athlacca and Crean include higher-than-average proportions of older residents, people reporting disability or long-term illness, unpaid carers and individuals describing their health as fair or bad. Those characteristics are not marginal details; they are the very indicators used by public-health guidance to identify populations of heightened sensitivity. In such communities, a given level of noise, dust, vibration, traffic stress or loss of amenity does not translate into the same level of effect as it would in a younger, healthier, urban population. By failing to analyse age structure, disability, caring burden and self-rated health, the EIAR prevents a lawful evaluation of exposure pathways and effect significance. When the CSO indicators reproduced in this report are taken into account, Bruff must be treated as a High Sensitivity human receptor, with Dromin and Crean Elevated Sensitivity and Athlacca at least Moderate–Elevated Sensitivity. Any credible assessment must start from that recognition and carry it through to construction and operational impact ratings.

The developer lists population trends. The section only reports total population change. However, EPA 2022 EIAR Guidelines state that population composition is relevant to vulnerability. Missing data includes:

| Key Demographic Factor | Relevance in a Typical Wind Farm EIAR | Why It Matters |
|---|---|---|
| Age profile | Older persons may be more sensitive to noise, sleep disruption and nuisance | Rural EDs often have higher % aged 65+ |
| Disability / long-term illness rates | Identifies health vulnerability | Necessary for meaningful human health assessment |
| Household type / people living alone | Relates to social isolation risk | Particularly relevant in rural settings |
| Carers and dependency ratio | Indicates care burden | Used in assessing community resilience |

Without this, the conclusion that the population is “generally healthy” is unsupported and incomplete.

Balanced assessment is required by the EPA (2022).

| Issue | Why It Matters |
|---|---|
| Numerical/data inconsistency | Reduces credibility of EIAR |
| Lack of demographic analysis | Prevents assessment of human vulnerability |
| Economic benefit overstated | Jobs claims not evidenced |
| No analysis of population sensitivity | Required under EPA 2022 guidance |

## Human Health, Amenity & Wellbeing

A community's health is not protected by reassuring labels such as 'imperceptible' or 'slight'; it is safeguarded by tracing real pathways from project activities to health outcomes. During construction, two years of tree-felling, borrow-pit works, heavy-plant movements and concrete pours will generate noise, vibration and particulates (PM10/PM2.5). On narrow rural roads lacking footpaths, intensified HGV traffic introduces collision risk and sustained stress, particularly for families with school-age children and older pedestrians. The CEMP, while describing environmental monitoring, does not establish health-outcome indicators, trigger levels tied to rapid mitigation, or independent oversight. During operation, turbines create chronic exposures: aerodynamic noise, low-frequency components, amplitude modulation and shadow flicker, alongside a persistent change in visual field. WHO (2018) associates long-term environmental noise with sleep disturbance, annoyance and adverse cardiovascular effects even where absolute levels meet technical limits. Peer-reviewed studies—cited here in full—document sleep disruption and reduced wellbeing among nearby residents. These risks are not hypothetical; they are predictable where vulnerable cohorts are present and where monitoring, curtailment and recourse mechanisms are not made enforceable conditions of consent.

The EIAR characterises the population within the study area as generally healthy. However, analysis of Central Statistics Office (CSO) Census 2022 data for the Electoral Divisions (EDs) of Bruff, Dromin, Athlacca, and Crean demonstrates the presence of identifiable vulnerable cohorts, including elevated levels of disability, unpaid caring responsibilities, and self-reported fair to poor health.

These factors increase sensitivity to environmental disturbance, construction impacts, and long-term amenity effects, and should be explicitly integrated into the Human Health Impact Assessment as required under EPA (2022) EIAR Guidelines.

Vulnerability Indicators from CSO Census 2022

| Electoral Division | % Age 65+ | % Disability | % Carers | % Fair/Bad Health | Sensitivity Rating |
|---|---|---|---|---|---|
| Crean | 17.3% | 19.4% | 6.0% | 6.0% | Elevated Vulnerability |

| | | | | | |
|---|---|---|---|---|---|
| Athlacca | 14.7% | 19.4% | 5.2% | 9.0% | Moderate–Elevated Sensitivity |
| Dromin | 15.6% | 18.5% | 5.7% | 10.0% | Heightened Risk Cohort |
| Bruff | ~15% | 24.7% | 7.5% | 11.8% | Highest Sensitivity |

These figures indicate that the population of the study area cannot be treated as uniformly healthy or resilient. Instead, several EDs contain heightened vulnerability characteristics that increase the likely significance of effects from wind farm construction and operational disturbance.

The EIAR does not identify or evaluate vulnerable population subgroups, despite clear CSO evidence.

The EIAR thereby underestimates the potential significance of noise, shadow flicker, dust, haulage traffic impacts, and changes to local amenity.

Under EPA (2022) Human Health guidance, populations with higher disability, caring responsibilities, and reduced self-reported health require classification as heightened sensitivity human receptors.

The EIAR population baseline and human health sections require revision. At present, the assessment does not comply with the EPA (2022) Guidelines on Human Health, nor does it meet the requirement to consider community sensitivity in evaluating impact significance.
A corrected analysis that recognises the presence of vulnerable cohorts would likely increase the assessed significance of construction-phase disturbance and operational amenity effects, with associated implications for mitigation and monitoring requirements.

To contextualise local vulnerability, population indicators were compared with County Limerick and national averages (CSO Census 2022):

- National disability prevalence: ~22%
- National unpaid caring: ~6%
- National Fair/Bad/Very Bad health: ~17%
- County Limerick disability: ~21–22%
- County Limerick unpaid caring: ~6%

This shows that the four EDs fall within a range consistent with, and in the case of Bruff and Dromin exceed, national vulnerability levels.

Older adults and those with disability or ongoing health conditions have increased sensitivity to noise, stress, and sleep disturbance. Unpaid carers have limited resilience to environmental disruption. The EIAR does not identify these vulnerability pathways, leading to an underestimation of impact severity.

The EIAR does not comply with EPA (2022) Human Health requirements. The receiving population is not uniformly healthy. It contains clearly identifiable vulnerable cohorts who are more likely to experience harm from construction disturbance, operational noise, shadow flicker, and amenity loss. Failure to incorporate vulnerability leads to an under-stated impact rating, compromising the validity of the Human Health Assessment. A revised assessment is required that recognises Bruff as a High Sensitivity Human Receptor, Dromin and Crean as Elevated Sensitivity, and Athlacca as Moderate–Elevated Sensitivity.
The development presents a disproportionate impact on vulnerable residents.

Residents living within and around the proposed site face significant potential health and wellbeing impacts that are not adequately addressed in the developer's Environmental Impact Assessment Report (EIAR) and Construction Environmental Management Plan (CEMP). While renewable energy brings recognised climate benefits, the local community carries a disproportionate share of the physical and psychological burdens: construction disturbance, chronic operational noise, shadow flicker, visual and amenity loss, and persistent uncertainty caused by weak enforcement and limited transparency.

## Amenity Impacts

Amenity is not an abstract concept; it is reflected in how people value living in a place.

A Just Transition, as defined by the United Nations and the International Labour Organization, requires that the transition to renewable energy is fair, inclusive and equitable, ensuring that no community is disproportionately burdened while others benefit. In the context of the proposed development, the local community is positioned to bear the long-term environmental, social and amenity impacts, while the economic and energy benefits are externalised to national policy objectives and private developers. This raises concerns regarding distributive, recognitional and procedural justice.

Distributive justice refers to the fair distribution of benefits and burdens. Where households may experience reduced residential amenity, diminished liveability, or reductions in property value, the burden of development falls on those living closest to the turbines. Research has demonstrated that visible wind turbines can be associated with measurable reductions in house values (Gibbons, 2015; Heintzelman & Tuttle, 2012). Further, the WHO Environmental Noise Guidelines (2018) and studies such as Michaud et al. (2016) confirm that noise and associated annoyance can affect sleep, stress levels and overall well-being. These impacts are endured exclusively by the local community, while economic returns accrue elsewhere, thereby contradicting the core principle of a Just Transition.

Recognitional justice requires respect for the lived experiences, cultural identity and place attachment of affected communities. Lough Gur represents a landscape of deep archaeological heritage, cultural meaning and emotional significance to the region. The EIAR positions the landscape primarily as a visual receptor, rather than a cultural and experiential environment. This narrow interpretation fails to acknowledge how even moderate visual intrusion within a culturally significant heritage landscape can erode identity, belonging and sense of place — central elements of well-being that are recognised within human rights-based planning and cultural landscape protection frameworks.

Procedural justice requires meaningful participation and equitable involvement in shaping outcomes. However, key tourism, heritage and community-based amenity interests appear to have been acknowledged but not embedded within project design. Assertions that future recreational amenities, such as the proposed Morningstar river walk, would not be affected — and may even be enhanced by turbine visibility — are made without any evidence of consultation with stakeholders or users. This further indicates a top-down development model, inconsistent with Just Transition principles of locally informed decision-making.

We note a glaring omission on the EIAR, fundamental to the tourism and heritage of the town. Intergenerational justice also arises where reduced property value or diminished amenity affects families' ability to transfer wealth, land or homes to future generations. If homes become less desirable, harder to sell or effectively 'locked in' due to proximity to industrial-scale infrastructure, the consequences are not temporary, but permanent and inherited. A transition that leaves rural households bearing permanent losses while delivering externalised national gains is not a just transition; it is an inequitable redistribution of cost and risk.

In summary, the development as presented does not sufficiently demonstrate alignment with Just Transition and human rights principles. The burdens — noise, visibility, amenity change and the risk of property value effects — are concentrated locally and persist across generations. The benefits are external and financial. There is no committed local benefit-sharing scheme, no compensation framework, no local employment guarantees, and no co-governance mechanisms to ensure procedural fairness. Therefore, the proposal in its current form cannot be considered consistent with the United Nations Just Transition framework nor with national commitments to equitable climate action.

## Economic Activity and Employment

The developer lists broad sectoral profiles and headline construction job numbers but offers no binding Local Employment and Procurement Plan with measurable targets, reporting and enforcement. Evidence from wind-energy supply chains indicates that the most specialised roles—civil foundations, turbine erection, grid works and SCADA—are commonly delivered by non-local contractors who mobilise existing teams. Even where a temporary uptick in on-site labour occurs, it dissipates at commissioning, leaving only minimal long-term employment. In a rural economy where agriculture and small enterprises depend on reliable access, clean air and stable amenity, the

unaccounted costs of construction traffic, road wear, noise and disruption fall on residents and the local authority, while the private benefits accrue externally. Without enforceable local hiring, capped HGV movement plans, transparent community benefit-sharing and post-construction monitoring obligations, the economic narrative advanced in the EIAR remains speculative and incomplete.

### Economic activity and employment in the area

For section 5.3.7 the develop lists economic activity and employment in the area. The section lists employment sectors but does not explain implications for the wind farm.

For example:

Agriculture is a significant land use and the development requires tree felling + construction access.

It also does not identify potential negative economic effects, such as:

- Impacts on tourism landscapes (Lough Gur + Ballyhoura visibility)
- Disruption to farm operations during construction
- Potential reduction in residential desirability affecting local spend

Rural agricultural communities may experience amenity and wellbeing impacts, particularly if livelihoods and residential location are tied to land. Economic structure has not been linked to sensitivity. There is a statement that construction will create 80 jobs, but:

No evidence is shown that these will be local jobs.

It does not differentiate between temporary construction jobs and long-term employment (which will be very low — usually 1–3 maintenance staff).

The developer relies on non-binding phrases such as "where possible," "intention," and "likely," which are aspirational rather than enforceable. Major wind farm EPC packages (foundations, erection, electrical, grid connection) are typically delivered by specialist regional or international contractors; without a binding Local Employment and Procurement Plan (with measurable targets and reporting), job numbers and local content remain speculative. Evidence from peer-reviewed studies shows that while construction may increase local activity, the composition of jobs is skewed toward specialist, non-local roles and supply chains (Munday, Bristow & Cowell, 2011; Brown, Pender, Wiser, Lantz & Hoen, 2012/2014).

Jobs Are Short-Term; Sustained Local Employment Is Minimal.

Even if the headline figure of ~80 jobs materialised, they are confined to a 24-month window. Peer-reviewed literature indicates that the operational phase supports only a very small number of ongoing roles, often regionally based and rotational (Munday et al., 2011; Brown & Watson, 2014). Hence, any employment spike is temporary and does not translate into durable local labour market gains.

The listed services (engineering, environmental assessment, SCADA/electrical systems, geotechnical and commissioning) are predominantly delivered by established specialist firms that mobilise existing teams. Studies of wind-project supply chains show limited penetration of these high-skill roles into the host locality (Munday et al., 2011).

Statements that local quarries and providers will be 'contacted first' do not demonstrate that they will actually be used. Procurement decisions are driven by cost, specification and programme risk; when local suppliers cannot meet volume, quality, or price, developers source elsewhere. Ex-post analyses of wind projects show that leakages to non-local suppliers are common (Munday et al., 2011; Brown & Watson, 2014).

The benefit narrative excludes tangible local costs: heavy-vehicle traffic and road wear, construction noise and dust, and amenity disruption that can depress welfare and, in some settings, property values. Peer-reviewed studies document material amenity disamenities where turbines are visible, reflected in house-price signals (Gibbons, 2015; Heintzelman & Tuttle, 2012). Public-health literature links community noise exposure to sleep disturbance and annoyance, even at compliant levels (WHO, 2018; Janssen et al., 2011; Shepherd et al., 2011; Nissenbaum et al., 2012; Michaud et al., 2016).

| Potential Negative Effect | Economic Impact |
|---|---|
| Heavy truck movements | Road surface damage → funded by local authority (taxpayer) |
| Loss of amenity / visual quality | Potential reduction in property values, business attractiveness |
| Noise / dust during construction | Reduced quality of life → social cost not acknowledged |
| Increased pressure on local services | No offsetting community compensation guaranteed |

The private economic gains chiefly accrue to the developer, OEMs and a small number of participating landowners, while broader environmental, amenity and health burdens are borne by the host community. Research on community responses to wind energy shows that perceived fairness and distribution critically shape impacts and acceptance, underscoring the need for enforceable benefit-sharing and mitigation (Gross, 2007; Haac et al., 2022).

While short-term construction employment may occur, the scale, duration and local distribution of these benefits are uncertain and temporary, whereas adverse amenity, environmental and social impacts on the local population are long-term and continuous. Without binding procurement conditions (Local Employment & Procurement Plan with targets and quarterly reporting), a capped heavy-vehicle management plan, enforceable dust/noise controls, and a transparent community

benefit-sharing scheme, the claimed local economic benefits are overstated and unsupported by the peer-reviewed evidence.

## Community Health and Construction Impacts

The CEMP reads as a conventional construction management plan oriented toward worker safety and environmental housekeeping rather than a human-health plan for nearby communities. It lacks a dedicated Health Impact Assessment, does not provide for ISO/WHO-aligned annoyance and sleep diaries, omits a community health risk register, and contains no binding, time-limited corrective-action protocol that links complaints to mitigation. In a setting with documented vulnerability indicators, these omissions are not administrative details; they are decisive. A lawful and ethical approach would hard-wire real-time air-quality and noise monitoring at representative dwellings, publish data in near-real time, specify curtailment triggers, and provide independent oversight and accessible dispute resolution. Absent these protections, the community is asked to tolerate prolonged disturbance on trust, contrary to EPA (2022) and the EU Charter's health-protection principle.

### Impact on Local Community

There is no dedicated Health Impact Assessment within the Construction and Environmental Management Plan. The plan focuses on construction management and worker safety rather than community health (Walker, C. et al. (2014). Public perception, risk, and community responses near wind farms. Energy Policy). Nor does it include a health risk register. Health is treated within occupational safety frameworks rather than population health. In line with best practice it would be expected to implement a community well-being plan: sleep and annoyance diaries, transparent grievance system, rapid-response mitigation, and independent oversight.

During the construction phase, the primary risks to population and human health arise from increased dust, noise, traffic, and general site disturbance. While the EIAR acknowledges these factors it does not quantify health outcomes for vulnerable groups such as children, older persons, or those with chronic conditions. Key health impacts include respiratory irritation from dust ($PM_{10}$/$PM_{2.5}$), stress and sleep disturbance due to construction noise, and anxiety caused by heavy vehicle traffic. While a CEMP is referenced in the EIAR, it lacks detailed real-time monitoring or enforceable health-based thresholds. In accordance with the EPA (2022) Guidelines, the project should include continuous air quality monitoring, clear noise limits (BS 5228-1:2014), and community liaison to mitigate perceived and actual health impacts.

The CEMP KPI's in relation to monitoring activities cover environmental parameters (e.g water quality) but fail to include heath related outcomes, impacts and community feedback loops tied to mitigation measures (Walker, C. et al. (2014). Public perception, risk, and community responses near wind farms. Energy Policy). The plan also fails to include a plan for post-construction and operational health monitoring (e.g sleep, annoyance, shadow flickers, ongoing noise audits).

Within the CEMP, Table 7-1 emphasises water and environmental controls. There is no community health KPI set such as sleep quality logs, annoyance surveys (ISO/WHO-aligned), or respiratory symptom reporting linked to triggered mitigation. Complaints are log based only, they should link complaints to corrective action with time-bound commitments.

The CEMP does not outline operational-phase health protections (e.g., long term noise/shadow-flicker monitoring at dwellings, long-term acoustic monitoring at sensitive receptors, or a resident health survey programme, periodic resident surveys, maintenance-driven mitigation; independent audits.) (Nissenbaum, M. et al. (2012). Effects of industrial wind turbine noise on sleep and health. Noise & Health)

Once operational, the turbines introduce chronic exposure risks including low-frequency noise, shadow flicker, and long-term visual dominance. Although the developer concludes that health impacts are 'not significant', this contrasts with independent literature which links turbine exposure above 40–45 dB Lden to annoyance, sleep disturbance, and reduced wellbeing. The EIAR does not include post-construction health or wellbeing monitoring.

EPA Ireland (2022) Guidelines require human health impacts to be assessed beyond physical exposure. EMA (2022) Guide to Effective Scoping of Human Health – includes mental wellbeing and social trust as key determinants.

Construction traffic, heavy machinery and tree-felling will temporarily but severely affect residents living on narrow rural roads. The health chapter treats people as "receptors", not as households or communities with livelihoods and routines disrupted for years. This proposal presents unacceptable residual risk to the wellbeing, sleep and daily life of the local community.

EPA EIAR Guidelines (2022) require clear identification of receptors, exposure pathways and significance ranking. In Chapter 5 the developer cites these guidelines but does not provide receptor-specific noise, dust or traffic predictions for each dwelling. Residents cannot verify what level of construction or turbine noise will reach their homes.

Climate Action and Low Carbon Development Act 2021 embeds Just Transition principles: renewable projects must not impose unfair local burdens. The EIAR acknowledges national benefits but never evaluates whether those benefits outweigh the local harms experienced by 30–40 nearby homes.

These omissions show an imbalance between national-level climate gains and local-level human consequences. Residents are effectively asked to absorb chronic exposure without guaranteed recourse if standards are breached.

EEA Cumulative Effects Review (2023) calls for combined evaluation of noise, flicker and visual intrusion—exactly what this proposal lacks.

During the construction phase there will be tree-felling, borrow-pit blasting, track excavation, concrete pours, and 24-month heavy-plant activity. Traffic volumes up to 80 workers + deliveries

daily. Residents along the R-516 and L-roads face noise peaks, dust plumes and road-safety hazards. Roads serving Ballinlee are narrow and lack footpaths. Even with "stop-go" control, convoys of turbine components create safety risks for walkers, cyclists and farm vehicles. The construction period will dominate local life.

Seventeen turbines (150–160 m tip height) will permanently change the landscape character within 1.5 km of homes. Constant motion and night lighting may trigger visual fatigue and anxiety. These are genuine wellbeing effects even if they do not meet the narrow definition of "significant" under planning guidance.

Several existing or consented wind farms lie within 10–15 km. The EIAR's claim of "not significant" cumulative noise and flicker ignores how overlapping sound fields and night-time modulation can reinforce disturbance.

EU Charter Article 35 guarantees a high level of human-health protection. Planning authorities must apply the precautionary principle when evidence is uncertain but potential harm is serious.

Even if the project meets basic technical standards, the absence of enforceable monitoring and curtailment measures leaves residents exposed to chronic low-frequency noise, intermittent flicker, and persistent stress. These are avoidable harms inconsistent with WHO principles and Ireland's equality and human-rights duties.

The proposal cannot be regarded as a balanced or just contribution to Ireland's renewable-energy goals. The local community deserves clean energy and a healthy, peaceful environment. These objectives are compatible only when enforcement and accountability match the scale of local impact.

Peer-reviewed research documents social division, home abandonment, anxiety, and significant reductions in quality of life near wind farms (Krogh, 2011; Shepherd et al., 2011). These impacts constitute a material planning consideration.

## Tourism and Amenities

The Bruff Slí na Sláinte, The Grove (Binn Liosín), the Coras,  the Old Cork Road Trail, and the quiet recreational loops around Rathcannon and Ballincurra are not discretionary extras; they are the everyday infrastructure of wellbeing for local families, older residents and visitors. Lough Gur, approximately 4.7 km from the proposed site, is a nationally significant cultural landscape where sense of place, archaeological setting and tranquillity are integral to the visitor experience. The EIAR's reliance on a small number of static viewpoints cannot capture the dynamic way in which people move through these landscapes or how intermittent blade movement and aviation lighting alter perception. Tourism research and national policy recognise that perceived industrialisation of rural vistas can diminish visitor satisfaction and competitiveness. In this context, even 'moderate-slight' visual effects constitute a meaningful adverse impact. The claim that turbines could serve as benign 'markers' for a future river walk is unsubstantiated and misaligned with established

recreation preferences for quiet, natural settings. The amenity tables and references retained in this document set out, in detail, how both construction and operation would erode the qualities that make this place special.

| Local Amenities within 5km of Bruff | |
|---|---|
| Bruff Slí Na Sláinte Walking Route - 3.5 km Loop | Developed by the Irish Heart Foundation and supported by Bruff Tidy Towns, Limerick Sports Partnership and Limerick City & County Council, the 3.5 kilometre route is located north of the town and is designed to encourage people to get more active and get walkingThe sign-posted route was launched by Deputy Mayor of the City and County of Limerick, Cllr. Gerald Mitchell. |
| The 'Corcass' | Amenity Walk-Way used extensively by families and nature enthusiast in the area. Discussed in further detail |
| Binn Liosín (The Grove) riverside park | The park is a riverside park in Bruff, Co. Limerick, close to the town, and valued for recreation, walking, nature and heritage.<br>It contains mature trees, flower beds, wildlife-friendly managed areas, and a historic ring-fort site (known as An Binn Liosín) which is believed to date to around 500 AD. |
| Old Cork Road Trail (4.5 km) | The Old Cork Road Trail is a 2.8 mile (4.5 km) out-and-back walking route near Bruff in County Limerick.<br>It is described as an easy route, popular for a short & accessible walk.<br>Given its nature and setting in a rural landscape, any large infrastructure nearby could potentially affect aspects such as views, tranquillity, visitor experience, etc. |
| Lough Gur Heritage & Nature Trail | Lough Gur, located between the towns of Herbertstown and Bruff, is one of Ireland's most significant archaeological sites. The lake is surrounded by numerous megalithic remains, including the Grange Stone Circle, dolmens, crannógs, and the remains of Stone Age houses known as "The Spectacles". The Lough Gur Heritage & Nature Trail offers visitors a 2.5 km walk around the lakeside, bringing to life the history, folklore, and culture of this enchanting place |

| | |
|---|---|
| Rathcannon and Ballincurra Walking Loop | The quiet local roads around Rathcannon and Ballincurra are popular for recreational walking, running, and cycling, offering safe and accessible outdoor spaces for the community |

## Notable Local Amenities

### The Corcas

This area to the North and east of the hills of 'Knocktwo' and Rathcannon, in the townland of Rathcannon, lies an extensive alluvial flat known locally and to many as the *Corcas*. A public access laneway leads from the Athlacca Road L1414 down a mile long path. This is used extensively by many locals as a walking path for walking dogs, and runners. It is particularly busy in summer and autumn when there is fine weather.

Corcas is an Irish word meaning marshland. In Fitzgregor's *History of Limerick*, published in 1878, it is described as *"a dead flat, consisting of very soft land, presenting to the view a joyless dreary waste, covered without a tree or bush of any kind except at Clogher."*

The Morning Star flows through the Corcas which joins the Maigue at Glenma, at the western end of Athlacca parish. The area is well-known and popular for families and walkers. The area is of special interest as the Whooper Swan (*Cygnus cygnus*), a large migratory swan from Iceland comes to the area each year. They roost at Lough Gur and can travel up to this amenity area for foraging.



*Figure 6: Corcas Entrance to walking Path on left Hand Side*



*Figure 7: Entrance of Corcas Public Walking Path*



*Figure 8: Taken in February 2025 – Whooper Swans Foraging - Lough Gur Hill as seen to the Right*




*Figure 9 : Taken from EIAR Photomontages – Proposed 5 x 160m Tall Turbines in the Corcas*




Bruff Slí Na Sláinte Walking Route





Binn Liosín (The Grove) riverside park





Old Cork Road Trail (4.5 km)






Lough Gur Heritage & Nature Trail









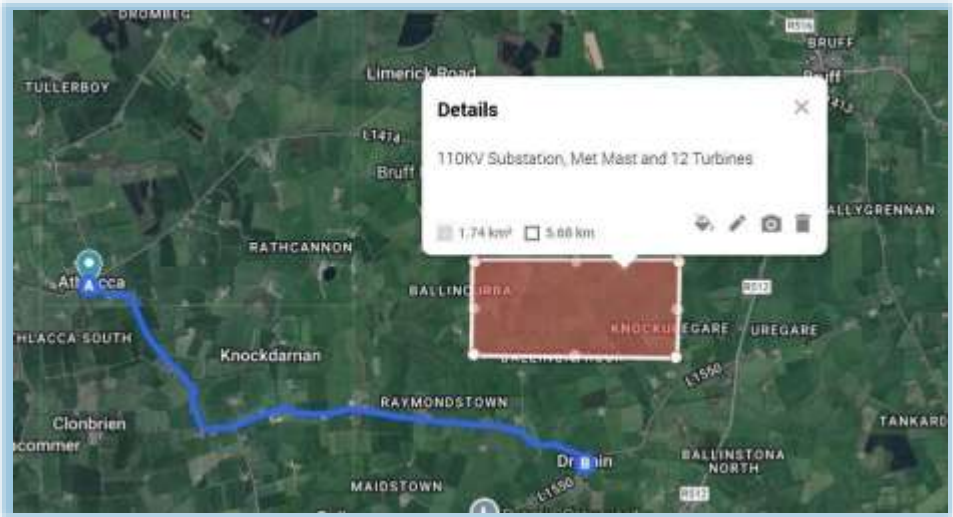








Lough Gur Visitor Centre







Rathcannon and Ballincurra Walking Loop

## Construction Phase impact on Tourism:

The conclusion that tourism and amenity effects are "localised, neutral and imperceptible" is not supported by current evidence. Tourism value extends beyond designated recreation sites and includes scenic character, tranquillity, access quality and visitor perception. Construction traffic, noise and landscape disruption can adversely affect amenity use and tourism behaviour, particularly in rural areas where visitor appeal is strongly linked to natural quiet and landscape integrity. Without tourism perception assessment, seasonal construction scheduling, and protection measures for emerging river amenity routes, the claimed neutral-effect conclusion is unsupported.

Peer-Reviewed & Policy References

| Citation | Key Point |
|---|---|
| Aitchison, C. (2012) Tourism Impact of Wind Farms. | Landscape change can reduce tourism competitiveness. |
| Warren, C., & McFadyen, M. (2010) Journal of Environmental Planning. | Tourism impact is driven by perception of landscape change. |
| Munday, M., Bristow, G., & Cowell, R. (2011) Journal of Rural Studies. | Wind farms can erode rural amenity value and local tourism spending. |
| McFadyen, M., & Watson, J. (2014). Energy Policy. | Construction disturbance can alter tourism behaviour and reduce visitation. |
| Gibbons, S. (2015) JEEM. | Visual change measurably affects valuation of scenic areas, correlating with tourism appeal. |
| Fáilte Ireland (2018) Tourism Landscape & Visitor Experience Strategy. | Tourists value tranquillity and scenic rural quality. |

Operational Phase impact on Tourism:

The assessment concludes that the operational-phase tourism and amenity effects of the proposed development are 'imperceptible', 'slight' or 'negligible'. However, this conclusion is not supported when evaluated in the context of Lough Gur as a nationally significant cultural landscape and established visitor destination.

Lough Gur is not a standard rural viewpoint; it is a cultural heritage landscape where meaning, historic character and sense of place are central to the visitor experience. Tourism research shows that visitors to heritage landscapes are highly sensitive to perceived industrialisation or change to the visual and experiential qualities of setting.

The developer acknowledges that turbines will be visible at VP19 from the northern end of Lough Gur, resulting in a 'moderate-slight' impact. A moderate-slight rating is an adverse effect, not a neutral one, particularly in a heritage tourism setting. In such locations, even minor visual intrusion can alter the perceived integrity of the cultural landscape. The report does not assess these perceptual or experiential impacts.

The reliance on three static viewpoints is insufficient because visitors move through the landscape, including walking routes, lake-edge viewpoints, archaeological sites, road approaches and panoramic outlooks. Research on landscape perception demonstrates that experience is dynamic, and visual assessments limited to fixed points frequently under-represent real-world visibility and perceptual effect.

The suggestion that turbines could serve as a 'marker' or visual feature along a future Morningstar river walk is unsupported. Outdoor recreation studies consistently show that walking trail users strongly value quietness, naturalness and escape from industrial elements. Introducing turbine structures as defining visual cues is therefore misaligned with established recreation preference evidence.

Taken together, the conclusions presented underestimate the sensitivity of tourism and amenity values in the Lough Gur cultural landscape. The operational phase therefore has the potential to generate a lasting adverse effect on visitor experience and local tourism value, contrary to the claim of neutrality.

The conclusion that the proposed development will have only "imperceptible" or "negligible" effects on local tourism and amenity does not reflect the principles of a Just Transition as articulated by the United Nations and the International Labour Organization. A Just Transition requires that the benefits and burdens of renewable energy development are shared fairly, that affected communities are meaningfully engaged in decision-making, and that existing and emerging local cultural, recreational and economic assets are recognised and protected. In this case, the assessment dismisses community-based tourism and amenity values on the grounds that the site is "not currently used" for recreation, without considering the cultural landscape value of Lough Gur or the planned expansion of the Morningstar river walk. This approach overlooks both the recognitional justice dimension (respect for local identity, heritage and place attachment) and the distributive justice dimension (ensuring that local communities do not carry long-term landscape, amenity or tourism losses in exchange for primarily externalised economic gains). Therefore, the treatment of tourism and amenity in the EIAR is inconsistent with established Just Transition principles of equity, participation, and fair benefit-sharing.Lough Gur—Specific Landscape and Tourism References:

- Fáilte Ireland (2018). Tourism Strategy for the Shannon Region — identifies Lough Gur as a heritage destination where tranquillity and landscape integrity are core to visitor experience.
- National Landscape Strategy for Ireland (2015–2025) — highlights that cultural landscapes associated with archaeology require enhanced protection.
- Historic England (2015). The Setting of Heritage Assets — recognises that effects on setting can be significant even where visibility is partial.
- Cloke, P. & Jones, O. (2003). 'Human geography of rural spaces' — discusses emotional and experiential relationships between people and landscape.
- Warren, C. & McFadyen, M. (2010). 'Does community ownership affect public attitudes to wind energy?' Journal of Environmental Planning and Management — shows tourism/amenity responses relate to perceived change in landscape identity.
- Gibbons, S. (2015). 'Gone with the wind: Valuing the visual impacts of wind turbines through house prices.' Journal of Environmental Economics and Management — demonstrates that landscape visual change can affect perceived environmental and amenity value.
- Comhairle na Tuaithe (2017). Outdoor Recreation Plan — highlights user preference for minimally industrialised recreation environments.

## Summary and Conclusions

Having regard to the community context, the documented vulnerability of local populations, the weight of peer-reviewed evidence on health and amenity effects, the absence of a compliant human-health assessment and enforceable mitigation, the speculative nature of claimed economic benefits, and the cultural-landscape sensitivity of Lough Gur and the Bruff–Athlacca–Dromin hinterland, the Bruff–Dromin–Athlacca–Ballinlee Community Action Group submits that the proposed Ballinlee Wind Farm is unacceptable in its current form. We are not opposing renewable energy; we are opposing a proposal that displaces risk and harm onto a community that policy requires to be protected.

Planning permission must therefore be refused.

## References

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# Shadow Flicker

*Prepared by Marie-Clare Power, BSc Hons Quantity Surveying., Postgraduate Certificate in Real Estate on behalf of the Bruff–Dromin–Athlacca–Ballinlee Community Action Group*

## Introduction

Shadow Flicker is a topic that features as one of our community's primary concerns, along with noise, since we as a community have been threatened with the imposition of an industrial scale project too close to our homes. Shadow Flicker can cause adverse health effects and as such it must be appropriately assessed for the protection of public health in accordance with the EIA Directive. Recent High Court cases show that this is not always the case, and because of failed compliance and monitoring, communities have and continue to suffer the ill effects of Shadow Flicker.

From the outset we wish to make it expressly clear that we do not refer to individuals in our community members as "receptors". We ask the reader to do the same and see not the receptor, but the person/ home/ family underlying the information that is being presented. We find the term receptor dehumanizing and will choose to replace the word with 'dwelling' 'or home' here forward.

Following our review of the EIAR Chapter 15, we have found a fundamental lack of information to critically analyze the applicant's conclusion, that there will be "no residual significant effects on human health or population post-mitigation". No raw data modelling has been provided, or detailed proposed mitigation and compliance monitoring. The assertion no dwelling shall experience Shadow Flicker, cannot be taken at face value, it needs to be critically and competently assessed.

Under Article 5(3)(b) of Directive 2014/52/EU, the competent authority must ensure it has, or has access to, sufficient expertise to examine the EIAR. Given the technical complexity of shadow flicker, the Board should identify its sources of expertise in its decision. If internal expertise is insufficient, it should engage external consultants to assist with its assessment. Particularly, human health, the Board must rely on the best available scientific information.

The fundamental lack of detail prevents the public, the Board and HSE to independently assess the appropriateness of the modelling data used, the methodology applied and the applicant's commitment to compliance and monitoring, to conclude this project will not pose a risk to public health and amenity. The Board therefore is required to request the required underlying data that has been omitted and engage external consultants (if internal expertise is insufficient) to assist with their assessment as required under EIA Directive. Specifically, no information is provided on the maps used in the EIAR, no attempt has been made to include relative heights of the site in the analysis, no confirmation that roughness data has been incorporated into the analysis and no specific turbine information was included.

The HSE's position on Shadow Flicker and subsequent conditions to planning permission as set by Coimisiún recent case of 321285 (Lackareagh Wind Farm, decision dated 11 July 2025), are clear

that Shadow Flicker must be fully eliminated. The applicant's conclusion that "no residual significant effects on human health or population are expected" breach the HSEs position, ACP case precedence and EU Environmental Impact Assessment Directive (2014/52/EU). This conclusion is vague, subjective and open to interpretation.

We also requested full access to all underlying modelling data as part to the shadow flicker assessment under an AIE request from the Board dated 10th October (Appendix 7) which has not been received (as at dated 17 Nov 2025). Without this access to information, we cannot exercise our rights to participate in the planning process under Article 6 of the Aarhus Convention.

The EIAR's conclusion that shadow flicker will be eliminated at all affected dwellings cannot be substantiated. We request the Board to refuse permission in order to uphold the protection of Public Health in accordance with Directive 2014/52/EU of the European Parliament and of the Council (2014), Articles 3 and 5. With the unprecedented number of homes impacted (228 properties within 10 x Rotor Diameter 136 x 10), the cost of getting this wrong is too great.

There is no proper information in the EIAR on where the weather data was obtained that speaks to the accuracy of the model, most particularly the time frame for the extraction of the data.

No proper description of the software used to develop the model was provided. No reference for the software was provided, and no explanation of how the software will ensure that shadow flicker will be removed from receptors at critical times.

No information has been provided on the inputs to the modelling software has been provided. There is no detail of how these inputs are driven by an aspiration to eliminate shadow flicker and are not being manipulated to paint an optimistic picture of the actual shadow flicker that will occur. This is a critical aspect of a shadow flicker analysis to give the receptors confidence that everything has been done to eliminate the effect and provide confidence to the receptors. Nothing has been done in this regard.

## HSE Recommendations

The HSE recognize that much has changed in the nature of wind energy developments since the publication of the 2006 WEGs, their size and proximity to centres of population. HSE is the authority on Public Health and has stated in recent statutory submissions that no property should be exposed to shadow flicker.

In a submission dated 23rd January 2025 in relation to case reference ABP-320089-24 it was stated:

> *"There have also been substantial increases in the body of knowledge around the likely significant effects of the operation of wind farm development on Population Health, in particular around the characteristic of the noise emissions and health effects of shadow flicker." (NEHS, 2025 ABP-320089)."*

Their recommendation in the interest of Public Health, should planning be granted is that the Draft 2019 Wind Energy Guidelines policy of zero shadow flicker and that An Bord Pleanála impose condition(s)

> *"to ensure that no existing dwelling or other affected property will experience shadow flicker as a result of the wind-energy development subject of the planning application and that the wind-energy development shall be installed and operated in accordance with the shadow-flicker study submitted to accompany the planning application, including any mitigation measures required."*

Lackareagh Windfarm (Case Ref 220245) and the scoping response from the HSE to the applicant on the 11th of January 2023:

> *"It is recommended that a shadow flicker assessment is undertaken to identify any dwellings and sensitive receptors which may be impacted by shadow flicker. The assessment must include all proposed mitigation measures. Dwellings should include all occupied properties and any existing or proposed properties for which planning consent has been granted for construction or refurbishment. It is recommended that turbine selection will be based on the most advanced available technology that permits shut down during times when residents are exposed to shadow flicker. As a result, no dwelling should be exposed to shadow flicker.".*

## Planning Case Precedence

In the Boards determination of the Lackareagh Wind Farm, PL03.321285 (Lackareagh Wind Farm, decision dated 11 July 2025), the planning authority included the following Conditions:

17. (a):We have not seen HSE's reply to either the scoping request made by Ballinlee Green Energy or indeed HSE's submission in respect of Ballinlee WindFarm at the time of writing this submission. We did refer to our neighbours in Bruree, Effin and the scoping assessment by the HSE in respect of Garrane Wind Farm proposal which states:

*"It is recommended that a shadow flicker assessment is undertaken to identify any dwellings and sensitive receptors which may be impacted by shadow flicker. The assessment must include all proposed mitigation measures. Dwellings should include all occupied properties and any existing or proposed properties for which planning consent has been granted for construction or refurbishment. It is recommended that turbine selection will be based on the most advanced available technology that permits shut down during times when residents are exposed to shadow flicker. As a result, no dwelling should be exposed to shadow flicker."*

The HSE's position is shadow flicker should be fully eliminated to safeguard human health.

## Methodology Used To Calculate Shadow Flicker

Shadow Flicker must be accurately and appropriately assessed, on worst case scenario as per the Draft 2019 Guidelines. The EIAR references software called Wind Farm to generate the model of shadow flicker occurrence for the Project. The model is based on significantly flawed assumptions:

- Theoretical Model Worst Case Assumptions as per 15.3.4 include an assumption "that the windows of the rooms, where the effects may occur, (i) directly face the development, (ii) that the rooms are occupied and (iii) that the curtains or blinds if present are open". This indicates that a calculation is based on impact per window area, rather than the full surface area of the dwelling
- The impact before any mitigation measures show that (worst case scenario):
  - 99 houses breach 2006 Guidelines of 30 hours/ per year flicker exposure
  - 126 houses breach the 30 mins/ per day
- Results are then scaled to get a "realistic scenario" by a "sunshine factor" of 29% based on historical meteorological Shannon Airport 1991–2020 average data, now 5 years out of date. This is not site specific, Shannon is 40km northwest of the proposed site, and the which leads to inaccurate modelling
- Using 30-year average sunshine data is aged by 5 years and presents further potential for inaccurate modelling
- The EIAR refers then to "realistic" results after a 29% sunshine factor which:
  - 179 dwellings will be exposed to shadow flicker; 167 of which will be below the threshold value of 30 hours per year (still breaching 2019 Guidelines, HSE Guidance and ACP case precedence)
  - 8 homes will breach the 30-hour year threshold
- The applicant community clinics referred to SCADA, to predict Zenith height arcs to control whether the blades run or not. When asked about a scenario of low-level sun height relative to the turbines and intermittent sun exposure on a semi-cloudy day, the applicant failed to explain how the SCADA system allows, indicating that re-programming of the entire system would be required. This represents a major flaw in their modelling.
- These are not summarised in terms of level of sensitivity and worse still, the locations are not readily identifiable for the public.

## Characteristics of the Site and Project Design

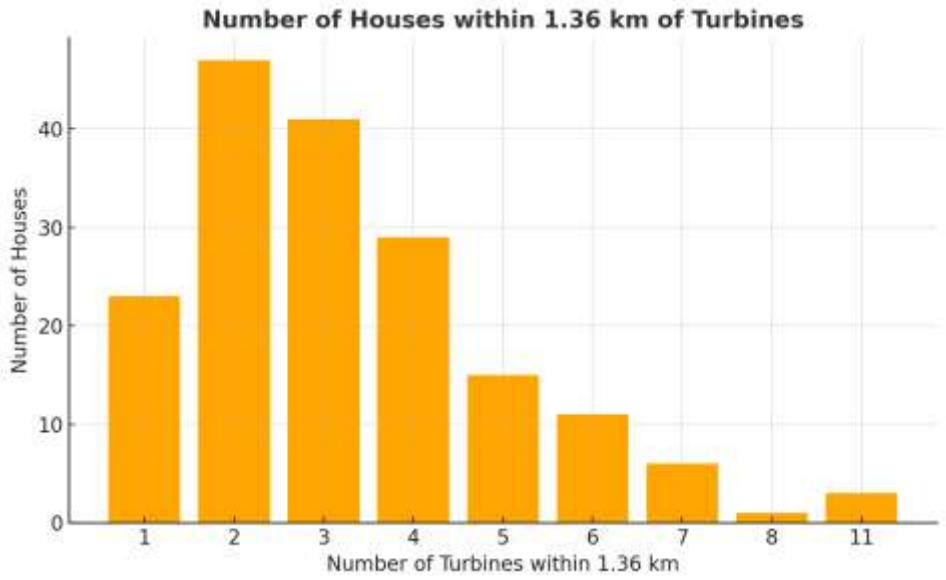
The EIAR does not comment on the character of the site and there is no indication whatsoever that the sites' unique character has been built into the model. The topography of the area is flat low-lying agricultural land in an area surrounded by a considerably high number of dwellings, with extensive hedgerows maintained to a low level as is common practice in recent years. This offers no opportunity for screening for potential shadow flicker, so it needs to be called out that the bare

earth scenario is realistic as opposed to conservative as the developer. Neither is there any analysis incorporating the topography of the site.

We have looked and failed to locate a windfarm development built or even proposed that has this many dwelling in such proximity of multiple turbines of this height and scale. This is a complex development with an extensive impact on over 228 homes directly. It is unprecedented for turbines of such height to be installed on land in proximity to so many homes on terrain that of low-lying character will minimal screening. Although the developer relies on software which they say will turn off the wind turbines when shadow flicker is predicted to occur and may be satisfied with this mitigation, we as a community or not satisfied.

We have no evidence or access to that theoretical modelling can factor in unique site characteristics for the houses in question. While it is stated that shadow flicker calculations normally assume 100% sunshine, this is then immediately followed by applying that 0.29 factor. This is likely to give a best-case scenario as far as the developers are concerned. Despite this, nevertheless a substantial number of houses are indicated as having a serious problem.

To assist the Board to visualize the sheer density issue at play in this project, with 17 Turbines proposed to be within 228 houses we calculated house that have more than 1 turbine with 10 x rotor proximity. The results can be viewed here.




**60.2%** of all houses within 1.36 km are exposed to three or more turbines, indicating a high potential for cumulative shadow flicker. It is not explained with the modelling

# Commitments made during Community Engagement & Zero-Shadow Flicker Claims

When the community engagement phase was underway and those within 1 KM of a proposed turbine received unannounced calls to the door, one of the commitments made by the engagement team was on shadow flicker, specifically stating that there would be no shadow flicker experienced at any dwelling. This promise was also made in reply to a committee member's question on the 07th August 2025:

Question: *"Will Greensource commit to perform a shadow flicker study and shut off any turbine that the study reveals will be in a turbine shadow?"*

Ballinlee Green Energy Reply 08th August 2025:

Reply: *"In line with recommendations of the Draft Revised Wind Energy Development Guidelines (2019), Ballinlee Green Energy has committed to eliminating shadow flicker at dwellings."*

Post the submission of the planning application on 29th September 2025, those within 1 KM of a turbine received a further leaflet "KEY FACTS & Frequently Asked Questions". One such question on this flyer is on the matter of Shadow Flicker:

FAQ: "What about Shadow Flicker?

As clearly demonstrated in the extract of this flyer below, the developer refers to the 2019 Draft WEDG but the same commitment is not followed within the EIAR and the applicant confirms that the results of computer software used to predict the occurrence of shadow flicker would be compared against 2006 WEG.




Figure1: Extract from Ballinlee Green Energy Key Facts & Frequently Asked Questions, Oct 2025

Upon reviewing this chapter, the Zero Shadow Flicker promise made by the applicant to each member of the community they encountered was false. Not only does the applicant not use 2019 Guidelines as promised to our community, the reliance on 20-year-old guidelines shows that a significant number of houses exceed the permitted level of shadow flicker which is ≤30 hours year or ≤30 minutes per day at any dwelling.

We draw your attention to Chapter 15 of the EIAR to the 'References' listed on page 15-33. The Draft Wind Energy Development Guidelines, DoEHLG (2019) are not listed.

This level of deception does not give grounds for trust of the results contained, the modelling used and the mitigations discussed.

Relying on the 2006, 20-year-old WEDG's does not align with a commitment of "zero shadow flicker". The use of language within the EIAR and the mitigation measure proposed does not explicitly state that the applicant is abiding by them. They are referenced in Section 15.7.2.1 briefly and rather speculatively, claiming that the project is "future-proofed" to follow the 2019 Draft Revised Wind Energy Development Guidelines. This statement should be treated as promotional rather than factual.

## Further Critical Observations - Inaccuracies and Failings

The SFCM is programmed from pre-calculated modelling outputs, not real-time measurements

Section 15.2 Study gives a false location for the development:

"The proposed development is located in a rural area of east Limerick approximately 18km south of Limerick City and approximately 3km southwest of Bruff.". The site is much closer to the proposed turbines, in fact 1.4km of Bruff as confirmed during the SID Decision process Case Ref 320745 – see extract from the Inspectors Report:

**2.0 Site Location and Description**

2.1. The site is located approximately 1.5km to the west of the town of Bruff in east

- The Developer states there are 228 houses within the rotor x 10 radius, but the Developer does not identify if this figure includes recent planning approvals in the area or if any Derelict or Vacant Sites are included or disregarded for the purpose of the assessment.
- 99 houses expected to exceed 30-hour threshold limit per year but no further drill-down of the extent of the breach of the 30- hour threshold is stated
- 126 houses expected to exceed 30-minute threshold per day, again no further drilldown into the extent of how severely the thresholds are breached
- MWP outlines in Section 15.3.4 that shadow flicker has been calculated for the proposed wind turbines using simulation software called WindFarm. MWP state this is an "industry-standard" but gives no further details such as:
  - Success rate on accurate modelling, project specifics modelling and mitigation in practice
  - No information on selection process for their choice of software
  - Details of any alternatives considered

- The presentation of data in Table 15.2 (Shadow Flicker Modelling Results) and Figure 15.3 (Wind Turbine and Dwelling Locations) is unnecessarily opaque and obstructive to public understanding. Each receptor is identified only by technical Easting and Northing coordinates, which are not interpretable by the public. A clear, accessible identifier (e.g., house reference linked to latitude/longitude or address description) should have been provided to allow residents to identify whether their property lies within the affected area.
- Cumulative effects with other nearby wind farms were dismissed without quantitative modelling.
- No plan for post-construction monitoring or validation that flicker limits are met, rather it is left to complaint reporting by members of the public, leaving potential non-compliance or unreported nuisance to residents.
- No mention of how residents can report or resolve flicker complaints

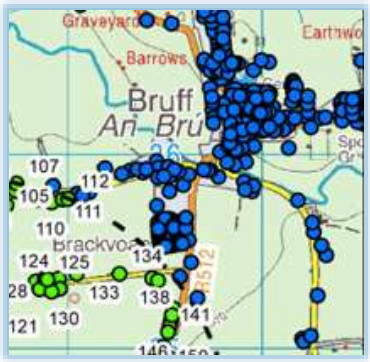



*Figure 10: Extract from TableShadow Flicker Modelling Results*

- Data is incomplete, inaccurate and understated, we note several dwellings missing from the assessment (within 1.36km) and assume there are more that we have not had the opportunity to locate. We ask the Board to do a thorough review to ensure all dwellings are captured in the applicants' assessments.
- The assessment, as per the applicants' own admission, is only based on residential premises. The omission of public places and places of recreation are concerning such as the school where over 255 pupils attend (V35 FT99) with 2 full-time Autism classes. As assessment of the school yard where highly sensitive could be impacted by shadow flicker is a serious omission

## Study Area Limitations

The Developer provides a table to show the Theoretical Worst-Case Scenario. This is detailed within Table 15-2 across 18 pages with House References. It is later summarised in Table 15.5 as follows:

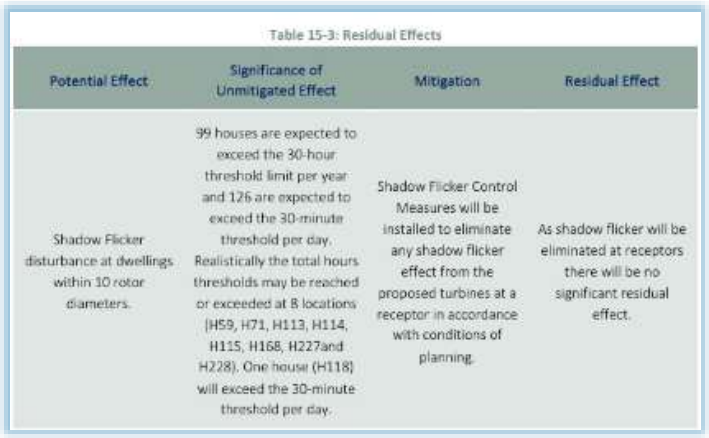


Table 15-3: Residual Effects

| Potential Effect | Significance of Unmitigated Effect | Mitigation | Residual Effect |
|---|---|---|---|
| Shadow Flicker disturbance at dwellings within 10 rotor diameters. | 99 houses are expected to exceed the 30-hour threshold limit per year and 126 are expected to exceed the 30-minute threshold per day. Realistically the total hours thresholds may be reached or exceeded at 8 locations (H59, H71, H113, H114, H115, H168, H227and H228). One house (H118) will exceed the 30-minute threshold per day. | Shadow Flicker Control Measures will be installed to eliminate any shadow flicker effect from the proposed turbines at a receptor in accordance with conditions of planning. | As shadow flicker will be eliminated at receptors there will be no significant residual effect. |

***Figure 11: Extract from Chapter 15 – table 15-2.***

The EIAR states that the study area includes homes within 10 rotor diameters (1.36 km) for assessment. Anything beyond that is assumed "unlikely" to be affected. By adopting a restrictive scope, it means there has been no consideration given to those with sensitivity to visual stimuli in the nearby sensitive locations that include the National School which has two autism dedicated classes, the Pre-School and the Afterschool which are all situated adjacent to one another. To state the potential for shadow flicker is "low" indicates that the potential exists and although we appreciate to 10 x rotor distance is what is deemed common practice in the Ireland and UK, this approach fails to identify sensitive locations for assessment.

The applicant did not conduct any independent Health Impact Assessment or community wellbeing survey to identify sensitive locations but meanwhile was satisfied in communicating to the community with absoluteness inferred that there will be no shadow flicker experienced on the introduction of the windfarm.

According to the Central Statistics Office (2022), 23% of residents in the Bruff area report having a disability. This is significantly higher than the national average and highlights the presence of a more vulnerable population group within the local community. Given this elevated proportion of individuals with disabilities, many of whom may experience heightened sensitivity to visual or sensory disturbances, a more precautionary and inclusive approach to assessing shadow flicker impacts would have been appropriate.

| BRUFF-Small Area Population map) | Population | Persons with a disability | |
|---|---|---|---|
| Small Areas:A127031001/01 | 296 | 72 | |
| Small Areas: A127031004 | 333 | 93 | |
| Small Areas: A127031002 | 258 | 38 | |
| | 887 | 203 | 23% |

Table 5.1: CSO 2022

## Errors and Ambiguity

It appears there has been a concerted effort to minimize the number of impacted houses, not just in terms of shadow flicker, but in respect of proximity in general. This is a deliberate move on the part of the applicant to try to hide from the Board how heavily populated an area the site is.

In the pre-application consultation meetings and queries from the ACP Inspector and in an email dated October 22nd, 2024, a question is raised on the number of sensitive receptors within 2km. In a subsequent email dated 19th March 2025 with subject Line" Copy of Presentation for 2nd Pre-Application Meeting", the question is posed again by the ACP Inspector on the number of receptors within the 1km and 2 km zone. As far as can see the number of receptors within 2km has not been disclosed.

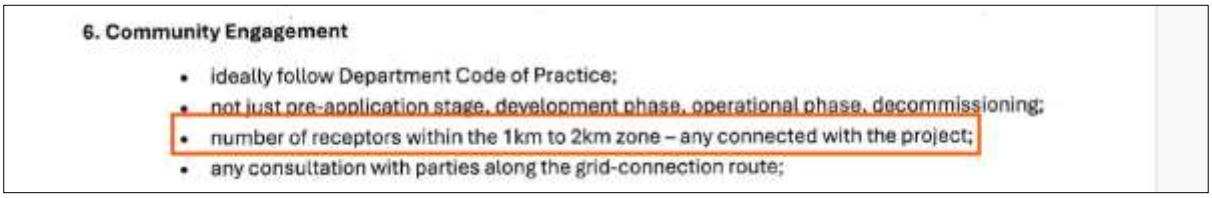



***Figure 12: Excerpt from email dated 19th March 2025 from ACP Inspector***

There is ambiguity over the total number of homes captured within the study area and as calculated within the various zones in relation to their proximity to Proposed Turbines:

As per the Population and Health Chapter the applicant has identified 279 houses within 1.5KM of a proposed turbine.

"An initial study area of 1.36km from wind turbine locations was established in accordance with Wind Energy Development Guidelines, which is 10 times the rotor diameter of the proposed turbines. A 1.5km study area was then applied as a conservative approach to ensure any outlining receptors are captured in this assessment."

We extracted all coordinates for the Shadow Flicker exercise and found 228 locations identified. But within the Population and Health Chapter the applicant is stating a 1.5KM study area (279 dwellings). Why has the applicant included 228 houses within their assessment (1.36km radius) and not carried this same "conservative approach" in their shadow flicker analysis. The omission of 51 houses (279 – 228) should be explained.

In view of the increasingly high number of windfarm neighbours reporting health related impacts, and the increasing height and scale of wind turbines, we considered reviewing what countries or developers have further setbacks for Shadow Flicker Assessment and why. There are cases where UK assessments have chosen a more conservative approach and used an 11 x Rotor Diameter study area such as the cases in the UK for example the Lochend Extension Project, where the Scottish

Highland Councils 2016 Supplementary Guidance states that where shadow flicker cannot be avoided, the assessment area of 11 x rotor diameter must be used.

The EIAR assessment focuses on residential receptors within the defined study area, as receptors outside this boundary are considered "unlikely to experience shadow flicker to any significant degree". H228 (ITM 559480, 633385) shows a location in the North Sea. As one of the most severely impacted houses across all 228 houses, to get the coordinates wrong on the EIAR shows a shocking lack of competence and carelessness.

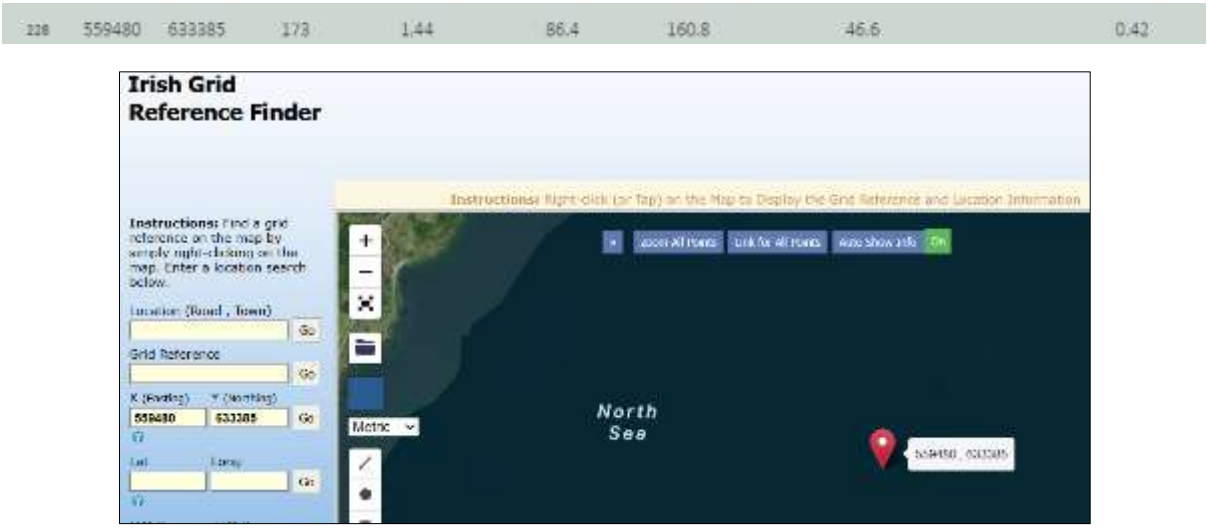



***Figure 13: Coordinates for H228***

## Houses Not Included in Shadow Flicker Assessment

We have identified several houses that have not been included in the shadow flicker assessments. The list of omissions includes houses that were built in 2024 onwards or that successfully obtained planning permissions or in process of gaining planning permission. The EIAR states the Limerick City and County Council Planning database was consulted but this appears to be factually incorrect. These houses are summarised below in Table 5.1.

Where an EIRCODE has been assigned, we have provided it within the table. Where houses have are partially built and do not have an EIRCODE at this time, we have included the coordinates as obtained from ePlan on Limerick City and County Councils dedicated planning permission website (https://www.eplanning.ie/LimerickCCC).

This is an alarming omission, and casts increased doubt over the accuracy, thoroughness and appropriateness of the entire shadow flicker assessment. The omission of homes as built since 2024 indicates that the applicants' assessments were carried out in or before 2023. Therefore we conclude the assessment is out of date and cannot be relied upon.

| Houses Not Included in Shadow Flicker Assessment | | | | |
|---|---|---|---|---|
| EIRCODE | X_ITM | Y_ITM | Latitude | Longitude |
| No EIRCODE/ new build | 559618 | 633206 | 52.450430197 | -8.5956906584 |
| V35 YW30 | | | 52.445465978 | -8.5883857063 |
| V35 RX27 | 560000 | 632829 | 52.468450820 | -8.5626338779 |
| No EIRCODE/ new build | 556713.65 | 634052.72 | 52.45556959 | -8.613635993 |
| V35 YN34 | 560902 | 635189 | 52.46715274 | -8.575497194 |
| No EIRCODE/ new build | 562338.48 | 634565.37 | 52.46138825 | -8.554207696 |
| No EIRCODE/ new build | 560090.69 | 632206.99 | 52.439879 | -8.586986 |

Table 5.2: Houses missing from Shadow Flicker Assessment

What is perhaps most concerning is that the house that is situated in closest proximity to a proposed wind turbine and in breach of the 2019 Draft WEGs of a minimum setback of 640m, is not included in the assessment (this property carries an NSL reference NSL520 which has been obtained from Chapter 13: Noise and Vibration.

*"The distance to the nearest NSL (NSL520) from a wind turbine is c 535m west of Turbine 9 as shown in Figure 13-20."*

## Health Impacts of Shadow Flicker

There is extensive research that established a link between various health impacts and exposure to wind turbines. As stated by Minister Michael Martin in 2013, 'the implications are real' for the people that reside beside large industrial wind farms. In 12 years, the fact remains, turbines have tripled in scale. Shadow flicker has been reported to cause stress, discomfort, nausea, eyestrain, dizziness, and headaches. It disrupts daily life, reading, working, children playing, and social activities. The alternating pattern of light and shadow created when turbine blades pass in front of the sun. The flickering light generated by the turbines will likely pose a significant nuisance to many residents and our community. It is particularly concerning as our community has a high prevalence of autism diagnosis, and exposure to shadow flicker will likely have a profound negative impact.

Commentary by wind energy developers on health implications is consistent in its assertion that wind turbines do not cause negative health effects. Wind development proponents regularly quote the HSE's 2017 report that "there is insufficient direct evidence to draw any conclusions on an association between shadow flicker produced by wind farms and health effects". This report is now

over 8 years old and the level of near-neighbours firsthand accounts and recent High Court Cases tell a much different story of wind turbines causing significant health implications.

In reply to a question from a concerned community member sent on the 6th August 2025 with concerns surrounding such a limited setback, the applicant referenced an outdated 2017 report by the Health Service Executive (HSE). "The HSE have confirmed a positive position with wind farms and public health ". The applicant goes on to state within this email dated 29th August 2025 that they would "be adhering to the Government of Ireland's guidelines on wind energy development, including the draft 2019 Wind Energy Guidelines in relation to setback distances". No such commitment is given to adhering to 2019 guidelines in respect of Shadow Flicker which again raises the validity over the mitigations employed to support their claim and no dwelling should experience any "significant effects on human health" by employing what they refer to as "Shadow Flicker Control Modules (SFCM)". If such software and methodology are indeed as sophisticated as claimed, it would be reasonable to expect the applicant to demonstrate compliance with Draft WEG, as they have done with regards to minimum setbacks (with exception to financially involved homes).

It is clear from the applicant's EIAR that a vast number of homes in the vicinity will experience shadow flicker arising from turbine operation. Instead of adopting a precautionary approach and applying the 2019 Draft Wind Energy Development Guidelines (WEGs), the applicant has chosen to rely on the outdated 2006 WEGs.

To place 17 Wind Turbines at 160m High, with a 136m Blade Sweep in a densely populated location in direct proximity to 279 homes will lead to a very poor outcome and at a severe cost of people's health. To summarise just how populated an area, here are the reported number of homes obtained from the EIAR:

- 179 dwelling within < 1 km of 1 or more turbines
- 279 dwellings within < 1.5km of 1 or more turbines
- The developer was alarmingly not reported the number of dwellings within <2 km of 1 of more turbines

These households will experience nuisance and annoyance.

Studies such as Pohl (1999) and Mayo Clinic research show that prolonged flicker can cause cumulative stress-related health effects.

Dr. Chris Ollsen, PhD, leads Ollson Environmental Health Management (OEHM) which is focused on environmental health, risk assessment, and health impacts related to energy, infrastructure, and environmental developments. He has published peer-reviewed articles on wind turbines and makes the distinction between annoyance / nuisance and clinical health effects.

He argues that shadow flicker is not a health hazard, but rather a nuisance / annoyance issue.

*"What the majority of my colleagues in the field would say, is that shadow flicker isn't a health concern, but it is an annoyance or nuisance. Imagine you're sitting in your place tonight, and if I was standing at the wall and turning your lights on and off, in a slow fashion, for 20 minutes at a time. You would not enjoy that."* (Ollsen, C. (2023)

Annoyance and nuisance cannot be underestimated. There is evidence of increased demands on psychological and physical resources with increased risk for sleep disorders (Freiberg et al., 2019).

## Shadow Flicker and Autism

Shadow Flicker will pose increased risk of hyper-reactivity for people with Autism and other sensory sensitivities. Research shows that many autistic people are very sensitive to changes in light, flicker and motion. While wind developers frequently assert that wind farms do not cause direct health effects, this position misrepresents the state of scientific knowledge. The absence of definitive research does not equate to the absence of adverse effects but rather reflects the limited scope and quality of existing studies, many of which fail to account for sensitive sub-populations such as neurodiverse populations.

There is a high number of families with a diagnosis of autism and other sensitives in the direct vicinity of this proposed turbine. With reference to Chapter 2: Population and Health, the EIAR does not confirm that an independent Health Impact Assessment or community wellbeing survey has been undertaken. Ballinlee Green Energy through its consultants MWP have provided no acceptable assurance that control measures employed will, without question, guarantee that no house will suffer Shadow Flicker.

Modern wind turbines and what is being proposed have increased in size dramatically since much of the research as quoted in the EIAR on health-related impacts in relation to Wind Turbines. Rotor diameters have doubled in size, these averaged 80m in 2007. Scientific and clinical research recognises that people with Sensory Processing Disorder (SPD) or Autism Spectrum Disorder (ASD) can experience extreme discomfort, anxiety, or disorientation in response to repetitive, high-contrast visual or auditory stimuli.

Current reliance on a wait-and-see approach is ethically and scientifically indefensible when vulnerable groups, particularly neurodiverse children, including those who are non-verbal or have limited capacity to articulate discomfort or distress may be affected. These individuals are less able to communicate symptoms such as sensory overload, anxiety, or sleep disruption arising from environmental stressors like shadow flicker and the presence of large visually intrusive turbines.

# Shadow Flicker and the Equine Industry

The EIAR makes no address to the Equine Industry and the proximity of registered thoroughbred horse breeders in the area to the proposed wind farm, as well as other local equine breeders and farmers. The British Horse Society (BHS) Advisory Statement explicitly recognises shadow flicker as one of three critical turbine phases that pose risks to horses, riders, and livestock.

The below locations have not been assessed as they fall outside the study area (1.36km) but this is a failure as they should be categorized as equine sensitive properties (where no such House Numbers as part of the shadow flicker assessment has been assigned, we have quoted the NSL or EIRCODE):

| NSL Ref / House Ref | Name | Town | Eircode | Distances |
|---|---|---|---|---|
| N/A | Drombeg | Athlacca | V35 Y152 | 2.88 km from T1, 2.5 km from T2, 2.53 km from T3, |
| NSL395 | Morning Star Stud | Rathcannon, Kilmallock | V35 KH66 | 1.4km from T3, 1.8 km from T2, 2.2 km from T1, 2.2km from T6 |
| NSL103 | Rathcannon | Rathcannon, Athlacca | V35 FD71 | 1.6km from T6, 1.64 km from T7, 1.97km from substation |
| NSL465 | Rathcannon Hill | Rathcannon, Kilmallock | V35 VK40 | 2.11 km from T6, 2.13km from T7, 2.5km from the substation |

As per the BHS guidance, horses may be perturbed by shadows cast on the ground.

*"In sunshine, the turbine blades will cast a shadow on the ground of varying distance depending on the time of day and year. Shadows are longest early in the day and during the evening when the sun is at its lowest. Some horses may hesitate if the shadows extend across their path, especially if the shadow is moving towards them. Some horses ignore the shadows, but others may perceive them as a threat, especially if they are horses"* (BHS, May 2025)

## Mitigation Is Insufficient

There is an overreliance on unverified software controls which will result in residual shadow flicker for our community. In many areas of the chapter the wording is loose, such as the words "should" and "help mitigate". The applicant states in 15.7.2 that a programmable shadow flicker module will be installed to allow the control of turbines to eliminate shadow flicker. It refers to the Shadow Flicker Control Modules (SFCM) being considerate of weather conditions, and we are told that the wind turbine will stop and resume only when the sun has passed the relevant position in the sky or once it has been clouded over the wind turbine is restarted. This means the SFCM act as a mitigation tool rather than a preventative tool. They are reactive control systems which are dependent on pre-modelled flicker data have been programmed into them and with a dependency on the initial modelling to be accurate and for all houses to be included.

It would be therefore logical in a scenario where the SFCM detects the conditions for shadow flicker, that a household could be experiencing the phenomenon in that moment while the blades are in process of turning off or adjusting. It is again not stated or described the duration it takes for the blades to cease rotating and with the nature of Irelands climate and cloud cover, this will result in frequent periods of 'On' and 'off'. Due to the frequency with which the weather patterns change in Ireland, the SFCM will keep cycling the turbine on and off. This stopping and starting during

rapidly changing weather conditions will result in a significant number of homes experiencing shadow flicker.

The EIAR does not confirm if all 17-turbines will be fitted with this SCFM software. The details are considerably lacking and deceptive without any information on the specific type of system.

## Enforcement and Compliance

Comment in the EIAR on monitoring and reporting of Shadow Flicker is limited. The EIAR states only that "the operation and performance of the shadow flicker control measures will be monitored on an ongoing basis by the operator" (Section 15.8).

But no clear monitoring framework, reporting schedule, or independent oversight mechanism are described. Without third-party auditing or real-time public reporting, compliance depends entirely on self-monitoring by the developer/operator.

Without independent verification and on-site monitoring, the claim of "all shadow flicker is be eliminated" remains theoretical rather than assured. It is important and warranted to then refer the 2024 Webster and Rollo case 'Webster & Rollo v Meenacloghspar (Wind) Ltd [2024] IEHC 136, where mitigation measures had been installed but were not implemented. The High Court accepted that seasonal shadow flicker at the plaintiffs' properties was intrusive.

A second case of a couple seriously impacted by Shadow flicker is the Byrne & Moorhead v ABO Energy Ireland Ltd & Ors (2025) case, where the Judge remarked that the "response and approach of the defendants for the 12 years prior to the trial was seriously unimpressive". Along with noise and vibration, the couple who took the case suffered sporadic shadow flicker which attributed to symptoms they suffered of stress and anxiety.

More recent we have seen several newspaper articles on windfarm neighbours impacted by Shadow Flicker for windfarm neighbours of Cloghan Windfarm who are reporting instances of shadow flicker.

## Conclusion

Shadow Flicker must be eliminated in accordance with recent HSE correspondence as issued to Deputy Niall Collins on 20th May 2025. The EIAR does not commit to "Zero Shadow Flicker" and is chosen to follow the outdated 2006 guidelines. The applicant is under no actual obligation to eliminate or mitigate shadow flicker under existing guidelines beyond the unacceptable threshold of 30 hours /per year or 30 mins per day under 2006 Guidelines. The proposal to install shadow flicker modules to mitigate 176 homes predicted to collectively experience 2,179 hours of flicker per year is entirely unsatisfactory and the community has no confidence that such an ambitious and complex mitigation programme can realistically be achieved or maintained without an immediate re-design of the project or at a minimum, consistent and accurate compliance monitoring, a process which is left in the hands of the operator entirely. A well-designed project should require minimal mitigation, not depend on it as a substitute for proper planning.

Even after applying questionable mitigation mechanisms, eight homes still exceed the limits set by the 2006 guidelines. This clearly demonstrates that the site is unsuitable and that minimising shadow flicker was not prioritised in the project's design.

The EIAR fails to explain how enforcement and compliance would be implemented or overseen. Does this fall under the remit of Limerick City and County Council? Does the Council have the necessary expertise or resources to manage all affected properties within the 1.36 km zone? There is an assertion by the applicant that the model provides "very detailed" predictions down to specific times and turbine sources for each home, yet this data has not been disclosed.

Without transparency, it is impossible to assess the validity of the analysis, particularly in an area where 153 houses have more than two turbines and over 60% have more than three turbines within 1.36 km.

It is unacceptable that eight homes are already known to exceed permitted thresholds, yet this information is buried in Table 15.3 without proper discussion or community notification. Residents have a right to know if their homes will be directly affected. Proceeding with a project that knowingly imposes this level of impact is irresponsible and unjustifiable.

Ballinlee Green Energy are failing in their promises to commit to eliminating shadow flicker at each dwelling. A staggering 99 homes exceed the 30-hour threshold limit per year and 126 are expected to exceed the 30-minute threshold per day. These turbines are clearly too large and too close to surround our town and homes, and these breaches listed confirm this without question.

In the interest of the protection of public health we request the Board to deny planning permission.

## References – Shadow Flicker

Wind Energy Development Guidelines, Department of Environment Heritage and Local Government (DoEHLG) 2006

Lackareagh Windfarm, response to scoping response by applicant to HSE, 11th of January 2023 (this can be located under Case Ref 220245 directly from the ACP Website)

EHIS ref 4427, National Environmental Health Service (NEHS, 2025

Planning Ref 24/60411, National Environmental Health Service, 2024, https://clarecoco.eplanning.ie/iDocsWebDPSS/ViewFiles.aspx?docid=764209&format=djvu

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Byrne, R. & Moorhead, L. v Abo Energy Ireland Ltd & Others (2025) High Court of Ireland [IEHC 330]. Available at: https://www.casemine.com/judgement/uk/68511e5707909e489ac03b71 (Accessed: 22 October 2025).

The Highland Council, Onshore Wind Energy Supplementary Guidance, November 2016 (2016)

# Infrasound and Impact on Health

As prepared by Anne Marie O'Regan, Nutritional Therapist, Dip NT, MNTOI, Advanced Certificate in Mental Health Awareness and Karol O' Regan, Electrical Technician & Telecoms Engineer.

## Executive Summary

The following chapter will present an evidence-based assessment of **Chapter13 Noise & Vibration** with specific focus on infrasound and low frequency noise.

We will consider the survey methodologies employed by the applicant in determining appropriate turbine locations. We will look for desktop analysis (Nord2000) reports that have provided visualisations of expected IFLN levels at all NSLs.

We will look at the evolution of infrasound measurements using the scientific method and provide case studies for same.

Also included shall be reports of why IFLN **DOES** affect biological functions and evidence of same.

Note: Referring to **Chapter 13 Noise and Vibration** sub-section **13.2.2.6**, the applicant states that the report assessment shall be based on WEDG-06 as supplemented by ETSU-R-97.

I ask the board to refer to the WEDG-06 guidelines (https://assets.gov.ie/static/documents/wind-energy-development-guidelines-2006.pdf) and find any reference to either infrasound or low frequency sound as I could not. This is the first issue.

## What is Infrasound.

Infrasound is defined as a sound wave with a frequency of less than 20 hertz (Hz). The lower the frequency of the sound, the greater its wavelength and the harder it is to shield from it. Infrasound can penetrate walls, people, and animals.

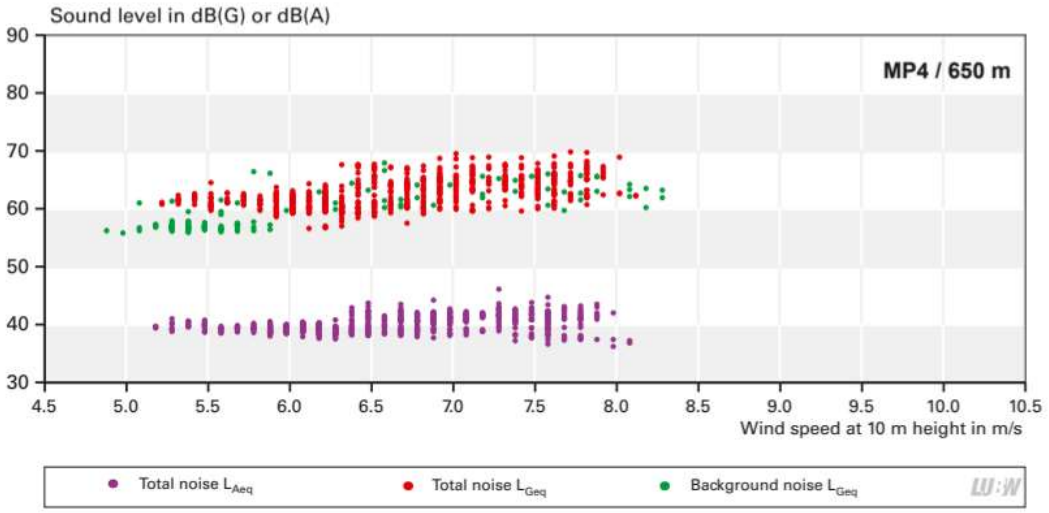
What frequencies of infrasound are produced by wind turbines?

1. According to the 2016 German report - Low-frequency noise incl. infrasound from wind turbines and other sources

*The red dots represent the G-weighted sound level when the wind turbine is switched on, the green dots when the turbine is switched off. The data shows that the G-weighted sound pressure level of the tested measurement points increases slightly during operation of the wind turbine with increasing wind speed.*

*The wind turbine 4 (WT 4) is a unit type 3.2M114 with a nominal generator capacity of 3.2 MW. The rotor diameter is 114 m, the hub height 143 m.*

*The below graph represents sound recording equipment placed at a distance of 650Mtrs downwind from the turbine,*




This simply clarifies that wind turbines are categorically recorded as producing infrasound levels below 20Hz and recorded over distances 650M.

This is important to acknowledge as the current industry will state that "what you can't hear won't harm you"!

Within the planning application Chapter 13 (Noise and Vibration) sub section 13.2.2.10.3 Infrasound and Low Frequency Noise, the applicant addresses the topic of infrasound and its impact association with the proposed WF development.

What becomes immediately clear on two fronts is:

(1) the over-reliance on outdated research documents/reports, the below showing a portion of such reports.

- World Health Organisation (WHO) document Community Noise (WHO, 1995)
- EPA document Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3) 2011
- Health Effects of Exposure to Ultrasound and Infrasound 2010
- The Institute of Acoustics Bulletin 2009
- Infrasound levels near windfarms and in other environments (EPA, 2013)

(2) The complete lack of actual onsite or desktop surveys to determine ILFN impact at NSL locations.

Onsite testing, which was conducted from 6 monitoring locations, is disproportionate to the qty of 520 NSLs in the ZOI (Zone of Influence).

This testing was primarily conducted to measure A-weighted dB levels and did not consider G-weight dB testing for ILFN.

Irrespective of conclusionary reports outlined above, this is a fundamental flaw in the methodology employed and regard for both human and bio-diverse species health.

As per recent and emerging data sets determining real effects of ILFN on biological functionalities, this is an omission that warrants further analysis by the board.

Below are sample excerpts from rigorous reports that indicate biological impairments as a result of IFLN exposure.

As per the understood propagation mechanisms of low and infrasound wavelengths, these very easily penetrate solid and biological matter and therefore present an opportunity for interactions with said matter.

- *"Infrasound could also affect microcirculation, the blood circulation of the fine capillary network where oxygen and nutrients enter the surrounding tissues." Dr. Ursula Bellut-Staeck*

*Negative Effect of High-Level Infrasound on Human Myocardial Contractility: In-Vitro Controlled Experiment - PMC*

*Department of Cardiothoracic and Vascular Surgery, University Hospital of Johannes Gutenberg University Mainz, Mainz, Germany*

*Faculty of Medicine, University of Mainz, Mainz, Germany*

- There is also evidence that infrasound interacts with cell metabolism and leads to perivascular fibrosis in ***Infrasound induces coronary perivascular fibrosis in rats*** according to Lousinha (2018).

Impairment of the Endothelium and Disorder of Microcirculation in Humans and Animals Exposed to Infrasound due to Irregular Mechano-Transduction

*Ursula Maria Bellut-Staeck*
*Independent Scientist, Berlin, Germany*.

## Applicant Survey Methodology

The surveying methodology employed to ascertain dB (A ) weighted levels were as presented below.

While this weighting does not accommodate IFLN testing, it does highlight an insufficiency in how the surveying methods were conducted.

The below figures indicate noise survey locations and NSLs.

Figure 13-2 below shows **Noise Monitoring Locations.**

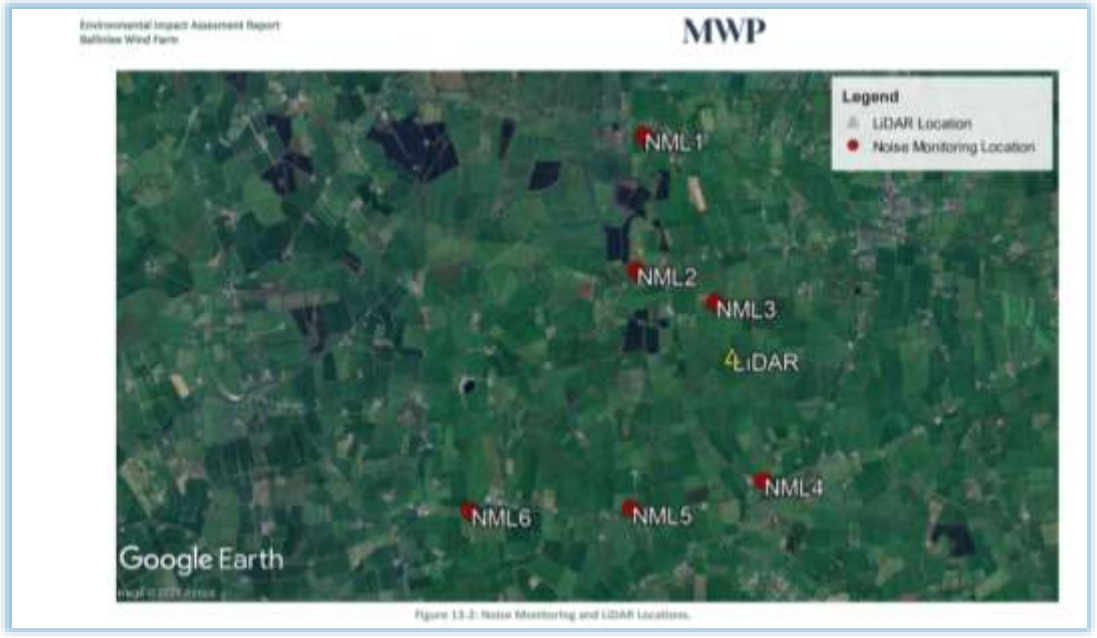



**Figure 13-1 below shows Noise Sensitive Locations (NSLs)**

**Note:** Total number of identified **519** NSLs is inconsistent with Appendix 13C qty of **520** NSLs.




**Figure 1.2 shows excerpt of Appendix 13C**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NSL166 | 561081 | 633016 | NSL339 | 561222 | 637197 | NSL512 | 562460 | 635575 |
| NSL167 | 561090 | 632808 | NSL340 | 562843 | 636029 | NSL513 | 561559 | 637050 |
| NSL168 | 561162 | 632400 | NSL341 | 561222 | 631825 | NSL514 | 562017 | 636910 |
| NSL169 | 561100 | 632214 | NSL342 | 561082 | 632508 | NSL515 | 562548 | 635589 |
| NSL170 | 561219 | 631653 | NSL343 | 561999 | 633180 | NSL516 | 561344 | 633225 |
| NSL171 | 560934 | 631816 | NSL344 | 562097 | 634092 | NSL517 | 561293 | 637111 |
| NSL172 | 561914 | 631946 | NSL345 | 557675 | 633262 | NSL518 | 558025 | 632939 |
| NSL173 | 558836 | 633005 | NSL346 | 557549 | 633669 | NSL519 | 560282 | 637606 |
| | | | | | | NSL520 | 559478 | 633382 |

With reference to sub-section 13.2.2.7 Local Planning Policy, it insinuates compliance with the following "*A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise (2013)* - Discussion Document". As per section 2.2.4 of this document it states, "***Background noise measurements should preferably be made in the vicinity of noise-sensitive receptors, principally houses (existing or for which planning consent is being sought / has been given) and any building used for long-term residential purposes (such as a nursing home).***"

We can determine from figure 1 above that this best practice guideline has not been adopted as part of the survey process and the conclusion must be that the data presented is insufficient in order to measure accurate and predictable day/night dB(A) levels never mind ILFN readings.

## Infrasound – Independent Analytical Reports.

As in the aforementioned applicant referenced documents including the WHO, conclusionary statements include:

***"There is no reliable evidence that infrasounds below the hearing threshold produce physiological or psychological effects."*** – *WHO.*

***"The available data do not suggest that exposure to infrasound below the hearing threshold levels is capable of causing adverse effects."-*** *UK Health Protection Agency.*

***"from examination of reports of the studies referred to above, and other reports widely available on internet sites, we conclude that there is no robust evidence that low frequency noise (including 'infrasound') or ground -borne vibration from wind farms, generally has adverse effects on wind farm neighbours".*** – *Institute of Acoustics Bulletin.*

With both the emergence of new measurement techniques and organisations committed to non-partial long term scientific research, the data regarding ILFN generation, propagation and physiological impacts are compelling in their conclusions.

It must be noted that the research into the effects of infrasound and low frequency noise has long been conducted for over 30 years by researchers, scientists and academics such as Professor

Mariana Alves-Pereira, Professor Ken Mattsson, Professor Alun Evans, Dr Ursula Maria Bellut-Staeck, and many others. This is not a new field of research but a subject that has received careful scrutiny using the scientific method to analyse and produce conclusionary assessments.

**Ref:** Infrasound Exposure: High-Resolution Measurements Near Wind Power Plants.
**Date of publication:** 16/12/2022
**Link:** Infrasound Exposure: High-Resolution Measurements Near Wind Power Plants | IntechOpen
**Authors:** Mariana Alves-Pereira, Huub Bakker, Richard Mann, Rachel Summers and Philip Dickinson

### Who is Mariana Alves-Pereira?

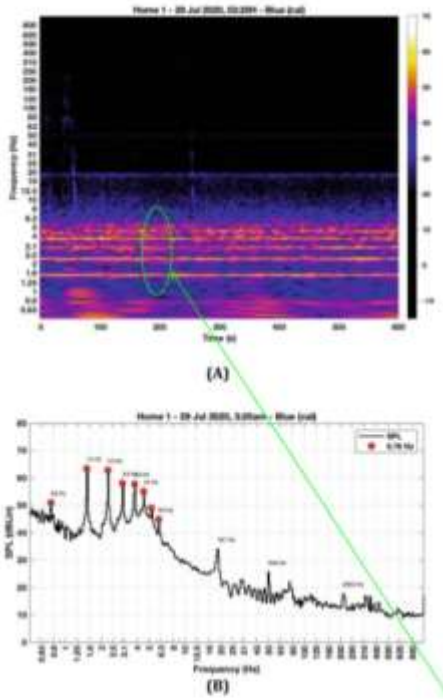
Mariana Alves-Pereira holds a B.Sc. in Physics (State University of New York at Stony Brook), a M.Sc. in Biomedical Engineering (Drexel University) and a Ph.D. in Environmental Sciences (New University of Lisbon). She joined the multidisciplinary research team investigating the biological response to infrasound and low frequency noise in 1988 and has been the team's Assistant Coordinator since 1999. Recipient of three scientific awards, and author and co-author of over 50 scientific publications (including peer-reviewed and conference presentations), Dr. Alves-Pereira is currently Associate Professor at Lusófona University teaching Biophysics and Biomaterials in health science programs (nursing and radiology), as well as Physics and Hygiene in workplace safety & health programs.

### Sample Test Case

Home located 648mtrs from closest Turbine of a 19 Turbine facility.
Test measurement equipment installed within homeowner's bedroom.
Sample test results

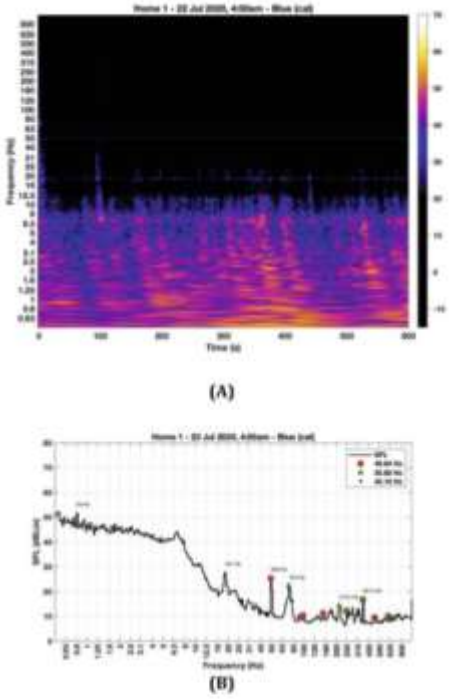
Date: 29/07/2020

Figure 1



Date: 22/07/2020

Figure 2



The yellow color of the straight, horizontal lines visible across the image at 1.5 Hz, 2.3 Hz, 3.0 Hz, and 3.8 Hz reflect the large amount of acoustic energy (50–60 dB) present at these frequencies. Additionally, the lack of discontinuities in these lines indicate that the phenomena were continuously present. The harmonic series identified in Home 1 is the acoustic signature that emanates from these machines, and that reflects the airborne propagation of a pulsed, pressure wave generated by rotating IWT blades.

As seen from the above, Figure 1 captures the pulsed propagation waves from the turbines for 10 minutes (600sec) of recording while in Figure 2 no such propagation waves are evident on a separate recording date.

In figure 1. the homeowners reported disturbed sleeping patterns as opposed to figure 2 when they experienced an uninterrupted night's sleep. This suggests an ILFN contributary factor to sleep disturbance reports.

Report conclusions: This chapter provides a different approach to the measurement and analysis of infrasound in and around homes located in the proximity of wind power plants. Examples show how using higher temporal - and spectral-resolutions (1 second and 1/36 of an octave), and without any frequency weighting, can reveal acoustical features in the infrasonic range that may indicate a causal relationship with self-reported medical symptoms. This possibility is usually considered non-existent since the infrasonic range is generally viewed as inaudible, and thus innocuous, to humans. The suggestion therefore arises that current noise protection procedures are insufficient to protect public and occupational health. The approach used by these authors offers a more solid framework

with which to pursue the establishment of dose–response relationships for infrasonic exposures. Future studies are being extended into noisy occupational environments and different environmental settings where wind power is not the acoustic source.

In the above example (Infrasound Exposure: High-Resolution Measurements Near Wind Power Plants | IntechOpen) it has been shown how infrasound can propagate through buildings and be demonstrated through scientific measurement techniques.

The next example will show a further evolution in both the simulation and field measurement technologies.

Research and development conducted by:

- Professor Ken Mattsson
- Gustav Eriksson PhD

### Who Is Professor Ken Mattsson?

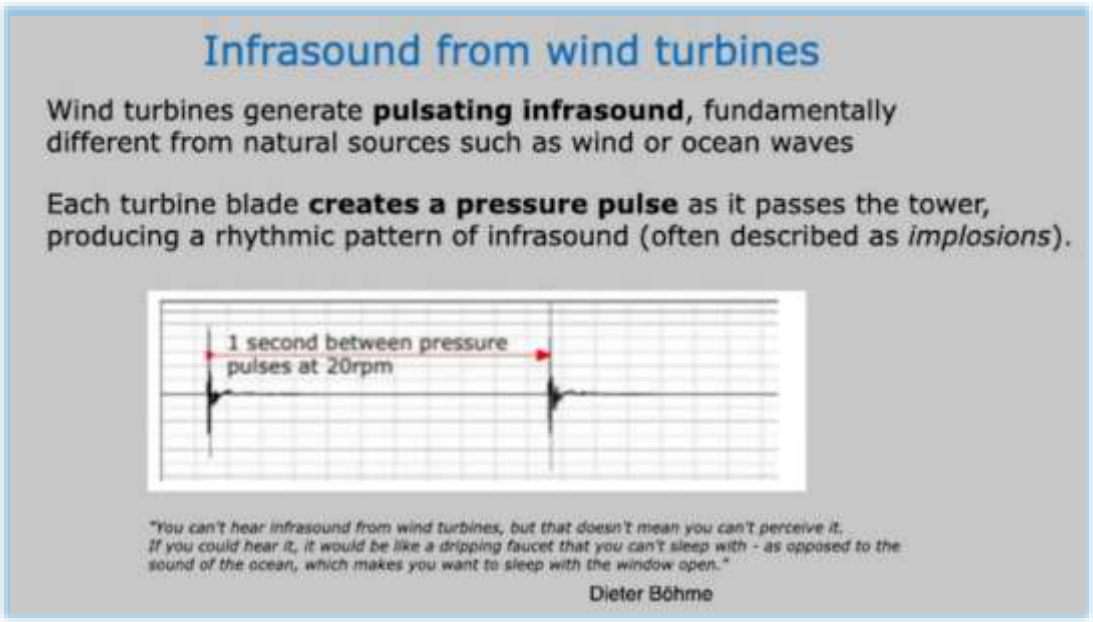
Ken Mattsson is a Swedish applied mathematician and Professor of Scientific Computing (numerical analysis) at Uppsala University. He develops high-order finite-difference "summation-by-parts" methods for time-dependent PDEs and applies them to acoustics and wave propagation. In recent years he's focused on infrasound—modelling, measuring, and simulating low-frequency noise (including from wind turbines)—and co-developed SoundSim360 for large-area sound propagation studies. Trained in applied mathematics, his earlier career includes work at Stanford's Center for Turbulence Research and Sweden's Defence Research Agency (FOI).

### Who is Gustav Eriksson PhD?

Gustav Eriksson, PhD, is a Swedish applied mathematician in scientific computing at Uppsala University whose work centers on high-order finite-difference methods for wave propagation. He co-developed SoundSim360 and applies these techniques to infrasound—modeling and simulating low-frequency noise from sources such as modern wind turbines. Eriksson earned his PhD at Uppsala after studies in Engineering Physics, and he now works in the Division of Scientific Computing; he is also a co-founder of RHOWS, the company behind SoundSim360. Recent publications and projects include high-fidelity infrasound simulations and energy-stable methods for acoustic problems

Ken Mattson and Gustav Eriksson honoured for groundbreaking innovation - Uppsala University

What does infrasound from wind turbines look like:




Infrasound as previously explained, is generated and propagates at frequencies less that 20Hz. These propagation waves and their distribution patterns are affected by various factors such as atmospheric & weather conditions, variations in building types etc.

In order to determine the extent to which these waves travel and penetrate throughout the environment; simulated studies are conducted using the Nord2000 method.

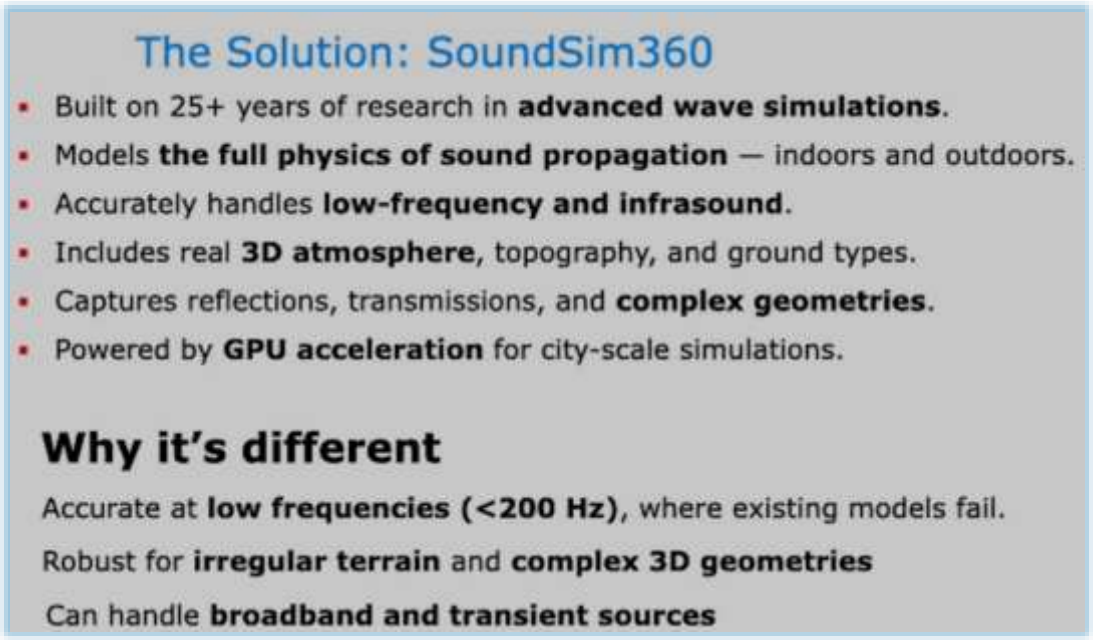
Nord2000 is a calculation method for prediction of noise propagating outdoors, for example traffic noise. The method may be applied to a wide variety of noise sources and covers most major mechanisms of attenuation.

The Nord2000 method was developed in the period 1996-2001 by DELTA (now FORCE Technology) (Denmark), project manager, SINTEF (Norway), and SP (Sweden). The work was financed by The Nordic Council of Ministers and by other Nordic authorities. The Nord2000 method was revised in 2005-2006 financed by the Nordic road authorities in order to make the method ready for road traffic noise calculations.

Note: As above we see the most recent revision of this method was 20yrs ago.

In parallel to the utilisation of this method, in depth research and development has been conducted by Professor Mattsson and Gustav Eriksson and as of late 2025, a new solution has been devised to both simulate and test (on-site) ILFN.

This solution is SoundSim360.




SoundSim360 is an advanced computational model capable of simulating sound pressure levels with high fidelity across the entire audible and infrasonic spectrum.

The model accurately captures low-frequency sound and infrasound phenomena and has been thoroughly validated against field measurements.

*"Measurement methodology has improved significantly in recent years – largely thanks to the work of Professor Ken Mattsson at Uppsala University. Since the 1990s, he has developed computational methods to simulate how sound, including infrasound, propagates through landscapes. Together with colleagues, he has created the advanced simulation tool SoundSim360, which reveals that infrasound levels from modern wind turbines are considerably higher and travel much farther than previously assumed"*

IT department in the media: New EU focus on wind turbine noise – Swedish research reveals the reach of infrasound - Uppsala University

As of November 12th, 2025, the research and development conducted by Prof Mattsson and Dr Eriksson has been formally recognised and hosted on Science Direct under the following heading:

*Efficient finite difference modelling of infrasound propagation in realistic 3D domains: Validation with wind turbine measurements.*

Abstract (extract)

The results show that modern, large-scale wind turbines generate infrasound levels significantly higher than those reported for older, smaller turbines. These findings advance the understanding of the acoustic characteristics of contemporary wind turbines and provide important guidance for assessing their potential environmental and societal impacts.

## How is sound measured?

The decibel scale is logarithmic, meaning a 10 dB increase represents a tenfold rise in sound intensity.

The EU defines noise as outdoor sound with unwanted or harmful effects on human health or the environment. Noise levels above 50 dB during daytime are often considered disturbing.

## Do Wind Turbines affect human health?

As presented by **Professor Alun Evans**, the answer is a categoric yes.

Alun Evans qualified in Medicine with Honours at The Queen's University of Belfast in 1968. He subsequently trained as a physician, before developing an interest in Epidemiology. In the late 1970s he was involved in clinical trials and community studies of coronary heart disease. In 1982 he became the Principal Investigator of the WHO MONICA (Monitoring in Cardiovascular disease) Project in Belfast. He was elected to the Steering Committee of MONICA in 1990 and chaired it from 1994-7. He has been in receipt of numerous grants, has led two major EU funded projects, and has been a partner in 16 others. He has also taken part in an extensive research programme with France, through the ECTIM and PRIME Studies. He subsequently led a pooling project of cardiovascular cohorts in 12 European countries. He has published several hundred papers and was the second author of the 3rd Edition of the WHO Monograph: Cardiovascular Survey Methods, in 2004. He was awarded a Personal Chair in Epidemiology in 1989. Since 2009 he has been 'Professor Emeritus' and a Senior Research Professor in the Centre for Public Health of the Belfast Medical School. His present main focus is on Medical History with an emphasis on Social and Public Health. Lately he has become increasingly concerned about environmental noise pollution as a major cause of cardiovascular disease

*"The major adverse health effects caused by wind turbines seem to be due to sleep disturbance and deprivation, with the main culprits identified as loud noise in the auditory range and low frequency noise, particularly Infrasound. This is inaudible in the conventional sense and is propagated over large distances and penetrates the fabric of dwellings, where it may become amplified by resonance."*

Environmental Noise Pollution: Has Public Health Become too Utilitarian?

Speaking at the 2014 **Summer Scientific Meeting at the Royal College of Physicians,** Professor Evans said there was *"clear evidence" that, as the size of wind turbines had increased, so has the infrasound and low frequency sounds generated by them and that they were now emitting "serious amounts of noise".*

*"When you measure them with the correct filters you find they are producing noise levels which are far above what's supposed to be permitted," he said.*

When we compare this statement made in 2014 by Professor Evans against the latest field studies conducted by Professor Ken Mattsson in January 2025, we see a direct corroboration of this assertion made more than 20yrs ago!

The below photo represents sound monitoring being conducted by Professor Ken Mattsson and clearly shows the variation between predicted dBA measures and "As-Built" measurements.

Predicted sound levels using Nord2000 were 37.6dBA.

Recorded sound levels were 58.8-60dBA.




This is critically important to recognise, that the software used to model the acoustic levels does not reflect the reality of sounds generated, propagated and felt by residents who live within 1km of IWTs.

This will of course apply to infrasound and low frequency noise as well as audible noise.

To further reference the work of Professor Evans, a submission made to the Australian select committee on Wind Turbines began with the following:

*According to the World Health Organisation's recent report, 'Night Noise Guidelines for Europe,' environmental noise is emerging as one of the major public health concerns of the twenty-first century. It observes that, "Many people have to adapt their lives to cope with the noise at night," and the young and the old are particularly vulnerable.*

*A recent systematic review considered 154 published studies, eventually including 18 on the basis that they examined the association of wind turbines and human distress and were published in peer-review journals in English from 2003-2013. All found between wind turbines and human distress with levels of evidence of four and five (Bradford Hill Criteria). In addition, two of these studies showed a*

*dose response relationship between distance from wind turbines and distress. Thus, there is a consistent relationship between the proximity of turbines and human distress.*

Referring to further scientific studies proving infrasound effects on biological functionalities.

Study by Markus Weichenberger and researchers from Charité (Berlin), PTB (Braunschweig) and UKE (Hamburg)
Published on April 12, 2017

Altered cortical and subcortical connectivity due to infrasound exposure near the hearing threshold - evidenced by fMRI (functional magnetic resonance imaging)

- New study: Infrasound-induced changes in brain activity detected and visualized – windwahn.com

## Conclusion:

*To our knowledge, this study is the first to document changes in brain activity across multiple regions in response to infrasound (IS) in the extended low-frequency range using fMRI*. ReHo** analysis revealed increased local connectivity of rSTG, ACC, and rAmyg only when IS was administered near the hearing threshold, and ICA*** showed that effects can also be found at the interregional level.*

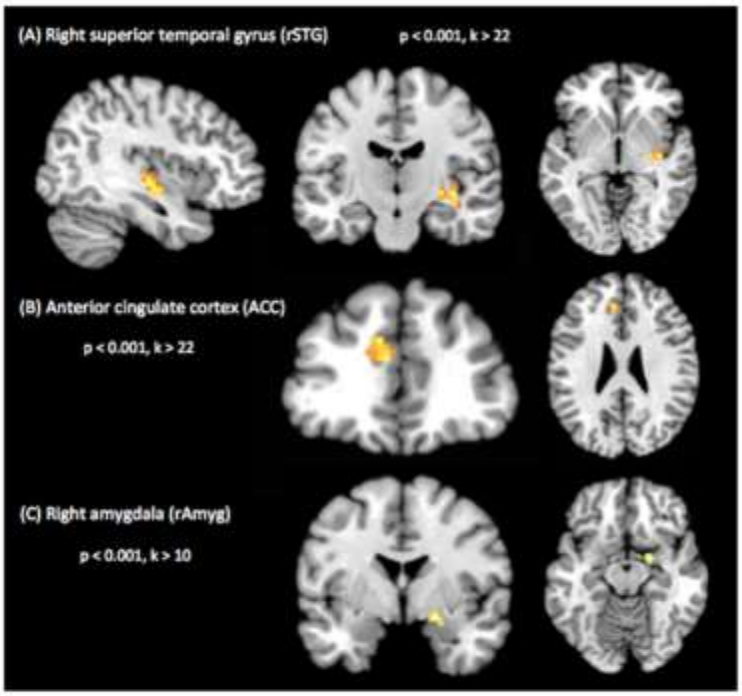



Fig 2. Results of whole-brain contrast regional homogeneity (ReHo) maps acquired during near-threshold vs. no-tone condition.

Swedish Study Proves Pulsing Low-Frequency Wind Turbine Noise Causes Sleep Deprivation.

Physiological effects of wind turbine noise on sleep.

Michael G. Smith(a), Mikael Ögren(b), Pontus Thorsson(c), Eja Pedersen(d) and Kerstin Persson Waye(e)

- Swedish Study Proves Pulsing Low-Frequency Wind Turbine Noise Causes Sleep Deprivation – STOP THESE THINGS

Conclusion:

Physiological measurements indicate that nights with low frequency band amplitude modulation and $L_{AEq,8h}$=45 dB, slightly open window ($L_{AEq,8h}$=33 dB indoors) impacted sleep the most. In particular, amplitude modulation and the presence of beating were important constituents of the wind turbine noise contributing to sleep disruption.

Link: physiological-effects-of-wind-turbine-noise-on-sleep-ica2016-0440.pdf

## Additional Studies relating to infrasound & human health.

- Ove-Persinger-Infrasound-human-health-and-adaptation-art_10.1007_s11069-013-0827-3.pdf

*Infrasound displays a special capacity to affect human health and adaptation because its frequencies and amplitudes converge with those generated by the human body. Muscle sounds and whole-body vibrations are predominately within the 5- to 40-Hz range.*

- Involvement of cannabinoid receptors in infrasonic noise-induced neuronal impairment.

*https://www.windsofjustice.org.uk/wp-content/uploads/2019/06/Ove-infrasonic-noise-induced-neuronal-impairment-Kina-1.pdf*

*Excessive exposure to infrasound, a kind of low-frequency but high-intensity sound noise generated by heavy transportations and machineries, can cause vibroacoustic disease, which is a progressive and systemic disease, and finally results in the dysfunction of central nervous system.*

*Noise pollution is a kind of environmental pollution, and together with water pollution, atmospheric pollution, and light pollution, it has become one of the four environmental hazards in public health. Noise is composed of a spectrum of acoustic oscillation, among which low frequency wave, such as infrasound, is particularly detrimental to the human CNS, often causing vibroacoustic disease.*

- Wind turbines and adverse health effects: Applying Bradford Hill's criteria for causation.

Dumbrille-2021-wind-turbines-adverse-health-effects-causation.pdf

Independent Health Researcher, 1Department of Medicine and Dentistry, Schulich School of Medicine and Dentistry, Western University

Department of Medicine and Dentistry, Western University, London, Prince Edward County Family Health Team, Picton, ON, Magentica Research Group, Member of the Board of Directors, Canada.

Conclusion:

*Incontrovertible proof of causation has tended to be an elusive goal. The debate of determining causality associated with placing IWTs near family homes is similar to past controversies around the debate of causality from the use of tobacco products and from worker exposures to asbestos and coal. The "best available evidence" is the current standard, and it is our contention that the Bradford Hill criteria are that standard. Based on our analysis of clinical, biological, and experimental evidence and its concordance with the nine BH criteria, we conclude that there is a high probability that emissions from IWTs, including infrasound and LFN, result in serious harm to health in susceptible individuals living and/or working in their proximity. These effects can be attributed to IWT-related events such as recurring sleep disturbance, anxiety and stress, and likely others.*

*With the growing weight of evidence indicating this causation and the rapid proliferation of IWT installations globally, preventative actions should be taken, and policies implemented that are more cautiously protective of public health, safety, and welfare rather than wait for absolute certainty.*

## Neurodiversity and Infrasound.

When considering the data as presented above in sub-section (Do Wind Turbines affect human health?), what has not been considered is the affect IWTs and all associated sensory influential parameters (Noise, Shadow Flicker, Rotational Motion) will have on neurodiverse individuals within the community.

Is it without doubt that as of the date of this review, biological functionality impact cannot be considered as insignificant. This must logically lead to an enhanced impact of sensory diverse individuals.

Referring to sub-section (Neurodiversity and Wind Farms: The Potential for Impact) as composed by Consultant Clinical Psychologist Marianne Nagle, it is stated that while there is no peer reviewed research on exposure to IWTs specifically for Neurodiverse populations, the obligation is not on this community to prove there is a direct impact correlation but rather on the establishment and thus the applicant to ensure proper procedural conduct to assess and provide acceptable mitigations in accordance.

Within this chapter it must be acknowledged that as with neurotypical IFLN biological detection and subsequent impacts, the same MUST be applied to neurodiverse populations with the potential for long lasting & unforeseen consequences.

## Animals and Infrasound.

As already established through the previous section (Do Wind Turbines affect human health?), we have determined that biological proximity to IWTs has the potential to have adverse effects on human health. As the impacts are physiologically related it must be accepted that biological

functionality and impairment impacts must also be applied to animal species within proximity to wind generation facilities both during the construction phase (exposure to excessive audible, low-frequency and infrasound noise along with vibrational impacts) and during the operational phase of these facilities.

Current guidelines (WEDG-06) with token gestures to (WEDG-19) setback distances are primarily focused on human population distances from IWTs, no such consideration is applied to the animal kingdom apart from bare minimum buffer distances to accommodate construction and operational disturbances. I argue that such buffer distances in the context of infrasound and low frequency noise exposure are insufficient to protect the health, well being and natural inhabitation prerequisites for a multitude of species.

Is there any evidence of impairment/disturbance to animals in close proximity to IWTs.

According to the article:

Dumbrille, et al.: Wind turbines: Applying Bradford Hill's criteria for causation

Reports of adverse effects on animals located near IWTs indicate that there may be a temporal relationship between proximity to wind turbines and stress-related reactions and adverse effects on fertility, development, and reproduction. AHEs (Adverse Health Effects) in animals that have been attributed to proximity of IWTs include reproduction and teratogenic effects in the USA, Canada, Denmark, and Japan; deformities in Portugal; mortalities in Canada, France, and Taiwan; stress in the UK; and other effects.

The following 2016 paper published in the Journal of Wildlife Diseases assessed whether the presence of turbines in Great Britain impacted the stress levels of badgers (Meles meles) in nearby setts.

AGNEW ET AL.—WIND TURBINES CAUSE CHRONIC STRESS IN BADGERS.

WIND TURBINES CAUSE CHRONIC STRESS IN BADGERS (MELES MELES) IN GREAT BRITAIN - PubMed

Authors:

Roseanna C. N. Agnew - Royal Veterinary College, Royal College Street

Valerie J. Smith - Scottish Oceans Institute, University of St. Andrews

Robert C. Fowkes - Royal Veterinary College, Royal College Street

Discussion:

The very high levels of cortisol detected in hair from badgers living near wind farms compared with turbine-free sites strongly indicates that turbine-impacted badgers were suffering from a chronic increase in their hypothalamo-pituitary-adrenal axis activity and thus can be described as stressed (Mostl and Palme 2002).

## Can Wind Turbines Cause Developmental Deformities In Horses?

A study conducted in Portugal by Teresa Margarida Pereira Costa e Curto, ADVISOR: Dr. Maria da Conceição da Cunha and Vasconcelos Peleteiro CO-ADVISOR: Dr. Maria Luisa Jorge Mendes, reported that 11 foals developed flexural deformities of the front limbs, after they were born. (Acquired flexural deformity of the distal interphalangeal joint).

Since 2008 (post installation of a wind turbine facility) 11 cases were reported with deformities. No such deformities were reported prior to 2008.

A comprehensive analysis was conducted on the animals including radiography, CT imaging, histopathology, sound measurements, ground vibration measurements in order to determine the cause of the deformities in the animals.

Flexural-deformation-in-foals.pdf

CONCLUSION:

The present study aimed at studying the acquired flexural deformities of the distal interphalangeal joint (DFAAID) foals on a stud farm which, in previous years, showed variations in their environmental conditions due to the installation of wind towers (ET) on adjacent land. The understanding of the pathogenesis of this condition would determine flexural to infer about the possible causes underlying the high incidence of DF observed in stud. Once in the course of successive examinations to equine group, we excluded the existence of pain in primary forelimb that could lead to the shortening of the muscle tendon of PRFD and the resulting DF, also considering that the pathogenesis of the process can be due to bone growth faster than the development of the tendon, the latter seems to be associated with the pathogenesis DFAAID observed in this group of animals. Given the mechanical forces produced by TE deployed on land adjacent to the stud, and we cannot definitively conclude as to its responsibility in the process, one cannot, however, rule out the influence of the low frequency noise and mechanical vibration may have had in the pathogenesis of DF verified.

## Legislative Policy – what does the landscape look like.

As per the conclusion of the Wind turbines and adverse health effects: Applying Bradford Hill's criteria for causation paper, it cites preventative policy actions should be implemented to protect the heath, safety and welfare of residents and animals within vicinities of IWTs.

Under this perspective and when applying a common-sense approach to the reality of these IWTs and their effects on human and animal populations, we don't have to venture far to see very real outcomes on extended exposure.

### Ireland.

Irish High Court Slams Wind Turbine Operator For Noise "Like Aeroplanes that Never Land" – STOP THESE THINGS

*A High Court judge has found that levels of noise generated at certain times of the day by a wind farm constitutes a nuisance to the occupants of neighbouring properties.*

*In a landmark decision, which is understood to have implications for the operation of electricity-generating wind turbines, Ms Justice Emily Egan held that noise levels from the two-turbine Ballyduff Windfarm at Kilcomb, near Enniscorthy, Co Wexford, amounted to "unreasonable interference".*

*During the course of the hearing, the judge also physically visited the turbines and the properties.*

*Giving the court's decision, the judge said that there are frequent and sustained periods of noise "widely acknowledged to be associated with high levels of annoyance" and have "a characteristic known to lead to adverse reaction in the community.*

## Scotland

On 24 September 2025, a powerful roundtable meeting took place at the Scottish Parliament, exposing the serious health and regulatory failures surrounding wind turbine noise.

The meeting heard harrowing testimony from residents living near Blary Hill Wind Farm, where turbines just 940m from homes have caused years of suffering — sleep deprivation, dizziness, painful ears, tinnitus, and overwhelming pressure inside the body.

One woman told MSPs:

"My husband would kneel on the floor with his head on a pillow on the settee to try to sleep. The 'whoosh' never stops — it's outside, inside, everywhere. It was torture."

Dr Sally Huband, ecologist and author, gave expert evidence that:

· Sensitisation to low-frequency turbine emissions can become a form of torture.

· 15% of people living 2.5km from turbines reported health impacts in peer-reviewed research.

· People with autism, neurodivergence, or deafness are especially vulnerable but often ignored in noise planning.

Consultation response to the draft guidance titled, Assessment and Rating of Wind Turbine Noise

INWG-Response-to-ETSU-Consutation-Aug-2025.pdf

## Australia

Uren v Bald Hills Wind Farm Pty Ltd

In March 2022 a judgement was passed that found an operating windfarm was responsible for creating a noise nuisance against residents with an injunction preventing the wind energy facility (WEF) operator from continuing to permit noise from certain wind turbines at night and to take necessary measures to abate the nuisance.

Uren-v-Bald-Hills.pdf

## Germany

CEAW submit petition to assess and minimise wind turbine acoustic emissions (0482/2021 PVx).

The petition is formally supported by nine additional associations from other European countries, including Sweden, Denmark, Finland, Spain, Portugal, Italy, Slovenia, Ireland, Croatia, and the Netherlands. On 25 September 2025, the Committee on Petitions (PETI) of the European Parliament unanimously supported the petition, voted to keep it open, and requested that the European Commission provide clarification on what measures it can take to strengthen the measurement and management of wind turbine noise.

## Conclusion

When we assess and review the contents of this submission, logical reasoning suggests there is an evolution of scientific process that is unveiling the reality of IWT noise and IFLN generation, propagation & ultimately cause and effect.

- IWTs do generate and emit infrasound and low frequency noise.
- Infrasound produced by IWTs does appear to have physiological effects on biological tissue.
- IWT sound prediction models are inconsistent in determining actual dB levels that are produced and felt by people and animals.
- People do suffer very real effects from living in close a proximity to wind farms.
- On the basis of what has been discussed it must be evident that introducing a wind farm/plant of this stature can only lead to unacceptable living conditions for the residents and expose them to unnecessary dangers.

With that said, it is respectfully requested that this wind farm project is rejected on the basis of a fundamental right to protection for all inhabitants.

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12th November 2025

The Bruff Dromin Athlacca Ballinlee Community Action Group.
Co Limerick

A chara

Re: Ballinlee Wind Farm Application

You requested my opinion as to the likely health and related impacts which will accrue if this wind farm Application for 16 x 160m, & 1 x 150m 4.5 MW Vestas V-136 turbines, receives planning approval. I believe that you are entirely justified in your concerns about the likely health and other impacts which will ensue. I understand that lately there have been two further wind farm Applications in the vicinity, which will add another 15 turbines of similar size. The three Applications must be looked at in their entirety.

The total population of the area as of 2022 was around 2,100, but the erection of a Ukrainian Accommodation Centre in Bruff established since then has probably boosted the total to 2,300. The population is predicted to increase by around 1,000 by 2028. There are 179 homes which would be within 1km of the turbines, 279, within 1.5km, with 227 within the 1.36km (theoretical) shadow flicker area, and it is estimated that 520 other homes or locations will also be impacted.

Having reviewed the proposal, I am compelled to express my deep concern that these wind turbines would be excessively dominant features and a visually obtrusive form of development in this landscape, and most specifically they would be inimical to the health of the area's human (and farm animal and wildlife) population. Even the humble earthworm finds the Infrasound and Low Frequency Noise (ILFN) that wind turbines emit intolerable, so they distance themselves from them, and this affects soil quality deleteriously: file:///C:/Users/2606452/OneDrive%20-%20Queen's%20University%20Belfast/Documents/Wind2020/WORMS%20Vibrational%20noise%20from%20wind%20energy-turbines%20negatively%20impacts%20earthworm%20abundance%20-%20Vrije%20Universiteit%20Amsterdam.html

It is not only earthworms which will suffer, in common with humans, birds, bats and insects will pay a heavy price, and this extends to biodiversity in general.

In a major paper published in 'Nature Reviews Biodiversity' recently Katzner and colleagues looked at the 'Impacts of onshore wind energy

production on biodiversity', please see: https://doi.org/10.1038/s44358-025-00078-1

Among their conclusions were that:

- Wind energy is a growing source of electrical power, but it can have negative effects on biodiversity.
- Biodiversity impacts from wind energy can occur at all stages of a wind facility's life cycle — including planning, construction, operation and decommissioning.
- Although fatalities are perhaps the best-known impact from wind turbines, turbines can also alter the behaviour of wildlife and cause loss, alteration and fragmentation of habitat.

Thus, it is not only the health of the local human inhabitants that will suffer health problems, but they will also have the habitats, that many of them will have carefully chosen, which will be adversely affected, should this wind farm receive planning permission. For example, Whooper Swans, which winter in the area, are known to have their traditional flight paths, and it will be highly unfortunate if any of the turbines lie along these flight paths.

The site in question sits on the edge of Co Limerick's Golden Vale, an area of rich, fertile pastureland known for extensive dairy farming, which extends into parts of Cork and Tipperary. I believe the proposed development will adversely impose on a beautiful area, and the iconic Lough Gur, with the Grange Stone Circle, being Ireland's largest Stone. Such a large wind farm development as this is likely to have impacts on tourism and the loss of income caused is just another contributor to poorer health outcomes in the local population.

Here is a link to an extensive review I have written about the impact of wind farms on human health: file:///C:/Users/2606452/Documents/JSS_2017051214293370.pdf
It was published in a Special Issue on Social Justice and Human Rights in the Journal of Social Science in 2017. Admittedly, this may seem a little out of date but essentially nothing has changed since, and my conclusions remain valid. Moreover, I more recently reviewed a paper for the journal 'Environmental Disease' which has taken Bradford Hill's nine criteria for assigning causality in relation to the Adverse Health Effects of Wind Turbines and has found all nine to be fulfilled: file:///C:/Users/2606452/Documents/Wind2020/Adverse%20Health%20Effects.pdf
Here is a link to the accompanying Editorial I was invited to write: file:///C:/Users/2606452/Documents/Zoom/Adverse%20Health%20Effects%20Editorial.pdf

As I set out in my 2017 paper, the problems associated with Infrasound and low frequency noise (ILFN) have been known about for nearly 50 years. Indeed, the Russians had established safe upper limits for Infrasound in 1973. When the UK Government committed itself to wind energy in 2003 there was already a report on the problem of ILFN and how it should be measured, but this didn't suit the desired political thrust, so a new report was commissioned which appeared three months later. This dismissed the problem of ILFN and recommended measurement techniques which ignored it.

My father, who was a Geographer, once remarked to me that England and Ireland were like a couple who had undergone a prolonged forced marriage which favoured the stronger partner, then underwent a bitter and bloody divorce, but afterwards continued to live in sin together. So it was, when Ireland adopted its own Wind Farm Guidelines in 2006, it looked to the English Guidelines, but with the help of English Acousticians, watered them down in various ways, including making them more 'advisory'. Despite repeated promises that the Irish Guidelines would be updated,' the permitted setback remains one of the least anywhere. As I set out in my Editorial, the English noise limits were set in 1996 and were based on the turbines with a hub height of 32m. The hub height of the proposed turbines is three times greater, and the bigger the turbines the more ILFN they emit.

But what are the precise intracellular mechanisms that are responsible for the harm caused by ILFN? Ursula Bellut-Staeck, a German doctor, is now pursuing her research in Canada. She is working on the hypothesis that it relates to the PIEZO channel and its role in the central nervous system. Her work stems from that of Ardem Patapoutian, a co-recipient of the 2021 Nobel Prize in Physiology or Medicine, who won his share of the prize for discovering the PIEZO1 and PIEZO1 ion channels (from Greek: 'piezein', to press, or to squeeze). He and David Julius were awarded for their discoveries of receptors for temperature and touch, which included identifying PIEZO channels as the proteins that sense pressure and mechanical force.

These channels are crucial for sensations like touch, proprioception, and regulating vital functions such as blood pressure and breathing, and for responding to mechanical stimuli like touch, pressure, and stretch (Mechano-transduction). The Nobel Prize recognized the importance of Piezo channels in a wide range of physiological processes, including the sense of touch and body

position. David Julius received the other half of the prize for his parallel work on heat and cold-activated Transient Receptor Potential channels. Bellut-Staeck is applying PIEZO channel principals to the delineate how Infrasound causes damage at a cellular level. By focusing specifically on the vasomotor functioning of the endothelia and their disruption by Infrasound, she is trying to explain many of the associated adverse whole-body effects described by other researchers. see: https://doi.org/10.54647/cm321372

Bellut-Staeck's research may help to explain why children on the Autistic Spectrum may be so adversely affected by wind turbine ILFN. This may be mediated through micro-circulation disturbance, caused by endothelial mechano-transduction and oxidative stress, leading to endothelial inflammation. Such overstimulation seems to be most common close to turbines in excess of 4 MW, as they may be in the present case. Autistic children are adversely affected by wind turbines and often become fixated on the movement of the turbines' rotor blades, rendering their condition more severe and harder to manage. Similarly, children with photosensitive epilepsy are likely to be severely impacted by 'shadow flicker', caused by the turbine rotors with a light source behind them.

The Action Group has been most diligent in assembling baseline health data through questionnaires and interviews. It has established that Autism is rather common in the area and that the local school lies just 1.6 km from the nearest turbine and has over 255 pupils enrolled. Preliminary results from the Action Group's surveys have established there are at least 17 households in which children will have 100% exposure of the turbines (both in school and at home).

From a more general survey across the community, it is known from 76 respondents, that 26 (34%) have an Autism diagnosis in their household and live in relative proximity to the proposed turbines. This tells us there is an unusually high prevalence in this community for Autism / neurodivergence. It is interesting to speculate why the rate is high and factors such as better diagnosis, or parents selecting the local quiet environment in which to raise their Autistic children, may be playing their part. It should be stressed, however, that it is the group of parents with Autistic children who are most deeply concerned about the proposed development. A member of the Action Group, a Clinical Psychologist, has written a report on Neurodiversity and Wind Turbines. I have read her report, and I can recommend it to you.

Since my 2017 review there have been a number of excellent papers published. One aspect which has been repeatedly confirmed is the importance of an adequate night's sleep to health. The presence of industrial wind farms in quiet rural areas is guaranteed to disrupt sleep, in a sizeable minority of people, at least. The main price paid is in terms of cardiovascular disease. A recent editorial in the British Medical Journal warned, in the strongest terms, that regularly sleeping less than seven hours a night is a disaster for our mental and physical wellbeing. It continued: "As a culture, we in rich countries are in the throes of what Culpin calls "an epidemic of sleeplessness," increasing our risk of depression, anxiety, dementia, stroke, heart disease, obesity, cancer, diabetes, and road traffic crashes."

The Action Group's Health Survey found a high level of reported heart disease in people who will be living nearest to the proposed turbines. This may reflect an ageing population, but the likely effect, if the wind farm is approved, will be that the ILFN will simply exacerbate their condition.

A particular problem with wind turbine ILFN is that it is disruptive to sleep. Normally our sleep is divided into 90-minute periods which are punctuated by 'arousals' which stop short of awakening us. The ILFN produced will tip the balance and fully awaken us. Another recent paper observed: "Observational and translational studies indicate that especially night-time noise increases levels of stress hormones and vascular oxidative stress, which may lead to endothelial dysfunction and arterial hypertension." There has also been a slew of publications lately relating environmental noise pollution to accelerated atherosclerosis in humans. It has also been shown that sleep disruption induces DNA damage in humans and rats.

There is a report from the USA that suicides might be increased by 2% when wind farms are nearby, although the confidence intervals of this estimate are wide, and therefore it could be discounted. Even so, if there were any deaths at all from food poisoning in the catchment area of a restaurant, Public Health would take them very seriously indeed. If the increase is true, is it due to the direct effects of wind turbine ILFN, or is it because of the stress being inflicted on rural communities? The harm being currently inflicted on rural community relations by the Irish State's wind energy policy is extremely serious. Neighbours standing to gain financially from their erection are set against the majority who will not, and moreover, will bear the brunt of the negative health effects. I have encountered an Irish rural community where a proposed wind farm has resulted in water sources being interfered with, verbal threats and bullets in the post.

Australia's Administrative Appeals Tribunal (AAT) has declared that the "...noise annoyance" caused by wind turbine generated ILFN "is a plausible pathway to disease", based on the "established association between noise annoyance and some diseases, including hypertension and cardiovascular disease". The AAT also held that, "The dB(A) weighting system is not designed to measure [wind turbine noise], and is not an appropriate way of measuring it." (The dB(A) weighting system is the basis of every wind turbine noise guideline in operation around the world.)

There is also important brain research identifying parts of the brain, the Insula and the Amygdala, as being involved in Noise Sensitivity and how the body reacts to external stimuli, emotionally, physiologically, and so on. This helps us to understand why some individuals are badly affected while others are not. There is also a fascinating report that the contractility of human heart muscle, in an experimental setting, is reduced by around a quarter in the presence of Infrasound.

In addition, there are recent reports of local pollution from the rare earth metals used in the turbines' generators and from Bisphonates.used in constructing the rotor blades: both these substances are carcinogenic. It has also been shown that the plastics containing Bisphonates used in the turbines' rotors are shed into the local environment and this problem is compounded where rainfall is high!

If this Application includes Battery Energy Storage Systems (it is unclear), it is important to note that these do not actually store energy for the long periods to compensate when the wind farm is not generating electricity, but that they are intended to harmonise the frequency of the electrical output as it is notoriously 'dirty'. They too bring their own health risks: Lithium-ion battery fires generate intense heat and considerable amounts of gas and smoke (just recall the Tesla cars that have gone on fire). The results have been validated using two independent measurement techniques and show that large amounts of hydrogen fluoride (HF) may be generated, ranging between 20 and 200 mg/Wh of nominal battery energy capacity. In addition, 15–22 mg/Wh of another potentially toxic gas, phosphoryl fluoride (POF3), was measured in some of the fire tests.

An Bord Pleanála (or now An Coimisiún Pleanála) is already known to fast-track wind farm applications as representing 'Strategic Infrastructure' when it should be asking itself and its masters, why is so much effort and resources being expended in developing wind-generated electricity when electricity generation only accounts for a small proportion (circa 20%) of carbon emissions. The greater problem of greenhouse gases caused by agriculture (eg methane from flatulent and eructating cows) on this island is simply ignored, see : https://www.theguardian.com/environment/2024/apr/19/un-livestock-emissions-report-seriously-distorted-our-work-say-experts

The Irish Government should also be asking itself why carbon emissions have remained virtually unchanged despite all this input. A key issue is the Government's obsession with attracting foreign multinational companies: as of last year, there 82 data centres already built, with a further 14 under construction, and many more are envisaged in the pursuit of AI. The problem is that data centres require vast amounts of refrigeration and hence a commensurate consumption of electricity – but why should rural communities bear the brunt of the damage caused by the infrastructure required to support them?

A review of the State's entire Renewables programme is overdue, and the French Government has committed itself to such an approach. Two senior Harvard Academics have published a paper showing that wind turbines actually exert a climate-warming effect. Ireland could do a lot better: after all it was an Irishman who discovered carbon dioxide and another who identified its effects on climate. Tragically, the Irish Government seems totally serious about pursuing its absurdly ill-informed wind energy strategy.

Only two years ago, the French courts have awarded a couple over 100,000 Euro damages for the health problems they incurred from six turbines sited 700 m from their dwelling. It would be a shame if Co Limerick's citizens are forced to suffer in the same way More recently the French Council of State has annulled the permits, see: file:///C:/Users/2606452/Documents/Wind2020/French%20Council%20of%20State%20annuls%20wind%20turbine%20permits,%20major%20impact%20on%20energy%20future.html .

It is worth mentioning that the 'hardstandings' or concrete and steel foundations necessary for anchoring the huge turbine towers, which weigh over 1,000 tonnes, will simply be left *in situ* when

the useful life of the turbine is reached, and this rather shorter than the developers claim. They produce various pollutants such as oestrogen-mimicking chemical, which will affect both humans and wildlife.
The miles of powerlines needed to distribute the unreliable, dirty, electricity generated, also come with economic and health costs, especially childhood leukaemia. A recent piece in the Irish Times railed against the Government's failure to build powerlines to the 'Windy West', but at least the health of Irish children had been preserved.

Several cases have been won against wind farm operators in Ireland on the grounds of 'Nuisance' in the past. Sadly, these have all been kept out of public scrutiny, thanks to Non-Disclosure Agreements' or 'Gagging Clauses' which are akin to the system of 'Hush' employed by gangsters. A blatant recent example has been the money paid on behalf of Donald Trump to keep his affair with the porn movie star, Stormy Daniels, quiet. Happily, the Ballyduff Wind Farm Judgement has made the settlement public, and Nuisance was found in the case of two wind turbines, only around an eighth of those involved in the present Application. Moreover. Ballyduff has established that:

i) Low frequency noise is now recognised under tort law.
ii) Wind turbine noise must be assessed both quantitatively and qualitatively.
iii) Planning conditions do not determine if wind turbine noise is unreasonable or a nuisance.
iv) In a nuisance case, the onus of proof of noise compliance is on the wind farm.
v) Audio recordings are admissible in court.
vi) The noise from two turbines amounts to a substantial interference with the plaintiff's use and enjoyment of their land.
vii) Low frequency noise is considered as part of the nuisance.
The Wind farm regularly disturbs sleep.
Plaintiffs cannot easily avoid the nuisance.
viii) No objectively identified noise level gives rise to sleep disturbance.
ix) An L90 level calculation does not identify fluctuations in noise levels due to Amplitude Modulation.
x) Amplitude Modulation and the associated vibration is intrusive and render it impossible for people to continue to inhabit their own homes.
xi) The audible phenomena of 'thumping' and 'whoophing' are likely to cause adverse reactions in the community.
xii) People hear and feel wind turbine noise both inside and outside their homes, with the widows open or closed, which are unreasonable impacts in a quiet rural environment.
xiii) Audio recordings and graphs of intermittent irregular wind turbine noise, in harmony with oral
evidence and diary which record the plaintiff's inability to have a restful night's sleep and the
exhaustion which follows demonstrate, on the balance of probabilities, that a nuisance exists.

xiv) Noise from turbines poses a nuisance in the evenings and weekends (during quiet waking
hours) when one could enjoy the recreation and peace in one's dwelling.

xv) A quiet environment is at a premium at night.
It is unreasonable to expect occupants of a house to keep the windows shut in an attempt to mitigate unreasonable wind turbine noise.

xvi) Shadow flicker from the two turbines was in and of itself insufficient grounds to claim a nuisance, but eight turbines is a different matter.

xvii) Shadow flicker from the 2 turbines was in and of itself insufficient grounds to claim a nuisance.

xviii) A binary choice cannot be made between the generation of renewable energy and a good night's sleep for those living nearby.

Chapter 12 of MKO's Environmental Impact Assessment Report addresses itself to 'Noise and Vibration'. It mentions the Ballyduff Judgement and goes on to differentiate 'Normal' Amplitude Modulation from 'Other' Amplitude Modulation (OAM), which it admits may be a problem: "It is clear that OAM, if it occurs frequently and for sustained periods, it has the potential to result in adverse impacts for wind farm neighbours." It then goes on to admit that: "It is not currently possible to predict if and when OAM will occur at a proposed wind farm site. On sites where OAM has been identified it occurs intermittently and varies in terms of severity." Sadly, what all this means is that the possible adverse effects on the health of the local community can only be assessed after the wind farm has been built!

More recently, in the Gibbett Hill Noise Nuisance case, the High Court found the wind farm liable for noise nuisance and ordered the permanent shutdown of three of the six turbines. The court also awarded the couple €360,000 in damages, including €60,000 in aggravated damages, citing the operator's inadequate response to the complaints over a 12-year period.

The current setback from dwellings is woefully inadequate, despite good evidence from Finland that the ILFN effects are felt up to 15 kms away. Ken Mattsson, a Professor in Scientific Computing at Uppsala University in Sweden believe that 5-10km at the least would be a safe setback distance. Mattsson, a Physicist of many years standing, became interested in ILFN after being made to feel physically unwell with migraines and sleep disturbance when he measured noise at dwellings relatively close to wind turbines. He decided to investigate further and found that the current methods of assessing ILFN are seriously flawed. Everyone registers Infrasound but only a few can hear it. There are two aspects to ILFN: Generation, which is difficult to assess, and Propagation, which is simpler to assess.

The problem with Infrasound produced by wind turbines is that is impulsive, owing to the blades passing the tower, and is annoying, just like a dripping tap. Mattsson has produced SoundSim360, software that is capable of measuring Infrasound accurately and it is capable of modelling infrasound propagation. SoundSim360 calculates the expected sound topology with fidelity to the physics of ILFN propagation. Notably, he compared the SS360 predictions and test results to those

achieved based on standards such as Nord2000 and Harmonoise. The measured differences in sound power and sound pressure levels were astounding. Presumably fixed sound power reported by manufacturers at 106 dBA, for example, can be as high as 128 under certain atmospheric conditions.

Professor Mattsson talked at a seminar in Copenhagen in October 2025, and you can watch his presentation here:

https://youtu.be/gpHDJPcqCQY?si=FVBxvSjvPExBOc5V
Also participating in the Seminar was Dr Håkan Enbom, a Danish Otoneurologist who talked about Infrasound's effect on the brain:
Infrasound Affects the Brain – Dr. Håkan Enbom, M.D., Ph.D., Copenhagen 2025

Dr Enbon's main points were that:

- Infrasound directly affects the brain trans-cranially and indirectly via the inner ear
- The extent of Infrasound trauma to the human brain depends on the power (sound pressure) and duration of exposure
- Infrasound can trigger headaches, sleep disorders, annoyance, anxiety and depression even after a short exposure
- Long-term exposure and frequent headaches increase the risk of migraine-associated diseases such as heart attack, stroke, and the risk of vascular dementia
- Guidelines for acceptable noise levels safety distances for Infrasound are lacking

In conclusion: At last, some political momentum is apparent in Brussels.

The timing of the Copenhagen seminar referred to above coincided with a historic session of the European Parliament's Committee on Petitions, where the EU petition on wind-turbine noise and human health received strong cross-party support. Members of several European political parties praised the petition's scientific quality, calling for a review of EU noise standards and greater protection for citizens.

The European Commission confirmed it will submit a written opinion within three months and consider wind-turbine Infrasound in both the Environmental Noise Directive and the Renewable Energy Directive — particularly regarding Renewables Acceleration Areas.

For the first time, wind-turbine noise is entering EU policy discussions — a breakthrough achieved through sustained European cooperation among EU-citizens.

Dr. Enbom's lecture adds the medical dimension that has long been missing or ignored from Europe's energy debate. By linking clinical observations with scientific acoustics, he provides the evidence base needed to reshape environmental and health policy at both national and EU level. This marks not only a turning point in science, but also a victory for transparency, human rights, and public health in the green transition. In combining the physical insights of Professor Ken Mattsson with the medical expertise of Dr Håkan Enbom, the Copenhagen seminar revealed what many

authorities have overlooked for years: that wind-turbine noise is not merely an annoyance — it is a physiological stressor with measurable effects on the human brain.

The growing acknowledgment of this fact in Brussels and across Europe may well mark the beginning of a new chapter in how renewable energy and public health are balanced in policy making.

In view of all this, is it not indefensible that the Irish Government ministers trot out the blandishments of the Wind Industry in simply asserting that wind turbine ILFN is perfectly safe? Do they really believe it, or are they motivated by a desire to be seen to be doing something 'Green'? Wind farms emit impulsive Infrasound in abundance, and this is detrimental to human health. In addition, wind farms inflict significant environmental damage, so in reality, are not that Green. The upshot of all this is that the Government's facilitation of wind farms, now probably being even faster-tracked by An Coimisiún Pleanála, gives their developers access to money provided by taxpayers, which will result in the taxpayers' health and their environments being jeopardised.

I trust that these observations will be taken seriously. In short, if this wind farm Application is approved, I strongly believe that the health and day-to-day lives of the local inhabitants will be severely impacted.

Mise le meas,



Professor Emeritus Alun Evans

PS: I have just received (12-11-25) Huson & Aassociates' 'Peer Review of Proposed Ballinlee Wind Farm Planning Application'. I am completely in agreement with its Conclusions that the Noise and Vibration data presented do not provide any confidence that an acceptably low noise impact will result from the proposed development. Furthermore, for the several reasons listed in the Conclusions, I fully concur that An Coimisiún Pleanála should refuse this Application.

# Noise and Impact on Health

*Prepared by Marie-Clare Power, BSc Hons Quantity Surveying., Postgraduate Certificate in Real Estate on behalf of the Bruff–Dromin–Athlacca–Ballinlee Community Action Group*

## Executive Summary

This submission outlines material deficiencies and breaches in the Environmental Impact Assessment Report (EIAR) submitted for the Ballinlee Wind Farm proposal. Particular focus is placed on the defective assessment of operational noise, population and human health, and the EIAR's failure to comply with obligations under Directive 2014/52/EU (the EIA Directive). The assessment methodology relies on outdated and non-health-protective guidance, specifically ETSU-R-97, and disregards relevant case law, World Health Organization (WHO) guidelines, and best available scientific knowledge. The EIAR significantly underestimates the true noise impact of the Ballinlee Wind Farm.

This Wind Farm fails to safeguard our community's protection and wellbeing. The result is a fundamentally deficient technically flawed assessment that disregards the lived reality of residents living near turbines. Such omissions and errors conceal the real and measurable risks of noise-related nuisance, sleep disturbance, stress, and other health effects, risks already established in recent High Court rulings and evidenced by persistent complaints from other wind farm neighbours across Ireland.

A peer review performed by Huson & Associates, commissioned by our Group, critically evaluates Chapter 13 Noise & Vibration (NVA) of the EIAR submitted by Ballinlee Green Energy Ltd and concludes that "An Coimisiún Pleanála is justified in refusing" the proposed Ballinlee Wind Farm due to major technical and compliance deficiencies. The report is attached. His findings are stark, the impact of the proposed development when operational will cause a 'Very Substantial Effect' according to IEMA Guidelines and 'Very Significant' and 'Profound' effect according to 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (EPA, 2022). Accordingly, the development application presents an unacceptable impact and should be refused.

The Board cannot form a lawful or reliable basis for planning consent on a defective assessment as presented. Some of our own Group's findings include:

**No HIA baseline** was obtained as per EIA. Our community health survey reflects an accurate picture of population health, rather than the 2022 Census data relied upon by the applicant which shows a high-vulnerability rural population living within the proposed wind turbine impact zone

**Population Density** 520 NSLs have been identified clearly reflecting a densely populated area – several homes are missing from the assessment that were built in 2024 onwards or were derelict and brought back into use.

No HSE Scoping No evidence that Scoping was made by applicant to HSE. The HSE are a statutory consultee under Article 28 of the Planning and Development Act 2000 & must be notified of this application.

WHO 2018 Environmental Noise Guidelines Are Ignored The applicant has not complied with WHO 2018 Guidance, the EIAR briefly acknowledges this document but dismisses its weight, despite the HSEs clear position as outlined in a reply to Minister Niall Collins in May 2025 ( Appendix 5) "*the WHO is the most authoritative body with regards to the evidence base that sets health protection standards" (HSE, 2025).*

Outdated (obsolete) WEDG 2006 The applicant relies on current WEDG 2006 which are widely accepted as being Obsolete by HSE, Government and Industry experts

Health Evidence Selectivity The Health Literature cited is outdated and disregards evidenced based health issues. There is a focus on noise compliance rather than health impacts - recent High Court decision in relation to the effect of Noise on health are not discussed

Noise Breach EIAR states that predicted noise limits are exceeded at 3 Noise Sensitive Locations (NSL065, NSL370, and NSL422), breaching the guideline daytime, but 3 other exceedances are dismissed because those homes are 'financially involved', allowing 5 dB higher limits. This approach reduces protection for nearby residents

The exceedances are referred to as "marginal" but show an increase of up to 17dbs (*BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound* identifies an increase of 10 dB above existing rated noise levels will have a significant adverse impact, highly likely to cause complaints.)

Minimum Separation 2006 WEG distances between turbines are breached, thus increasing occurrence of noise ("wake" effects)

Minimum setback distances are exceeded at several financially involved properties (NSL520 and others)

Amplitude Modulation and Low-Frequency Noise EIAR fails to actively assess AM, it defers assessment to post-construction monitoring 'NCMP' (reactive) and complaint procedures despite case Law precedence (Webster (2024 IEHC 136) which establishes AM serious and material as a nuisance factor requiring separate assessment)

Infrasound The EIAR dismisses infrasound concerns by referencing general literature and stating that "levels will be below perception thresholds" despite clear evidence that Infrasound is harmful to health (please note this is dealt with in greater detail in the Chapter on Infrasound and Impact on Health)

Tonal Noise – the EIAR relies on turbine manufacturer warranties to prevent tonal noise but does not commit to independent post-construction verification, no commitment to the chosen turbine manufacturer either

Inadequate Cumulative Assessment is required under Annex IV (5) of the EIA Directive and EPA (2022)

Construction Phase Impacts are acknowledged as potentially 'Very Significant', yet the report provides no quantitative duration data or guarantees of noise controls and no proactive construction noise monitoring plan is presented

NML locations Highly Questionable siting of NMLs

Lack of Underlying Raw- Data which Breaches EPA 2022 EIAR Guidelines

## Turbine Crowding in a Densley Populated Area

The proposed site is located adjacent to Bruff town, largescale housing developments and townlands across Dromin /Athlacca. The applicant's attempt to characterize the area as a" rural area characterized by agricultural holdings and one-off residential dwellings" is misleading and inconsistent. There are 179 as stated by EIAR dwellings within 1KM zone. However, we have already noted elsewhere in this submission that these numbers are not accurate, and several sensitive dwellings are not captured in the study area. Large settlements in the immediate proximity of wind turbines include Brackvoan (52 units) with larger developments in planning (74 Housing units in planning by Bally Grennan Homes Limited ePlan - Online Planning Details 2360794). The Ukrainian centre with over 200 residents (NSL 319) is less than 1.6km from the turbines and Bruff National School (NSL130) have been identified as a Noise Sensitive Location. The school is attended by over 255 pupils with 2 Autism classes. Located adjacent to the school is an Afterschool and Pre-School These demographics are not captured within the EIAR and no community engagement took place.

This is a very populated area. The applicant was strategically chosen not to disclose the number of homes within 2 KM despite this being specifically asked during the pre-application planning meetings. This is one of many procedural flaws that the Board in its Duty of Care must address.

The design of this project shows a densely packed number of turbines (12) on the Southern Cluster, all of which exceed separation distances as per 2006 WEDG for waking. There are a further 5 turbines on the Northern Cluster that have the same issues. Peer-reviewed studies consistently show that closely spaced wind turbines produce higher noise levels and stronger "swish" or "thump" sounds (AM) and turbulence noise. The increased turbulence leads to stronger broadband and low-frequency noise, intensifying the rhythmic "thumping" effect (Laratro et al., 2014). During nighttime conditions, wakes persist longer, are significantly more impactful, and cause greater AM and sound propagation, increasing community disturbance (Blumendeller et al., 2023). This is discussed further under chapter 'Turbine Spacing Issues'.

The proposed location is incompatible with this pattern of population, especially with a population of increased sensitivity. There is further cause for concern by the serious omissions and flaws within the

EIAR which raise question to the competence and motivation of the applicant's consultant who prepared the report. The density of Turbines in Relation to Homes represents an unprecedented number of homes that will be impacted by noise. Placing up to 500 homes within immediate proximity will result in excessive noise nuisance and health related conditions. Some highlight numbers to show the staggering clustering of turbines in relation to homes:

29 NSLs that have three (3) or more turbines within 1 km.

56 NSLs that have two (2) or more turbines within 1 km

168 NSLs that have three (3) or more turbines within 1.5 km.

212 NSLs that have two (2) or more turbines within 1.5 km

## Les Huson - Peer Review of Ballinlee Wind Farm

Given the vulnerability of our community population, the density of housing in proximity and the potential for detrimental outcomes, the protection of health is paramount, and the Bruff Dromin Athlacca Community Action Group commissioned Les Huson & Associates to conduct a peer review of the EIAR in respect of noise assessment

Brief Bio - William Leslie Huson, B.Sc. (Physics), M.Sc. (Applied Acoustics)

Acoustics and Vibration Consultant | Expert Witness

William Leslie Huson is an Australian acoustics and vibration consultant with over 34 years of professional experience. He holds a Bachelor of Science in Physics and a Master of Science in Applied Acoustics. For the past 28 years, he has operated his own consultancy, specialising in the modelling, measurement, and assessment of noise and vibration from diverse sources including railways, roads, aircraft, blasting, quarries, landfills, coal terminals, and wind farms. Mr. Huson has appeared as an expert witness in numerous Planning Panel hearings and Environment Court proceedings across Australia. He notably served as an expert witness in the Bald Hills Wind Farm case, a landmark decision in which wind turbine noise was determined to constitute a nuisance, highlighting the real and measurable impacts of such developments on community health and amenity.

Les Huson & Associates - Ballinlee Wind Farm Findings - Key Findings (full Report is located within this submission)

- Health and Amenity Impacts:
    - Noise impacts classified as "Very Substantial" or "Profound" under EPA and IEMA guidance.
    - WHO 2018 and international best practices (e.g.Tasmania, Germany, Australia) use stricter 35 dB(A) limits for protection of sleep and wellbeing.
- It concludes that An Coimisiún Pleanála is justified in refusing the proposed Ballinlee Wind Farm due to major technical and compliance deficiencies.
- Setback Distances: Best-practice setback (10× rotor diameter = 1.36 km) not applied; one dwelling is only 535 m away, with 226 homes within 1.36 km.
- Non-Compliance with Guidelines:

    - WEDG 2006 noise limits misapplied — incorrect interpretation inflates allowable limits.
    - Correct day noise limit should be 37 dB(A) at 7 m/s; NVA uses 45 dB(A).
    - Predicted sound levels already exceed even the inflated limits at dozens of homes.
- Background Noise Errors: Measurements at two sites (NML1, NML6) are artificially high by 5 dB, underestimating actual impact.
- Low Frequency and Amplitude Modulation Ignored:
    - No proper assessment of low-frequency/infrasound, contrary to Limerick County Council requirements.
    - Amplitude modulation ("thumping"/"whumping") effects expected but not penalized.
- Substation Noise: Tonal components likely but not considered.
- Turbine Layout: spaced too closely (3.1× rotor diameter vs. recommended 5–8×), increasing turbulence and noise.
- Outdated/Unsupported Standards: Reliance on UK ETSU-R-97 methods, which are widely criticized, under review, and not required by Irish WEDG 2006.

# EIAR Inadequacies and Health Risks

## No Health Impact Assessment

EU EIA Directive 2014/52/EU: Article 3(1) requires assessment of effects on "population and human health. EPA 2022 EIAR Guidelines require comprehensive human health impact assessment (EPA, 2022). The methodologies and approaches undertaken by the applicant do not satisfy EIA and EPA Guidelines. The EIAR depends solely on predictive acoustic modelling and minimum setbacks based on 2019 Draft WEG, except in the case of financially involved properties which breach the minimum 4 x times Tip height. The EIAR omits essential demographic analysis required by EPA (2022) and underestimates health and amenity impacts identified in international research and WHO (2018). The Ballinlee EIAR (Ch. 5) largely treats "human health" as a summary of other environmental topics (noise, air, shadow flicker) rather than conducting a standalone exposure analysis. It incorrectly characterises the population within the study area as 'generally healthy' but no fieldwork was performed to determine the human baseline environment. A desktop study of CSO 2022 data was undertaken which is significantly outdated. As discussed under the Demographic and Vulnerability Analysis section of our submission, when analyzed in conjunction with our Community Health Survey, there is a high baseline level of chronic and stress-related illness, including cardiovascular disease, migraines, and sleep disturbance, all of which will be exacerbated by environmental noise and low-frequency vibration, and this development will have a disproportionate impact on such vulnerable residents. There is a notably high prevalence of Autism and sleep-related difficulties in the area, and these individuals are particularly sensitive to noise and vibration, placing them at greater risk of adverse health effects. The EIAR therefore underestimates the potential significance of noise on our community. EPA (2022) guidance emphasizes that *assessment of health effects must go beyond compliance with noise thresholds*; it should describe how those thresholds relate to human physiological or psychological health outcomes.

## Local Area - Baseline Environment

The area qualifies as a "quiet rural environment", with background sound levels below 30 dB(A) both day and night. This wind farm is being proposed in a very quiet rural area, where even small noises will stand out significantly. The following extract from Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3), June 2011 [pg. 12], explains that people chose to live in rural settings because they value the low ambient noise this environment allows.

> *"Traditionally, wind turbines tend to be installed in areas of low background noise and, particularly at night, it is often the case that there may be no other significant sources of noise other than the noise of the wind as it blows through trees and other foliage. Additionally, people often chose to live in rural areas specifically because they value the lack of noise from man-made sources, so any such noise which is audible may be a source of disturbance/ annoyance and possibly complaint. (Environmental Protection Agency, 2011, p. 12)*

This 2011 statement is highly relevant now in 2025 with an alarming increase of noise complaints as seen in Meenwuan, Cloghan and other parts of the country.

Significant noise increases as outlined in the peer review show 160 dwellings will exceed the correct noise limit, which increases to 398 dwellings when a dB penalty is applied for special audible characteristics. The EIAR refers to this as a "marginal" exceedance and "not significant". However as discussed, no health impact assessment has been applied. As per Huson and IEMA Guidelines: *"If it was applied then the development would have an impact described as a 'Very Substantial Effect' according to IEMA Guidelines and 'Very Significant' and 'Profound' effect according to 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports'* (Huson,2025)

The substantial noise increase at these homes is unknown to the occupants. The EIAR makes no reference to communicating with anyone in the community on the specific impact. This is a blatant disregard for public health, honest, open communication, breaching EIA Directive and Aarhus Convention requirements for transparency in environmental decision-making.

Bruff and surrounding area have a young community with lots of young families choosing to settle here. Protecting sleep is a part of protecting health and wellbeing. This proposal to cluster turbines of this scale within 640 m of homes with children is aggressive and reckless. Children are sensitive to noise-induced sleep disturbance, which impairs learning and mood (Sheridan et al., 2011) and the WHO Health Equity Framework and EPA Ireland guidance further require enhanced protection for vulnerable populations.

Huson's findings include that 10dB increase in the ambient noise environment would have an impact described as 'Very Substantial Effect' and 'Very Significant' and 'Profound' effect discussed above. This is contrary to the suggestion in the EIAR that operational noise is 'not significant'. A large body of epidemiological studies shows that ~10 dB increases are associated with significant health impacts.

- Cardiovascular Disease (Münzel et al. (2024), Brïning et al. (2023)
- Diabetes (Chen et al. (2023), Vienneau et al. (2024)
- Sleep Disturbance and Annoyance:

    - WHO (2018): 10 dB increases fragment sleep and increase awakenings.
    - EEA (2020–2022): millions experience high annoyance and sleep disturbance.
- Childrens Health WHO already identifies children as a high-risk group, 45,000 DALYs/year lost due to noise-related cognitive impairment.
- Biological Mechanisms - Stress hormone disruption, endothelial dysfunction, inflammation, sleep fragmentation

Such increases represent a major and harmful shift in the acoustic environment putting our more vulnerable and children at risk.

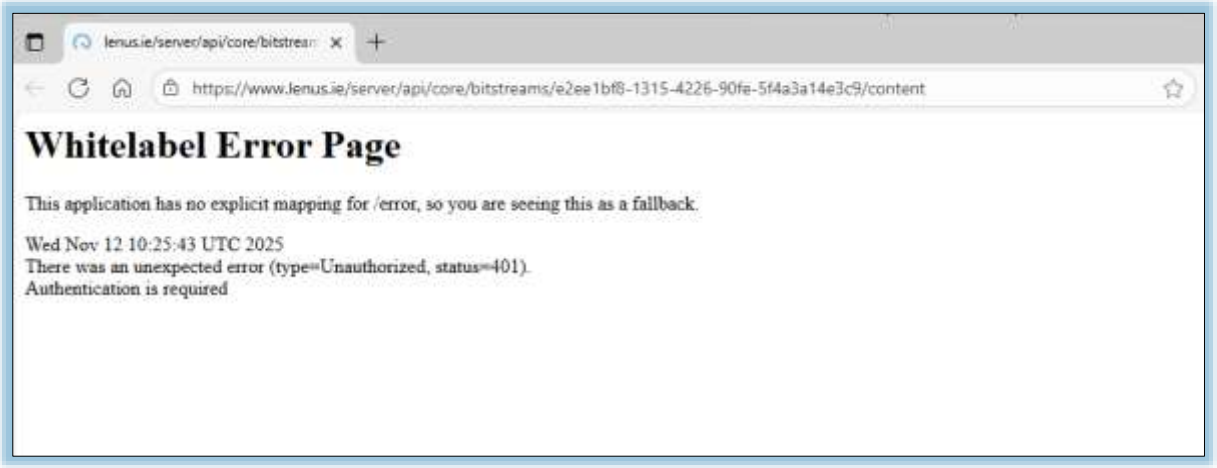
### Health Evidence Selectivity & No Referenced Bibliography

The EIAR health literature cited in the body of the Chapter focuses on aged official reports (e.g., HSE 2017 paper, NHMRC) dismissing health effects, ignoring WHO Noise Guidelines (2018) that identify sleep disturbance as one of the most serious and well-evidenced health outcomes of environmental noise exposure, linking chronic noise to cardiovascular disease, stress-related illness, and mental-health deterioration.

Section 13.3.1 of the EIAR refers to the HSE Position Paper on Wind Turbines and Public Health (2017). However, the web link 🔗 https://www.lenus.ie/server/api/core/bitstreams/e2ee1bf8-1315-4226-90fe-5f4a3a14e3c9/content is broken and indicates that the paper has been removed from the HSE's Lenus digital repository.

We obtained this specific link from an email sent by the applicant to a community member on 3 September 2025. It is not cited or listed in any Bibliography, nor does the EIAR contain any form of reference list or supporting documentation for the claimed HSE position.

This omission represents a serious lack of transparency and undermines the credibility of the Environmental Impact Assessment Report. It prevents independent verification of key evidence that the applicant relies upon to support public-health claims.



The EIAR is silent on recent High Court Nuisance cases and fails to speak to independent studies showing measurable impacts such as sleep disturbance, stress, and cardiovascular strain (Nissenbaum et al., 2012; Michaud et al., 2016; Shepherd et al., 2011). This creates confirmation bias, as only studies supporting the applicant's predetermined conclusion are cited, while legitimate international debate is ignored. There is no reference whatsoever to the spate of high court cases.

Much of the referenced research predates 2015. For example, the WHO 1995 are cited, despite newer WHO 2018 Environmental Noise Guidelines acknowledging that annoyance and sleep disturbance concerns which are recognised internationally as significant public health concerns.

The assessment of noise impacts presented by the applicant in *Chapter 13 of the EIAR (Noise and Vibration)* is wholly inadequate and fails to provide an adequate evaluation of potential health effects, particularly for a rural population with documented high vulnerability. While the applicant relies on outdated guidance (WEDG 2006 and ETSU-R-97) and dismisses the World Health Organization's (WHO) findings as "low quality evidence," this approach overlooks contemporary public-health requirements, the precautionary principle, and the need for vulnerability-weighted assessment as mandated by WHO and the Environmental Protection Agency (EPA) Ireland.

When the developer was asked during the community engagement phase, whether they would be following the WHO Guidelines during the community consultation period, the public were told:

"*we will be adhering to the Government of Ireland's guidelines on wind energy development, including the draft 2019 Wind Energy Guidelines in relation to setback distances.*"

Health was not discussed, the focus was on guidelines.

*"There are strict guidelines in the planning regulations on wind turbines to ensure the protection of residential amenity which we will always adhere to."*

These are not "strict" guidelines by any stretch of the imagination.

### 'Very Significant' Construction Noise (Borrow Pits)

Construction related noise is recognized as potentially 'Very Significant' for NSL 157. The house closest to Borrow Pit 2 (situated approximately 50 m south of Borrow Pit 2 as shown in Figure 13-19 of the report) is cause for further exploration. The predicted construction noise level is 75 dB LAeq, which exceeds the 65 dB limit, meaning the short-term noise impact is assessed as "Very Significant ". Noise is75 dB is roughly 10 dB above the accepted daytime limit (65 dB). At this level, residents will likely find the noise intrusive and stressful, especially outdoors or with windows open. The EIAR identifies the exceedance (75 dB) but does not demonstrate how the mitigation will reduce exposure. The applicant's mitigation is generic and unquantified; without firm limits, monitoring triggers, or detailed pit design, it fails to adequately protect health under WHO 2018 and EPA 2022 principles.

Rock extraction will use a combination of rock breaking and ripping, with associated heavy plant such as tracked crushers, dozers, and excavators.Monitoring

The Noise Complaint Monitoring Programme (NCMP) is inherently reactive, being triggered only upon receipt of complaints, and does not provide for proactive or continuous monitoring. While Planning Authorities may impose conditions relating to noise monitoring, experience at Meenwaun and Cloghan demonstrates a systemic failure in the enforcement and oversight of such conditions. There are no binding compliance reporting requirements, and all monitoring is carried out by consultants engaged by the developer—representing a clear and fundamental conflict of interest. This reactive approach to dealing with these very real impacts on the people living in the area demonstrates the developer's complete lack of concern for the impact on people's lives. Once the plant is built and the money is flowing the burden of monitoring will be the experience of the people impacted and the wait and see approach will relieve the developer of any meaningful effort to solve problems that are a function of wind speed, wind direction and ambient. Showing up three days later is meaningless and the developer will argue that there is nothing wrong. Abysmal failure in this proposal to work in the community to solve these problems

Outdated Methodology: The EIAR uses outdated obsolete 2006 WEG Guidelines and noise prediction is modelling based on ETSU-R-97 which are entering their 30th year, as they were drafted in 1996. It is widely accepted by industry experts that ETSU-R-97 is critically outdated. Scottish Renewables consultation response to the ETSU-R-97 consultation, deem ETSU-R-97 to be inadequate of controlling the impact of AM (Scottish Renewables, 2025) It is currently being updated by UK Government and therefore cannot not be relied to assess an entire community's fate. As discussed by Les Huson, Tasmanian, German and Australian 35 dB(A) Leq limits represent best practice.

The Draft Wind Energy Guidelines 2019 are briefly mentioned in the EIAR on page 13. These have been in review since 2013 and communities have little faith in these being completed until such time as the Government meet their goal of 9 GW On-Shore wind energy.

Amplitude Modulation (AM) and Low-Frequency Noise are effectively ignored in the EIAR. Both are established characteristics of wind turbine noise that cause adverse health effects. As per the IOA AMWG (Amplitude Modulation Working Group 2016 definition, AM is periodic fluctuations in the level of audible noise… related to the blade passing frequency. The EPA Guidance Note (NG3) states:

> *"excessive amplitude modulation can attract additional attention, particularly if this can be heard whilst trying to get to sleep either at the start of the night or when a person has been woken up by other causes. Although the level of noise generated internally, even with windows open, is usually insufficient to cause sleep disturbance, the stress it may generate, even if only just audible, may be sufficient to extend the time required to fall asleep. This is likely to be exacerbated by excessive audible amplitude modulation, the level of which itself may vary with time, where it draws additional attention to the noise" (Environmental Protection Agency, 2011, p. 12)*

Recent judicial determinations and independent health research have highlighted significant deficiencies in the assessment and regulation of wind turbine noise in Ireland. In the High Court judgment of Mr Justice Oisín Quinn (involving ABO Energy Ireland Ltd, ABO Energy O&M Ireland Ltd, and Wexwind Ltd), the Court observed that the measurement methodology relied upon was not an "objective yardstick" for particular aspects of wind turbine noise and that there remains an *"absence of clear policy guidance from Government*" in this regard. Importantly, sub-tonal noise, referring to low-frequency tonal components generated by turbine operation, was expressly identified as a material factor in the Court's assessment of nuisance and human impact.

In *Webster & Rollo v Meenacloghspar (Wind) Ltd* [2024] IEHC 136, Ms Justice Emily Egan held that the plaintiffs had sustained a recognisable injury caused by wind turbine noise and AM (amplitude modulation), confirming that compliance with existing guideline limits does not eliminate the potential for adverse health and amenity effects.

Independent peer-reviewed studies support these judicial findings. Cooper & Chan (2021) and Bolin et al. (2011), demonstrate that AM and low-frequency noise are major contributors to annoyance, sleep disturbance, and adverse health outcomes among residents near wind farms.

These findings contradict the EIAR's claim that AM events are "rare" or "infrequent," as noted in its reliance on the Renewable UK 2013 report. The omission of predictive AM modelling therefore fails to represent the full range of potential acoustic impacts on nearby dwellings. This minimization contrasts with modern findings (e.g., *Bowdler 2018, UK Planning Inspectorate* decisions) where AM has been routinely measured at many operational wind farms under certain wind shear conditions.

Collectively, this scientific evidence and the recent Irish case law confirm that existing standards, including those in the 2006 Wind Energy Development Guidelines, fail to address critical acoustic characteristics such as Amplitude Modulation, Infrasound, and sub-tonal frequencies. In the context of the Ballinlee Windfarm, and given the acknowledged absence of updated statutory guidance, it is submitted that the precautionary principle must be applied in accordance with embedded in both Article 191 TFEU and Section 11 of the Planning and Development Act 2000 (as amended). Health protection is a statutory planning consideration. Any development capable of generating such noise effects would therefore be contrary to proper planning and sustainable development, and permission should be refused.

## Mitigation of AM, Tonal and Low Frequency Sound

The EIAR/NVA conducted no baseline LFN or infrasound surveys, despite Limerick County Council requiring assessment under Danish low-frequency criteria. Without baseline data, effective mitigation can be designed or verified. The EIAR incorrectly assumes that neither the turbines nor the substation will produce tonal or impulsive noise which is incorrect

The applicant suggests a reactionary approach of noise complaints to solve AM. This is wholly unacceptable. Mitigation measures are vague with no binding parameters. Impossible to enforce:

Webster precedent confirms planning compliance does not prevent nuisance, residents must pursue expensive civil litigation detected

Are we to be ok with our children being woken at night, going to school tired? And have the same fate as those wind farm neighbours across Offaly, Co. Limerick. When we raise a complaint; where does this go. Given the lack of compliance and enforcement as evidenced under Cloghan and Meenwaun.

## EIAR Further Poor Practice, Errors & Omissions

There is lack of Underlying Data which Breaches EPA 2022 EIAR Guidelines - The EIAR omits the full raw baseline noise datasets /raw data. This information was requested under the European Communities (Access to Information on the Environment (Regulations 2007) on 10th October 2025 under request (reference Nr 365 which is appended) to obtain. The AIE determines that all available data has been presented in the applicant's application as available on www.ballinleegreenenergyplanning.ie. However, while parameters and results are provided, they do not include the primary measurement data, which fails to meet the EPA 2022 EIAR Guidelines requirement for data completeness and verifiability. The Board duty (under EIA Directive) is to assess the accuracy of the applicant's information but without underlying data, this cannot be achieved.

### Noise Monitoring Locations (NMLs):

6 NMLs were chosen to model predicted noise levels. These NMLs reflect an extremely low noise environment, well below 30dB (as low as 17dB in cases). All 6 were located on financially involved properties. We argue that this is not transparent. No scientific explanation has been put forward to show these locations provide the best proxy for baseline noise measurement for sensitive receptors. The locations were selected only because they are financially involved properties. The distribution of these NMLs to capture predicted noise for sensitive receptors is uneven and this is not explained. It indicates that locations were chosen on basis of land access availability and not on basis of typical conditions experienced by nearby receptors where ambient conditions could reasonably be expected to typify the area's noise climate.

| NML_ID | X_ITM | Y_ITM | Latitude | Longitude | NSL Proxy Per NML |
|---|---|---|---|---|---|
| NML 1 | 560054 | 637066 | 52.483548 | -8.588107 | 112 |
| NML 2 | 559956 | 635582 | 52.470203 | -8.589371 | 38 |
| NML 3 | 560828 | 635216 | 52.466977 | -8.576495 | 212 |
| NML 4 | 561345 | 633250 | 52.449344 | -8.568659 | 97 |
| NML 5 | 559880 | 632950 | 52.446542 | -8.590173 | 30 |
| NML 6 | 558097 | 632943 | 52.446345 | -8.616399 | 31 |

Comparison of the chosen NML locations conflicts with the IOA Good Practice Guide (GPG 2013). GPG 2.5.3, requires that sites should be positioned to be exposed to potential turbine noise but screened from extraneous sources such as roads or dense vegetation. NML 4 and NML6 need enhanced review by the Board to scrutinise why this location was chosen. If the Board do not have access to In-House expertise then under EIA Directive, a specialist must be sourced externally.

NML 2 /5 / 6 are outlier as per table. Proxy for 30/31/38 sensitive receptors.

NML 6

The NML is described as: *"Birdsong. Occasional local road traffic noise (RTN), aircraft overhead. Potential for agricultural noise and rustling vegetation at higher winds."*

| | | | |
|---|---|---|---|
| **NML 4** | 561345 | 633250 | Bird Song. Occasional local road traffic noise (RTN), Aircraft overhead. Potential for agricultural noise. Potential for rustling vegetation at higher winds. |

This is not an accurate description as per image from Appendix 13B




*Figure 14: NML 4 Appendix 13B Noise Survey & Calibration Certs*




NML4 Located beside dense vegetation. On other side of this hedge are several mature trees ( 10-15 Trees. As per photo and referenced period of monitoring (31.07.2024 to 30.08.2024), it was summer when foliage is at its most dense. There is also no reference made to the fact this NML is approximately 60m from a farm but the description refers to "potential for agricultural noise". There is certainty for agricultural noise at this location.

NML 6 It is clear to our group that the landowner hosting several turbines is connected with this property.

| NML | Nearest_Turbine | Distance_m |
|---|---|---|
| NML 1 | T5 | 803.55 |
| NML 2 | T5 | 685.78 |
| NML 3 | T13 | 746.47 |
| NML 4 | T17 | 709.67 |
| NML 5 | T9 | 597.41 |
| NML 6 | T9 | 1976.79 |




*Figure 15: NMLs 1 - 6 pictures in relation to Wind Turbines*

## List of Missing Receptors

Our review identifies further omissions and poor practice by the applicant's consultants. Notably, the coordinates provided for the nearest noise-sensitive location (NSL520) point to a location in the Atlantic Ocean — a clear and significant error. In addition, our analysis identified several dwellings that were entirely omitted from the assessment. This list is not exhaustive, and it is deeply concerning that such basic and critical information has been overlooked. It is evident that the applicants baseline surveys were completed some years prior to the application, as homes-built post 2024 have not been captured, further breaches to EIA Directive 2014/52/EU, which requires environmental assessments to assess the effects of a project on human health.

Our community cannot and should not be expected to perform the work of the applicant by identifying their mistakes. It is the applicant's responsibility to ensure that all data and assessments are accurate, complete, and reflective of the real-world impacts on local residents. The noise and vibration assessment are therefore incomplete.

| EIRCODE | X_ITM | Y_ITM | Latitude | Longitude | Comments |
|---|---|---|---|---|---|
| No EIRCODE/ new build | 559618 | 633206 | 52.450430197 | -8.5956906584 | New Build- Within 532m nearest receptor) NSL520 |
| V35 YW30 | | | 52.445465978 | -8.5883857063 | Adjacent to NSL146 |
| V35 RX27 | 560000 | 632829 | 52.468450820 | -8.5626338779 | Built in 2024 |
| No EIRCODE/ new build | 556713.6503 | 634052.7181 | 52.45556959 | -8.613635993 | the construction of dwelling house and assoc works |
| V35 YN34 | 560902 | 635189 | 52.46715274 | -8.575497194 | Refurbished Cottage - obtained its EIRCODE in April 2024 |

| | | | | | |
|---|---|---|---|---|---|
| No EIRCODE/ new build | 562338.48 | 634565.37 | 52.46138825 | -8.554207696 | Located beside NSL035 / V35 RX81 - Under Construction |
| No EIRCODE/ new build | 560090.69 | 632206.99 | 52.439879 | -8.586986 | Planning Permission Obtained for Dwelling in Oct 2025 |

Financially Involved Properties Allowance / Minimum Set-Back A 5 dB higher limit has been set for owners hosting turbines. This creates an unequal standard of protection between financially involved and non-involved residents living similar distances from turbines.

NSL520 breaches the minimum required setback of 640 metres. The actual distance is only 534 metres, which exposes the occupants of this dwelling to several serious noise-related health consequences. Financially involved receptors may consent to waive noise protections through private contracts, allowing turbines to be placed closer to homes. However, this sets a dangerous precedent, health impacts do not disappear simply because someone has signed a contract.

According to the EPA (2022), consideration must be given to vulnerable groups, including children and individuals with specific sensitivities to noise. While the current occupier may be content to tolerate the potential health consequences of noise exposure, a future occupant—such as a child, will not. The Board is therefore required to assess the risks associated with such potential scenarios.

The EIAR fails to acknowledge or assess the potential health impacts arising from these reduced setbacks and the waiver of standard noise protections. Other potential breaches of minimum setbacks include (not limited to):

- NSL057
- NSL370
- NSL258 (several homes located behind this receptor not captured in EIAR – approx. 580m)

## Absence of a Statutory Noise and Health Protection Framework

Ireland currently lacks a dedicated statutory framework governing noise emissions from wind turbines. Instead, communities are dependent on planning permission conditions imposed by the Planning Authority which local authorities can enforce at their discretion.

The EPA has confirmed that it does not investigate wind-farm noise complaints, as such cases fall outside its statutory remit. The HSE holds no enforcement authority under the Public Health Acts in relation to environmental noise or wind farm impacts. Its role is limited to providing advisory input on potential health effects.

As a result, communities affected by wind turbine noise are left to rely solely on planning conditions, without oversight from an independent environmental or health regulator

What happens in the case of complaint? Where Do Our Affected Community Members turn to:

- Environmental Protection Agency Position: The EPA's documented position is that operational wind-farm noise is **not within its enforcement remit** - The Agency points complainants to **local**

planning authorities for investigation/enforcement, describing it as a "statutory planning matter" and saying they "could not interfere

- Local Authority Enforcement: Although Local authorities provide channels to log noise complaints, there is none specific to Wind Farm noise. 'Network for Ireland's Environmental Compliance & Enforcement (NIECE) protocol were issued in 2016 for local authority noise complaints handling but are not being followed for wind turbine complaints.
- Documented Enforcement Failure
    - Meenwaun Wind Farm: Breaches remained unresolved for 5+ years despite an enforcement warning issued in February 2022.
    - Cloghan Wind Farm: local authority ignored neighbours' complaints for years until CEPA intervened an undertook an independent noise survey, confirming planning condition of noise is being breached.
    - Multiple Limerick Wind Farms: FOI evidence shows complaints "Closed Unresolved" with zero enforcement (Limerick City and County Council has displayed inconsistencies of noise complaint investigation approach (i.e. health-based assessment of health impacts for road-traffic noise v's none for wind turbine noise investigation for a dwelling located 320m from a turbine)

## Government Putting Wind Energy Developments Above the Protection of Host Communities

The *2006 Wind Energy Development Guidelines* (WEDGs) were issued by the Department of the Environment, Heritage and Local Government under Section 28 of the *Planning and Development Act 2000*. These guidelines were intended to assist planning authorities and developers in the design and assessment of wind energy projects in Ireland but they predate significant developments in EU environmental law, particularly the requirement for Strategic Environmental Assessment (SEA) under Directive 2001/42/EC. Therefore, any EIA assessed using the 2006 WEDGs are also non-compliant with EU environmental directives C -24/19.
Irish courts and the CJEU have consistently held that non-compliance with SEA obligations can invalidate the application of such plans or guidelines in decision-making (*see e.g., C-24/19 Holohan v An Bord Pleanála*). Government has long acknowledged the need to update the 2006 Guidelines. Since 2013, there has been an ongoing 'review' by the Department of Housing, Local Government and Heritage to update the 2006 Guidelines.

In 2017, the Government agreed the 'Preferred Draft Approach' PDA requiring stricter noise limits, consistent with the WHO 2018 standards. What does the PDA Propose?

*"The preferred draft approach proposed a 'relative rated noise limit' of 5dB (A) above existing background noise within the range of 35 to 43 dB(A), with 43 dB(A) being the maximum noise level permitted, day or night, and further proposed that the noise limit should take account of tonal noise, low frequency noise and amplitude modulation."*

Draft *Revised Wind Energy Development Guidelines* (RWEDGs) were published in 2019 and underwent SEA and public consultation. The EPA confirm, that for the protection of health, wind turbine noise must be consistent with the 2018 World Health Organisation (WHO) Environmental Noise Guidelines. These guidelines suggest a provisional outdoor target noise limit for wind farm noise of <45 Lden which equates roughly to 37.3 dB LAeq[1]. This is considerably lower than the 2006 WEDG of 35-43DB LA90 limits.

*(To drop 6 dBs from the 43 dB noise limit to the evidence based 37 dB health standard, one must double the distance, a dwelling located at 700m would require a setback of 1,400m)*

Appended to this submission is a letter dated November 2021 from Minister Eamon Ryan to Minister Darragh O'Brien (Appendix 4) seeking to update the draft WEDGs to rely on ETSU-R-97, removing the 43 dB(A) cap and penalties for tonal, low-frequency, and amplitude-modulated noise. O'Brien's April 2022 reply accepted that the policy context had "changed in light of increased climate targets" and was open to revisiting the PDA if justified. The justification offered was purely spatial and policy-driven to meet the 80 % renewable-electricity target, not health-related. DECC's geospatial analysis claimed the 43 dB(A) ceiling would restrict viable land to 587 $km^2$ and jeopardize 3.5 GW of capacity, framing relaxation of limits as necessary for renewable-energy expansion.

It is very clear from this exchange and approach that our Government's position is to ignore science and public health in favour of the accelerated On-Shore Wind Development-. Anyone reading this submission will hypothesize, there is little likelihood that revised guidelines will be finalized until the Government's aggressive target of 9GW of onshore wind energy has been met. This will be at the expense of the health and wellbeing of the communities forced to host these developments, too close to homes because of Irelands land mass and housing dispersion. The Government's position is to place public health second to Wind Energy Development.

Despite national policy favouring large-scale wind energy expansion, we welcome the proactive stance taken by Limerick City and County Council in recognising the real health concerns of wind farm neighbours. The Council has investigated five wind farms following noise complaints, and on 24 September 2025, councillors unanimously passed a motion that all current and future complaints relating to wind turbine noise and shadow flicker be referred to the Health Service Executive (HSE) for formal investigation.

This motion acknowledged that the Council does not have sufficient medical or acoustic expertise to adjudicate on issues affecting public health.

We remain hopeful that our councillors will continue to press the HSE to prioritise the protection of human health above policy or spatial targets. The ongoing pattern of departments and agencies deflecting responsibility must end — the public deserves clear accountability and effective protection from environmental health impacts.

[1] 1 Davy, J.L., Burgemeister, K., Hillman, D. *et al.* A Review of the Potential Impacts of Wind Turbine Noise in the Australian Context. *Acoust Aust* **48**, 181–197 (2020). https://doi.org/10.1007/s40857-020-00192-4

# Breaches of National and EU Policy

The EIAR materially contravenes various National and EU Policy that is to protect the health and well-being of communities. Effectively allowing Noise limits to be breached, failing to follow WHO 2018 noise guidelines and not addressing AM and low frequency sound will result in widespread health consequences.

Material Contraventions to National , Regional , and Local Planning Policy Project Ireland 2040 National Planning Framework. Including NPO 94 (April 2025) replaces Objective 65 (2018):
*Promote the pro-active management of noise where it is likely to have significant adverse impacts on health and quality of life and support the aims of the Environmental Noise Regulations through national planning guidance and Noise Action Plans*
The revised Objective reflects the Government's commitment to integrating environmental health into spatial planning. The EIAR fails to meet this obligation. It does not model or assess health-relevant noise indicators such as amplitude modulation or low-frequency and infrasound, nor does it address chronic sleep disturbance or cumulative exposure in rural, low-background-noise environments. As such, it does not comply with national policy and undermines the precautionary approach required by both Irish and EU law. As a statutory policy instrument under Project Ireland 2040, NPO 94 imposes clear obligations on planning authorities to refuse development where the precautionary principle is not observed in the face of clear and foreseeable environmental health risks. The EIAR's omissions are not only scientifically and procedurally deficient, they are also contrary to Ireland's national planning policy framework and to EU law.

Climate Action Plan 2024("CAP24")

CAP 24 provides the national policy and legal framework for climate action in Ireland , to be delivered in balance with social equity, ensuring persons and communities are not negatively affected. Embedded in CAP 24 is the principal of a Just Transition Commission is recommended
*"to ensure that Ireland achieves its climate objectives in a way that is fair and equitable and protects vulnerable people and communities"*

Regional Spatial & Economic Strategy – Southern Region RSES (2020–2032)
RPO 175: Improving Regional Quality of Life through Infrastructure-led Planning
*"Well-being and improving quality of life are core themes in the RSES reflected in the overarching statement covering the following key elements"*

Building wind farms too close to homes and to vulnerable children in particular built under obsolete guidelines concerned with "compliance over "protection" significantly breaches the principal of a Just Transition.

International and national authorities, including the World Health Organization (WHO) and the Environmental Protection Agency (EPA), have established clear guidance on environmental noise exposure and the need to protect communities from both direct and indirect health effects.

### Outstanding Scoping Reply

Article 95 of the Planning and Development Regulations 2001–2024 explicitly provides for the *scoping process* as a statutory mechanism designed to determine the appropriate content and extent of the EIAR. The intent of this provision is to ensure that environmental assessments are comprehensive, transparent, and tailored to the specific characteristics and sensitivities of the proposed development site and its surrounding environment. As of the time of completing this submission chapter on 15th November 2025, there has been a complete lack of transparency. EIAR Appendix 1B notes two requests as being made to the "HSE" and "HSE Local Office" with "No Response/Feedback Received,". No copies of this correspondence are provided in the EIAR, rendering the process entirely non-transparent and in breach of Planning and Development Act 2000.

## Reactive Noise Monitoring and Complaint Handling

The Noise Complaint Monitoring Programme (NCMP) as proposed in the EIAR is reactive, triggered only after complaints. No proactive or continuous noise monitoring is proposed, which poses unacceptable health risks for our community. Unfortunately, this was the case for the residents living beside Cloghan Wind Farm. The lived experience of residents surrounding the Cloghan Wind Farm provides a stark illustration of the consequences of ineffective noise monitoring and complaint handling and enforcement.

## The Lived Experience: Cloghan Wind Farm

Cloghan Wind Farm consists of 9 turbines, 169m high with a rotor diameter of 136m. Multiple households situated within approximately 700–800 meters of the Cloghan Wind Farm have reported persistent sleep disturbance, stress, and deterioration in physical and mental health attributed to turbine noise. Local families have described the noise as *"brutal,"* preventing rest and making their homes uninhabitable during periods of high wind. Over 200 formal complaints were lodged with Offaly County Council, yet responses were limited to brief acknowledgements and no substantive investigations or enforcement actions followed.

An independent Noise Survey undertaken by L. Huson & Associates Pty Ltd (October 2025, commissioned by CEPA (Communities & Environment Protection Alliance) confirmed that the Cloghan Wind Farm was not compliant with its permitted noise emissions. The assessment confirmed:

- 43 dB LA90 noise limit was exceeded during periods of high wind on a regular basis for a sustained period for the duration of the noise monitoring period.
- 2018 WHO guidance; any noise above 37.3 dB LA90 is associated with adverse health effects including sleep disturbance, annoyance, and cardiovascular effects
- Recorded noise exhibited impulsive and tonal characteristics, both of which are explicit breaches of the planning condition under Offaly County Council Register PL2/19/404.

- Noise levels were above the WHO guidance limit on a regular basis and for sustained periods for the duration of the noise monitoring assessment.

Despite the health risks associated with exceedances beyond WHO 2018 level and the impulsive sound characteristics, the HSE have not intervened, and deferred the issue back to the local authority.

## Conclusion – Grounds for Refusal

The Environmental Impact Assessment Report for the proposed Ballinlee Wind Farm fails to meet the legal, scientific, and procedural standards required under EU and Irish planning law. The developer's continued reliance on the obsolete ETSU-R-97 methodology, the exclusion of WHO 2018 Environmental and overall defective assessment impacts all result in a flawed and incomplete assessment. The predicted increases in the ambient noise environment greater than 10 d would have a profound and detrimental impact on the health of our community and. Based on Les Huson's peer review, An Coimisiún Pleanála is justified in refusing the Ballinlee Wind Farm Application. Les Huson's conclusions for a vast summary of reasons as set out in the Peer Review Report Summary pg. 22:

- *The NVA within the EIAR does not consider site effects or audible characteristics such as low frequency, tonality or amplitude modulation.*
- *The assessment methodology adopted in the NVA follows guidelines that have been shown to be deficient and are currently under review.*
- *The WEDG 2006 guidelines recommend a range of acceptable sound levels during the day but the NVA has elected to choose the highest noise limit in the range that could be applied, based upon what an incorrect evaluation of the test for a low noise environment.*
- *The NVA predicts optimistic sound levels that demonstrate increases in the ambient noise environment greater than 10 dB.*
- *The impact assessment approach referenced in the NVA for operational noise from the development has not been applied.*
- *If it was applied then the development would have an impact described as 'Very Substantial Effect' according to IEMA Guidelines and 'Very Significant' and 'Profound' effect according to 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (EPA, 2022). This is contrary to the suggestion in the NVA that operational noise is 'not significant'*

National Key Policy is disregarded, notably National Planning Framework Objective 94, which requires the proactive management of noise where adverse health impacts are likely. Given the precedent set by recent Irish High Court cases and the clear guidance set out in Directive 2014/52/EU, the precautionary principle must be upheld.

A specific request to an Coimisiún Pleanála: Can the Inspector's Report and the minutes of an Coimisiún Pleanála discussions address the issue of maladaptation: Maladaptation refers to actions or strategies that, while intended to address the challenges posed by climate change, inadvertently exacerbate the problem, or create new vulnerabilities. This can occur when adaptation measures are poorly planned, misaligned with the local conditions, or fail to account for long- term consequences

The project breaches the EU Environmental Impact Assessment Directive (2011/92/EU as amended by 2014/52/EU) on multiple grounds: failure to assess the health effects on the population and human health (Article 3); failure to assess the impacts of noise on vulnerable population groups (Annex IV, 5(f)); failure to use up-to-date and authoritative scientific evidence (Recital 35 and Annex IV(1)); and failure to demonstrate that significant adverse effects can be avoided, prevented, or reduced (Article 8a(1)). As a result of these deficiencies, significant adverse health impacts across a large, populated area cannot be ruled out, and the competent authority is legally required to refuse consent.

# References


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# Peer Review of proposed development by Huson and Associates

HUSON & ASSOCIATES

# Peer Review of Proposed Ballinlee Wind Farm Planning Application

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## INTRODUCTION

Huson & Associates has been commissioned by the Bruff Domin Athlacca-Ballinlee Community Action Group to review an Environmental Impact Assessment Report (EIAR) dated September 2025 prepared by MWP, Engineering and Environmental Consultants for Ballinlee Green Energy Ltd (a subsidiary of Greensource Ltd) containing Chapter 13 'Noise and Vibration' (NVA) prepared by Enfonic Ltd to support Planning Application: 320745 (An Coimisiún Pleanála) for the Ballinlee Wind Farm.

The proposed wind farm development (see Figure 1) is a Strategic Infrastructure Project that is suitable for assessment by An Coimisiun Pleanála.

This review has been prepared by W Les Huson BSc(Hons) MSc CPhys MInstP MIOA MAAS (brief CV in Appendix A). Referenced papers can be made available on request.




**Figure 1**

**Location of wind turbines (BT) and background measurement locations (NML)**

The NVA has identified 519 noise sensitive locations within a 35 dB(A) noise contour surrounding the proposed development.

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**SUMMARY**

An Coimisiún Pleanála is justified in refusing the Ballinlee Wind Farm Application for the following reasons:

- The minimum recommended setback of 10 times the rotor diameter, a best practice setback distance of 1.36 km for the proposed wind turbine rotor diameter of 136m, has not been applied with one dwelling (NSL520) 535m from the nearest wind turbine and another 226 dwellings less than 1.36km from a wind turbine.
- The NVA has used optimistic noise model inputs that identify 519 noise sensitive locations within a 35 dB(A) noise contour around the development. However, with more appropriate, conservative noise modelling parameters the number of noise sensitive locations that should be considered increases dramatically as it will include most of the town of Bruff.
- Background noise survey results for NML1 and NML6 are artificially too high by 5 dB.
- Noise compliance with WEDG 2006 should have been completed at 7 m/s, where the correct target noise limit is 37 dB(A). (All wind speeds references in this peer review refer to standardised hight of 10 m above ground level.)
- WEDG 2006 target noise limits have been misinterpreted in the NVA to produce higher proposed noise limits at 7 m/s and above.
- Where recommended noise limits from the WEDG 2006 range from 35 dB(A) to 40 dB(A), the NVA has opted to use the most lenient noise limit recommendation of 40 dB(A).
- The target night time noise limits should be lower at 38 dB(A) to reflect Limerick County Council planning guidelines.
- With a night time noise limit of 38 dB(A) the NVA predicts non-compliance at 49 dwellings.
- Predicted sound levels in the NVA are too low, yet still predict non-compliance at 7 m/s.
- When more conservative noise model inputs are used the predicted noise levels shown in the NVA will be a minimum of 2 dB higher.
- The current WEDG 2006 does not reflect best practice and is outdated, but if applied properly, shows that this proposed wind farm is non-compliant.
- The NVA should not rely on guidelines used to underpin ETSU-R-97 because those guidelines are currently under review and the WEDG 2006 does not refer to them.
- The requirement from WEDG 2006 that '*that there is no significant increase in ambient noise levels at any nearby noise sensitive locations*' has not been addressed in the NVA.



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- Ambient sound levels are shown at times to be below the 17 dB(A) instrument noise floor in wind speeds up to 7 m/s (10m AGL) at NML3 compared with sound levels optimistically predicted to be 42dB(A) for one of the nearest dwellings (NSL370).
- The soundscape in the area will change dramatically for the surrounding Community if the wind farm is approved and this is contrary to the requirement of the WEDG 2006.
- Using the impact assessment procedures suggested in section 13.4.2 and Table 13.4 of the NVA the impact of the proposed development when operational will cause a 'Very Substantial Effect' according to IEMA Guidelines and 'Very Significant' and 'Profound' effect according to 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (EPA, 2022). Accordingly, the development application presents an unacceptable impact and should be refused.
- The wind turbines are located too close to each other such that excessive amplitude modulation will arise but the NVA has not accounted for any penalty due to this or other special audible characteristics (tonality, impulsive sound).
- Current best practice in assessing wind farm noise should be cognisant of target noise limits set in other countries such as Germany and the Australian States of New South Wales and Tasmania.
- Low frequency noise impact has not been assessed, despite this being a requirement of the Limerick County Council (Danish low frequency noise limits).
- With noise model inputs used in the NVA and no consideration of special audible characteristics there will be 80 dwellings that will exceed the correct noise limit target at 7 m/s.
- With more conservative noise model inputs and no special audible characteristics 160 dwellings will exceed the correct noise limit target at 7 m/s.
- If special audible characteristics were to warrant a 5 dB penalty with the correct noise model inputs, then 398 dwellings considered as NSLs in the NVA will exceed the correct noise limit target at 7 m/s.
- The NVA does not provide noise model details for the substation and states that there will be no tonal noise emissions. However, it is common knowledge that substation noise has tonal characteristics.

The following expands upon the issues raised in this summary.



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**PLANNING GUIDANCE ON NOISE FROM WIND FARMS**

The Irish Government Department of Environment Heritage and Local Government document '*Wind Energy Development Guidelines, 2006'* (WEDG 2006) detail the current guidelines to set noise limits for wind energy developments.

The NVA has adopted the principles of WEDG 2006 but has added interpretations contained in UK wind farm noise guidance using ETSU-R-97 'The Assessment and Rating of Noise from Wind Farms' with further guidance from the Institute of Acoustics in 2013; 'A good practice guide to the application of ETSU-R-97 for the assessment and rating of wind turbine noise' (GPG).

It should be recognised that the scope of the GPG was not to examine noise limits described in ETSU-R-97. The GPG states that "The approval of this guide by the IoA Council should not be seen as an endorsement of the noise limits within the ETSU-R-97 document since the setting of these limits is a policy matter for Government."

Furthermore, the GPG is only applicable for those involved in the assessment and rating of wind turbine noise when applying ETSU-R-97 assessment procedures. The GPG may not be appropriate guidance if other assessment procedures are used.

WEDG 2006 requires updating and a DRAFT WEDG 2019 was prepared but not formally adopted as it remains under review.

The limits proposed in the WEDG 2006 broadly align with the UK guidance found in ETSU-R-97 that reflects WHO guidance in 1997. However, noise limits to protect sleep were reduced by 5 dB in subsequent WHO guidance in 1999 that remain current.

The WEDG 2006 does not set fixed noise limits. The guideline provides advice for local authorities (Councils) to develop their own planning guidelines for noise that can differ from those suggested in WEDG 2006. In this regard, for example, the Limerick County Council has set low frequency noise guidelines that are not contained within the WEDG 2006 and allow a night time noise limit of 38 dB(A), L90, or Background plus 5 dB.

Limerick County Council night time planning guidelines reflect the reduction in WHO night time noise to protect sleep, down from 43 dB(A) to 38 dB(A).

Many other local councils have set noise criteria for wind farms that differ from those in the WEDG 2006.

WEDG 2006 does not require that ETSU-R-97 be used to assess wind turbine noise.

WEDG 2006 states that "*Good acoustical design and carefully considered siting of turbines is essential to ensure that there is no significant increase in ambient noise levels at any nearby noise sensitive* locations." This requirement is a test that has not been addressed in the NVA.

WEDG 2006 has been drafted to balance the objectives of providing renewable power with acoustic amenity and for quiet areas states; "*in low noise environments where background noise is less than 30 dB(A), it is recommended that the daytime level of the LA90, 10min of the wind energy development noise be limited to an absolute level within the range of 35–40 dB(A).*"

Justice Richards observed the following in a recent Supreme Court nuisance noise case (Uren v Bald Hills Wind Farm S ECI 2020 00471) 25 March 2022 in Australia:



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"The *generation of renewable energy by the wind farm is a socially valuable activity, and it is in the public interest for it to continue. However, there is not a binary choice to be made between the generation of clean energy by the wind farm, and a good night's sleep for its neighbours. It should be possible to achieve both.*"

A recent court case in Ireland (Ms Justice Emily Egan) echoes this observation:

"*There is not a binary choice to be made between the generation of clean energy by the wind farm and a good night's sleep for its neighbours. It should be possible to achieve both.*"

'Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licensed Sites (NG3)' has been referenced about infrasound but the NVA has not mentioned that it also provides compliance limits in the daytime between 35 dBA and 40 dBA for quiet daytime environments of less than 30 dBA that echoes the lower recommended limits in WEDG 2006.

**BEST PRACTICE**

WEDG2006 is outdated and not currently 'best practice'.

The most recent (29 July 2025) review of best practice in setting wind farm noise limits has been completed by the EPA of Tasmania, Australia, that has revised its wind farm noise guideline limit and set 35 dB(A), Leq as the appropriate base noise limit to be met. A copy of the Policy is in Appendix D.

Current best practice in wind farm noise guidance is also provided in the Australian States of New South Wales and Queensland where night time target noise limits are set at 35 dB(A) Leq or background plus 5 dB with additional penalties for special audible characteristics such as tonality, impulsiveness, and amplitude modulation.

Germany also has for a long time had a night time noise level limit of 35 dB(A), Leq.

Wind farms have been approved under these target noise limits and a good balance has been struck to provide renewable energy and protect the nearby population.

A target noise limit of 35 dB(A), Leq approximates to 33 dB(A), L90 that lies 2 dB below the lowest recommended day-time absolute limits in WEDG 2006 for quiet areas and reflects modern expectations for the protection of a nearby community.

The NVA, Table 13.25, has chosen to set lenient target noise limits in the daytime at 40 dB(A) L90 up to 6 m/s wind speed and 45 dB(A) for wind speeds above 6 m/s from background measurements at six residences, used as proxies for all other dwellings around the proposed development, that is not considered to be best practice.

**ASSESSING A LOW NOISE ENVIRONMENT**

The WEDG 2006 does not specify how to assess a low noise environment.

Background sound levels that set target noise limits increase with wind speed above 7 m/s so the critical wind speed to test compliance is at 7 m/s.

The test from WEDG 2006 for a low noise environment is not separated into that during the Day or Night.

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In the NVA, Chapter 13, section 13.2.2 it has been incorrectly interpreted that when background sound levels become greater than 30 dB(A) at higher wind speeds that the lower range of noise limits suggested in WEDG 2006 (35 to 40 dB(A), L90) do not apply and the limit suddenly reverts to 45 dB(A) L90. This is incorrect.

The test of a quiet area is made at lower wind speeds (below 5 m/s according to BS4142 where wind-induced noise on a microphone is minimised) and once determined applies at all higher wind speeds.

At 7 m/s the 24-hour average envelope background noise level is 30 dB(A) from NVA Table 13-7 that justifies the area to be classified as a 'low noise environment'. The day time noise limit at this wind speed is 37 dB(A), not 45 dB(A).

This lower limit from the range 35 to 40 dB(A) from WEDG 2006 matches recommendations in NG4 for the evening.

At 7m/s the NVA is suggesting that because the Day envelope noise level is 32 dB(A) that a higher noise limit of 45 dB(A) should apply. This is incorrect.

Above 6m/s the NVA is suggesting a target noise limit of 45 dB(A) during the Day and 43 dB(A) at night. Again, this is incorrect.

The target noise limit during the day should be 37 dB(A) at 7 m/s for all noise sensitive locations.

NVA section 13.4.12 presents the results of background assessments at the six noise measurement locations using BS4142 to characterise a low noise environment. This approach differs from that suggested in section 13.4.11 that uses the trend line approach to determine background noise levels for different wind speeds.

The determination of whether an area can be described as having a low background sound level (below 30 dB(A)) is best assessed using BS4142 and ISO 1996-1:2016 with the Background sound level results being as presented in Table 13.8 of the NVA.

It is shown in NVA Table 13.8 that background sound levels measured at each of the six noise measurement locations is below 30 dB(A) day and night.

Accordingly, the target noise limits using the recommendations from WEDG 2006 should be between 35 dB(A) and 40 dB(A) during the day and 43 dB(A) at night at all wind speeds.

The NVA has incorrectly applied the low background noise test using background noise measurements that are affected by higher wind speeds.

This approach in the NVA is incorrect because higher wind speeds are already catered for by the application of Background plus 5 dB to the noise level range between 35 and 40 dB(A) when setting target noise limits in the day time according to the WEDG 2006.

For example, from Table 13.7 the nominal background day time noise level is 32 dB(A), L90 at 7 m/s standardised wind speed so the target noise limit becomes 37 dB(A) [32dB + 5dB], *not* 45 dB(A) as suggested in the NVA.



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For situations where the *average* background noise level is <30 dB(A) the NVA has elected to apply the least stringent noise limit of 40 dB(A) and no noise sensitive locations have been assigned the 35 dB(A) base noise limit allowed using the WEDG 2006.

The target noise limit during the day, using the approach adopted in the NVA at 7 m/s, should be 37 dB(A), not 45 dB(A).

**BACKGROUND SURVEYS**

The noise floor of the B&K 2250 sound level meters used in the Background surveys is typically around 17 dB(A), as shown in the survey charts for NML2, NML3, NML4 and NML5 (Fig. 13-7, 13-9, 13-11, 13-13). However, the noise floor results for NML1 and NML6 are higher at around 22 dB(A) (Fig. 13-5, 13-15).

This difference can be explained because the outdoor microphone configurations at NML1 and NML6 used the EH2152_90 outdoor kit compared to the others that use the 1404 outdoor microphone kit.

It appears that the wrong compensation factors have been applied to measurements at NML1 and NML6 that result in the background measurements being artificially 5 dB too high (22 dB cf. 17 dB).

With the appropriate correction of 5 dB for NML1 and NML6 the nominal Background level becomes 27 dB(A) at night and remains at 32 dB(A) during daytime at 7 m/s. The average 24hr nominal Background in Table 13.7 is 29.5 dB(A) at 7 m/s wind speed.

The NVA states that extraneous noise was removed from the background noise measurement dataset but has not shown the removed data points on the Background scatter charts.

The Background measurement data contains sound from the surrounding wind farms and the Background sound levels used to set proposed target noise limits will produce higher noise limit targets than would otherwise be the case if these wind farms were not operating when measurements were taken.

**Background survey equipment limitations**

Day and night time sound levels show that the sound measurement equipment regularly recorded sound levels at or near the noise floor of the instruments. Sound monitoring equipment is classified under IEC61672 and the sound level meters used have a noise floor of typically 17 dB(A).

However, the lowest sound level at which the instrument is linear and compliant with Class 1 is quoted by the manufacturer of the instruments used by Enfonic (B&K2250) to be 24.8 dB(A).

Thus, sound levels shown in the background charts between 24.8 dB(A) and 17 dB(A) are compressed. This means that real background sound levels are often much lower than 17 dB(A) and the average background levels in the NVA are artificially elevated.

This effect is also highlighted in BS 4142:2014+A1:2019, section 8.1 which notes: "*Care is necessary in circumstances where background sound levels are low to ensure that self-generated and electrical noise within the measurement system does not unduly influence reported values, which may be the case if the measured background sound levels are less than 10 dB above the noise floor of the measuring system.*"



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**NVA PROPOSED NOISE LIMITS**

The NVA has referred to the Health Service Executive (HSE) Position Paper on Wind Turbines and Public Health (2017) that suggests published scientific evidence is inconsistent. This means that some published research supports there being adverse health effects and there is other research that does not support there being adverse health effects from wind turbines.

The HSE position paper also refers to best practice for setback distance from any turbine to a dwelling of 10 times the rotor diameter. This equates to a best practice setback distance of 1.36 km for the proposed candidate wind turbine rotor diameter of 136m.

Wind turbines are proposed to be less than 540 m from the nearest dwelling so best practice according to the HSE position paper has not been applied.

The 2017 HSE position paper is currently unavailable (possibly deleted) from the Lenus library that lists the research output of HSE.

The 2018 World Health Organization (WHO) Environmental Noise Guidelines for the European Region suggests a provisional outdoor target noise limit for wind farm noise of <45 $L_{den}$. This roughly equates to 37.3 dB, LAeq[1] and supports the lower noise level target of 35.3 dB(A), L90 (37.3 dB LAeq – 2 dB), not that proposed in the NVA.

Chapter 13, section 13.2.2.9 of the NVA outlines a rational for the choice of noise limits that are used in the NVA and summarise operational noise limits in section 13.5.3.3 in which is stated:

*"As outlined in Section 13.2.2, the recommended best practice noise limits for the proposed development, shall be a combination of guidance provided in WEDG 2006, ETSU, IOA GPG and SGNs. This is considered best practice based on the professional competence and expertise of the authors and has been adopted for this assessment.".*

It appears that the expertise of the authors is limited to the application of guidance from the UK which is based upon ETSU-R-97 that has been widely criticised and is currently under review.

The proposed night time noise limit in the NVA (Table 13.25) reflects the WEDG 2006 suggested limit of 43 dB(A), L90 which should be reduced by 5 dB to reflect current WHO guidance.

Reference is made to the EPA document 'Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4)' for guidance on procedures to complete background noise surveys but also to note that during part of the day time target noise level recommendations are 45 dB(A), LAr, suggesting that a 40 dB(A) day time target noise limit is conservative by an amount of 5 dB.

However, NG4 also suggests that in the Evening a recommended noise level of 40 dB(A), LAr is appropriate and at night the recommended criterion reduces to 35 dB(A), Leq.

These recommendations are much lower than those recommended in the WEDG 2006 or those suggested in the NVA.

[1] Davy, J.L., Burgemeister, K., Hillman, D. *et al.* A Review of the Potential Impacts of Wind Turbine Noise in the Australian Context. *Acoust Aust* **48**, 181–197 (2020). https://doi.org/10.1007/s40857-020-00192-4



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NG4 has also recommended criteria for Quiet Areas and properties surrounding this development comply with a designation of 'Quiet Areas' for their location. Under these circumstances the criteria changes to noise from the licensed site to be at least 10dB below the average daytime, evening and night time background noise level measured during the baseline noise survey.

The suggested noise criteria in the NVA for the proposed wind farm are at least 10 dB higher than NG4 recommends at night for both Quiet Areas and 'areas of low background noise'.

Likewise, the proposed daytime noise limit of 40 dB(A), L90 is 7 dB higher than the evening period for 'areas of low background noise' and at least 10 dB higher than the NG4 criteria for Quiet Areas.

If WEDG 2006 is to apply to this proposed development then the lower day time noise limit of 35 dB(A), L90 should apply and a consideration must be given to any significant increase in ambient noise levels.

NVA Section 13.7.2 summarises the assessment of operational noise levels from the proposed development and concludes that "no likely significant effects are predicted to arise during the operational phase". This statement is incorrect as no consideration has been given to the increase in ambient noise required in the WEDG 2006 or the fact that predicted sound levels exceed WEDG 2006 recommended limits during the day.

The critical wind speed at which an assessment should be made is 7 m/s. This represents the worst-case noise impact on the surrounding community.

Based on ambient measurements reported in the NVA at 7 m/s the target noise limit should be 37 dB(A), L90 in the day time. This is based upon a day time background level of 32 dB(A), L90 plus 5 dB at 7 m/s.

However, if the approach adopted in the NVA, corrected to recognise the low noise environment at 7 m/s, is used then the target noise limit at this wind speed is also 37 dB(A), not 45 dB(A).

As wind farms operate 24/7 the limiting criterion for this development should be 37 dB(A), L90 during the day time and predicted noise levels must be compared to this limit to assess if the development is acceptable.

In summary, the noise limit (45 dB(A)) suggested in the NVA for the proposed development is too high by 8 dB if the WEDG 2006 limits are to be applied at 7 m/s.

Below a wind speed of 7 m/s the target noise limits should be 35 dB(A) or Background plus 5 dB, whichever is the greater. This results in a noise limit of 35 dB(A) at wind speeds of 6 m/s and below.

Under these circumstances the predicted sound levels from the NVA exceed the appropriate recommended noise limit at more than 80 dwellings and An Coimisiun Pleanála will be justified in refusing the proposed development.

The predicted sound levels for this development are overly optimistic. With appropriately set noise model inputs to reflect a conservative assessment the degree of non-compliance is greater by at least another 2 dB that will adversely affect 160 dwellings.



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**NOISE MODEL**

The NVA has used the ISO 9613-2 noise model that includes ground absorption.

It is unclear if the NVA predictions have used octave band sound power data in the noise model as this data has not been supplied for the candidate V136 wind turbine.

ISO 9613-2 prediction results are sensitive to the value of ground absorption/attenuation effect, G, that can range between 0 and 1. G=0 indicates no ground absorption and G=1 represents full ground absorption of sound.

A paper by Brittain and Charalampous[2] shows the inadequacy of the ground effect calculations in ISO 9613-2 for a source height of 100m, which conveniently approximates the hub height of the proposed candidate wind turbines in the NVA.

The NVA has used a value of G=0.5 in the ISO 9613-2 noise model for all the ground between the wind turbines and all noise sensitive receivers with an artificial receiver height of 4m (in practice all sound level surveys are completed at a height of between 1.2m to 1.5m).

The peculiarities of the ground effect calculation in ISO 9613-2 show that predicted sound levels for a receiver height of 4m there is a 2 dB difference in predicted sound levels depending on whether G=0 or G=0.5 is used. G=0 produces typically 2 dB higher predicted sound levels than when G=0.5 is used and 4 dB higher compared to G=1.

It is best practice to err on the side of conservatism and use G=0 when using ISO 9613-2.

This point was made by Eric Sloth, one of the authors of the JOULE[3] study in his presentation (Appendix B), where he advises that if ISO 9613-2 is to be used for wind farm noise predictions, then G=0 should be used with additional corrections to account for site effects such as inflow turbulence.

The NVA has not accounted for any site effects that can increase wind turbine sound power levels.

Furthermore, the NVA *assumes* that there will be no special audible characteristics from whatever wind turbine is chosen to be used in the wind farm. Only test results can confirm this assumption but none have been supplied in the NVA.

The ISO 9613-2 noise model has a stated limitation for its calculations in conditions where the source to receiver average height does not exceed 30m and when average propagation enhancement from vector wind does not exceed 1m/s to 5m/s measured at a height above ground between 3m and 11m.

ISO 9613-2 for this wind farm application is being applied well outside of its intended use.

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[2] Brittain, F., Charalampous, P: 'Assessing Accuracy of ISO 9613-2 for Calculating Ground Effects of Stack Height and Distance Using Olive Tree Labs OTL Suite'. NOISE-CON 2016, Providence, Rhode Island, 13-15 June, 2016

[3] Bass, J.,Sloth, E., Bullmore 'Development of a Wind Farm Noise Prediction Model,' JOULE project JOR3-CT95-0051, 1998



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The NVA has not commented on the uncertainty associated with the use of ISO 9613-2. The preferred IEA method recommended in the JOULE report suggests a standard deviation uncertainty of 0.004dB/m.

For a propagation distance of 1000m this translates to +/-4 dB (+/- one standard deviation). ISO 9613-2 predictions are estimated in Table 5 of the standard to have an uncertainty of +/-3dB at 1000m if all inputs are accurate but notes that:

*"The estimates of accuracy in table 5 are for downwind conditions averaged over independent situations (as specified in clause 5). They should not necessarily be expected to agree with the variation in measurements made at a given site on a given day. The latter can be expected to be considerably larger than the values in table 5."*

The JOULE study also noted the following:

"As a result of the measurements just described it has been concluded that:

- Noise levels at all distances from the source do vary, even if the source of sound has a constant power level.
- The measured variation in noise levels increases with increasing distance from the source.
- Based on typical wind speed ranges of between 0ms$^{-1}$ and 10ms$^{-1}$ encountered during the experimental measurements, the one standard deviation spread of noise levels either side the mean level was found to increase at a rate of approximately 0.004dB(A) per meter increase in the source to receiver separation distance."

The fact that wind farm sound levels vary with increasing distance (assuming all wind turbines emit a constant sound level) suggests that the use of the L90 statistic underestimates the true impact of noise from a wind farm.

Whilst it is advantageous to use an L90 statistic to reduce extraneous noise effects on a measurement it unfortunately underestimates the true higher levels of noise caused by a wind farm.

This underestimation can be compensated for by adding the standard deviation of 0.004dB/m measured in the JOULE study, in which case the predictions in the NVA would be increased by about 3 dB for the nearest dwellings.

A more realistic estimation of the higher sound levels from a wind farm is the predicted sound level using the simple IEA model (cut down ISO 9613-2 with corrections) plus the addition of one standard deviation uncertainty.

For a dwelling 1000m away the prediction should use the IEA model output plus 4dB (0.004dB/m at 1000m).

**Noise Predictions**

Predictions in the NVA are made for wind speeds from 3 m/s to 10 m/s and these are listed in Appendix 13G.

The NVA predicts sound levels at thirty-five dwellings equal to or greater than 40 dB(A) at 7 m/s, when applying the noise model inputs used in the NVA.



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However, if more conservative noise model inputs are used where the receiver height is 1.5m and the ground absorption value, G, is 0 then the predicted sound levels equal or exceed 40 dB(A) for eighty dwellings at 7 m/s.

The NVA has used very optimistic noise modelling and assumed that the sound from the proposed wind farm will not be tonal, impulsive or have any significant amplitude modulation characteristics that, in my experience, often occur.

The NVA in Table 13-28 provides a predicted substation noise level of 7 dB(A) without explaining how this was derived. No tonal corrections have been applied and the sound power levels used in modelling the substation have not been provided. It is common knowledge that substation noise has tonal characteristics.

The NVA has optimistically assumed that there will be no special audible characteristics emitted from the wind turbines and that if there were then mitigation actions can be applied.

Section 13.2.2.10 of the NVA suggests that manufacturer guarantees will be sought to ensure that the chosen wind turbines will not emit noise with specific audible characteristics.

The NVA has suggested hopefully and naïvely that:

*A guarantee will be required in the procurements of the turbine to be used onsite, stating that there should be no clearly tonal or impulsive components audible at any noise sensitive receptor location.*

However, the planning process cannot direct contractual arrangements (guarantees) between the wind turbine manufacturers and wind farm owners/operators to eliminate annoying audible characteristics.

**LA90 statistic or LAeq**

The LA90 statistic does not capture short term noise events that are often observed from wind farms. Such noise events are often referred to as 'whump' or 'thump' type sounds thought to be caused by wind flow delamination across the rotor blades when wind conditions change.

The benefit of a condition requiring the LAeq is that such events can reflect the extent of intermittent louder sounds that the LA90 statistic cannot.

However, if an LA90 level is specified as a noise condition then an added provision to prevent impulsive noise or tonality could be applied.

Such a condition was applied for the Cloghan Wind Farm in Offaly, as follows:

*Noise levels emanating from wind farm noise when measured at the nearest noise sensitive properties, i.e. dwelling houses, shall not exceed 43 dB(A) $L_{A90/10\ minutes}$. There shall be no tonal or impulsive noise and measurements shall be made in accordance with ISO recommendations R1996-1 (Acoustics-description and measurement of environmental noise, part 1; basic qualities and procedures).*



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**WIND TURBINE LAYOUT**

It is customary in the design of a wind farm to take account of the distances between wind turbines to minimise noise emissions and to maximise efficiency. An outline of such design considerations can be found in 'NSW Wind Energy Handbook 2002': Sustainable Energy Development Authority of NSW (SEDA).

From page 53 of the SEDA document:

*"A wind-farm layout must take into account that turbines have substantial 'wakes', which interfere with each other depending on wind direction and spacing. The general rule of thumb for spacing (the '5r-8r rule') is five times rotor diameter abreast and eight times rotor diameter downwind."*

Appendix B of the IEC61400-11 standard indicates that at high wind speeds, wind turbulence becomes the primary source of sound. It suggests that these effects should be minimized during testing and optionally reported.

A general outline of site layout considerations has been provided by Suzlon Energy. A summary of site effects from Suzlon is provided in Appendix C that suggests the *minimum* wind turbine separations to be 3r-5r, depending on wind direction. Fow a wind turbine layout that is exposed to wind from multiple directions the design limit is 5r.

In the current layout of the Ballinlee Wind Farm, the distance between the nearest neighbouring wind turbine towers is typically less than 420 m.

The V136 wind turbines have a rotor diameter, 'r', of 136 m. The spacing between the turbines is 3.1 times the rotor diameter (3.1r), which is significantly less than the recommended 8r spacing to reduce wake turbulence effects from SEDA and 5r spacing suggested by Suzlon.

An increase in wake turbulence from the wind turbines will lead to higher noise emissions and lower efficiency of the wind farm.

The NVA has not considered the potential increase in sound power caused by wake effects.

**AMPLITUDE MODULATION (AM)**

The NVA discusses AM at length in the NVA (section 13.2.2.10.2) but reaches no conclusion on a penalty scheme to account for this special audible characteristic.

However, NG3 describes AM under the heading of 'Temporal Characteristics' and states for AM that:

"*The mechanism behind this is not clearly understood. However, features which are*

*thought to enhance this effect are:*

- *close spacing of turbines in linear rows*
- *tower height to rotor diameter ratio less than approximately 0.75*
- *stable atmospheric conditions*



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- *topography leading to different wind directions being seen by the blades at different points in their rotation"*

Note that the tower height (90m) to rotor diameter (136m) ratio is 0.66. (V136)

It can safely be assumed that AM *will* be an observable effect at NSLs because the turbine spacing is too close, the tower height to rotor diameter ratio is 0.66 (less than 0.75), and stable atmospheric conditions will occur from time to time.

An Coimisiún Pleanála should consider that AM is to be expected for this wind farm configuration that would warrant an additional penalty to predicted sound levels that have not been applied in the NVA.

ETSU-R-97 incorrectly addressed amplitude modulation and made a sweeping assumption that such a characteristic was rare in modern wind farms. The NVA echoes this with the statement: "It should also be noted that these are rare events associated with a limited number of wind farms."

This is not the case and it is now recognised that amplitude modulation is the most intrusive sound characteristic of wind turbines and that tonality and impulsiveness also occur at many wind farms.

The current GPG refers in section 7.2 to ongoing research. Since the publication of the GPG in 2013 there has been much ongoing research and amplitude modulation is known to be a significant concern for residents near modern wind farms.

The following figures illustrate A-weighted sound levels over a 10-minute period that were recorded at a rate of ten samples per second 800 m from two MM82 2MW wind turbines outside a dwelling.

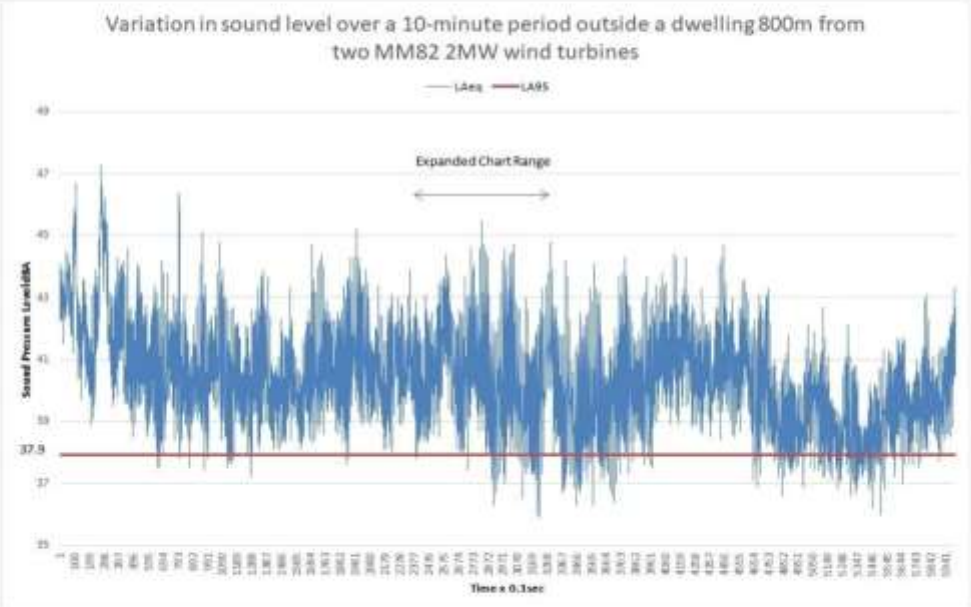



**Figure 2**

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The measurement was taken when the wind turbines were operating in the early hours of the morning when there was no extraneous insect, bird or animal sound but there was sound from wind in trees and foliage. This was confirmed by listening to the audio recordings taken at the same time.

Figure 2 shows the 100ms 'short' LAeq values and a single $L_{A95,10min}$ level for the data.

LA95 was calculated for this figure because the limit for this wind farm is in terms of LA95.

However, the LA90 would only be slightly higher at approximately 38 dB(A).

An expanded range from Figure 2 is shown in Figure 3 to provide more detail.

The repetitive variation in sound level is caused by sound from the two wind turbines as the blades rotate.

Sound caused by wind in trees and foliage is random, not repetitive as shown in these two charts.

Each peak and trough repetition can be linked to each time a blade passes through a part of the swept area.

As each wind turbine operates independently of others the small difference in rotation speed between these two wind turbines is causing the peak and trough repetitions to combine yielding a trace that can appear to synchronise at blade passing repetition to the time when the blades are out of synchronisation yielding an apparent doubling of the blade passing repetition.

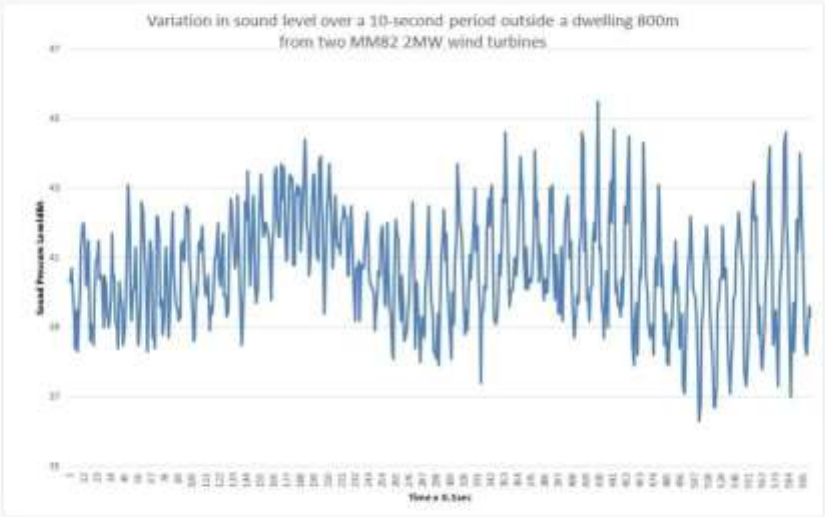



**Figure 3**

For a wind farm containing many wind turbines the peak and trough level and repetitions vary randomly.

However, when synchronised the sound levels add together to produce an overall higher sound level compared to when the individual turbine blades lose synchronisation.



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Figure 2 shows the interacting effect for two wind turbines where the first part of the 10-second chart shows the turbines to be out of synchronisation with a generally lower sound level variation peak to trough compared to later in the chart where the turbine blade rotations synchronise causing higher overall peak to trough sound level changes.

An unfortunate disadvantage in using the L90 statistic is that the character of sound level changes during any 10-minute measurement are lost and sound level variations are greatly underestimated.

A common observation of unusual sound level change occurs when 'whump' or 'thump' is described by observers.

Whump and thump are thought to originate from the aerodynamic sound of wind turbine blades when they encounter wind turbulence or are incorrectly adjusted for the incoming wind that causes a blade to stall temporarily. Placing wind turbines too close to each other will increase wind turbulence and increase AM[4,5] and the instances of 'whump and thump' sounds.

The occasional whump and thump sounds are much louder than normal wind turbine sounds and the fact that they would not occur for more than 9 minutes in any 10-minute recording means that the LA90 centile would not identify such events.

Sound levels vary throughout the measurement period in the 10-minute duration of the chart above (Figure 2) ranging from a maximum level of just over 47 dB(A) to a minimum level of about 36 dB(A). From the 6000 sound level samples the single statistical L95 parameter obtained from this chart is 37.9 dB(A), shown as a red line across the chart.

The L90 centile is only sensitive to the lowest 10 % of sound levels within any 10-minute sample. For example, in the chart above there could be sound levels that reached 100 dB(A) for up to 9 minutes that would have no bearing on the calculated L95 value of 37.9 dB(A) or L90 of 38 dB(A).

The NVA recommends the use of the IoA AM Preferred Method that fails to correctly evaluate AM from just two wind turbines and fares even worse when more than two wind turbines combine to produce AM.

It is not advisable to recommend the use of the IoA AM Preferred Method for a wind farm.

A report[6] was prepared for DEFRA that outlines a wind farm noise statutory nuisance complaint methodology. Section 5.4.5 of this report (NAN-R-277) explains the difference between a centile statistical noise metric such as an L90 and the energy averaging Leq as follows:

> "5.4.5 Noise Indices
>
> By convention wind farm noise in the UK is measured using the LA90,10-minute noise index, as it is argued that this index minimises the influence of extraneous noise. However, excepting ETSU –R-97, there are few if any standards that set noise limits using this index. Additionally, it is argued that because the LA90,10min index focuses on the quietest periods in the measurement period it is relatively insensitive to rapid fluctuations in noise level where the noise varies rapidly over a short period e.g. as with aerodynamic/amplitude

[4] Sinayoko, S. 'On predicting wind turbine noise and amplitude modulation' 6th Int. conf. wind turbine noise, 2015
[5] Buck, S. et al 'Experimental validation of a wind turbine turbulent inflow noise prediction code', AIAA Journal 2016
[6] NANR277 "Wind farm noise statutory nuisance complaint methodology DEFRA (2011)



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modulation, and the impact of such characteristics can be underestimated using the LA90,t noise index.

However, elsewhere in the world the LAeq,t index is preferred for wind turbine noise. Use of the LAeq,t or derivatives for environmental noise measurement is recommended by international standards and bodies e.g. ISO 1996 and the WHO, and British Standards such as BS 4142, BS 7445 and BS 8223. Additionally, there are a range of standards and guidance that offer guideline and recommended values of LAeq.T noise levels against which to weigh any measurement. The energy averaging nature of this index means it tends to be biased towards the highest noise levels that occur during a measurement. The figure below shows an indicative sound pressure level trace of a time varying noise signal (SPL) and the approximate LAeq,t and LA90,t values.

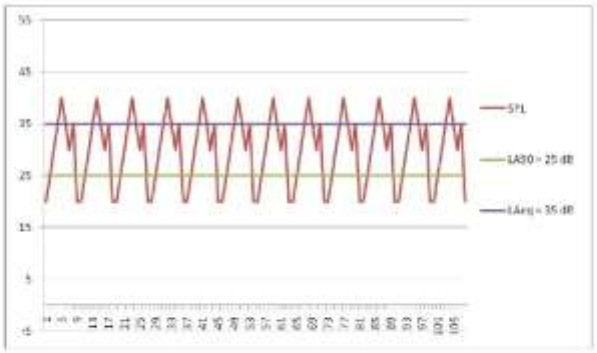



Figure 13 $L_{Aeq,t}$ and $L_{A90,t}$ values of an indicative time varying noise signal"

The current GPG also explains in section 7.1 that the guide cannot provide a definitive set of AM conditions for a wind farm, despite suggesting some options.

There is a current noise condition in force for the Denbrook Wind Farm that addresses AM limits, which has been accepted by the High Court in the UK, as follows:

"Condition 20

At the request of the local planning authority following receipt of a complaint the wind farm operator shall, at its expense, employ a consultant approved by the local planning authority, to assess whether noise immissions at the complainant's dwelling are characterised by greater than expected amplitude modulation. Amplitude modulation is the modulation of the level of broadB(A)nd noise emitted by a turbine at blade passing frequency. These will be deemed greater than expected if the following characteristics apply:

(a) A change in the measured $L_{Aeq,\ 125\ milliseconds}$ turbine noise level of more than 3 dB (represented as a rise and fall in sound energy levels each of more than 3 dB) occurring within a 2 second period.

(b) The change identified in (a) above shall not occur less than 5 times in any one minute period providing the $L_{Aeq,\ 1\ minute}$ turbine sound energy level for that minute is not below 28 dB.

(c) The changes identified in (a) and (b) above shall not occur for fewer than 6 minutes in any hour.

Noise immissions at the complainant's dwelling shall be measured not further than 35 m from the relevant building, and not closer than within 3.5 m of any reflecting building or surface, or within 1.2 m of the ground."

An Coimisiún Pleanála may wish to consider Condition 20 of the Denbrook Wind Farm as a model AM condition for any future wind farm that they approve.

Conditions referencing the IoA AM Preferred Method should be avoided for wind farms.



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**INFRASOUND, LOW FREQUENCY NOISE (ILFN) AND HEALTH EFFECTS**

The NVA (section 13.2.2.10.3) has cited several references generally supporting the idea that low frequency and infrasound from modern wind farms are insignificant and that there is a lack of available data to demonstrate adverse effects on health.

However, it is now recognised that infrasound and low frequency sound is emitted from wind turbines and that the infrasonic pulses are unlike any other environmental sound source.

Figure 4 shows the change in infrasound levels near to the Cape Bridgewater wind farm measured inside a nearby stone dwelling during changes in operation from stopped to 15% and 45% power generation.

The NVA references a German study that has used the dB(G) filter to assess wind farm ILFN. However, the G-weighting filter attenuates the blade pass pulses and the harmonics associated with those pulses (<5Hz).

The NVA considers health effects due to noise from wind farms in section 13.3 and like considerations of infrasound and low frequency notes the lack of evidence to support or deny adverse effects.

The Australian National Health and Medical Research Council (NHMRC) awarded a study to two Australian universities, one in South Australia and the other in New South Wales to investigate wind farm infrasound. This study was awarded in the value of AUD $3,300,000 after the NHMRC reference in the NVA that was based on data available in 2013.

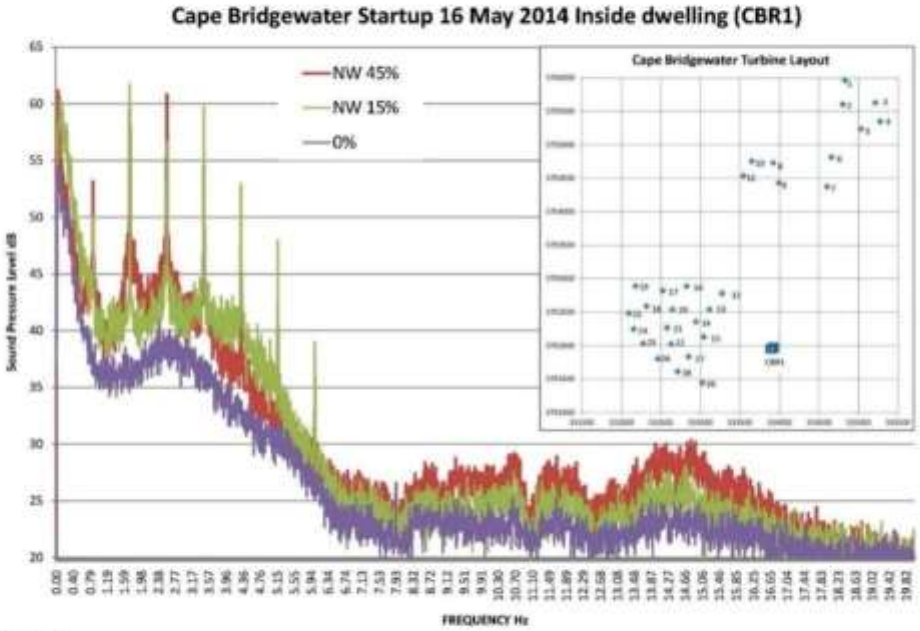



**Figure 4**



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Obviously, this recognises the fact that there was a lack of research in this area to use as a base to draw any firm conclusions.

The WHO 2018 Environmental Noise Guidelines is also of the same opinion that states: "Five low-quality systematic reviews of wind turbine noise effects on mental health and well-being have been carried out (Ellenbogen et al., 2012; Kurpas et al., 2013; Merlin et al., 2013; Onakpoya et al., 2015; Schmidt & Klokker, 2014 ). These reviews differed in their conclusions and delivered inconsistent evidence that wind turbine noise exposure is associated with poorer quality of life, well-being and mental health."

Because there were differences of opinion from the research that was cited the WHO rated this work of low quality: "Therefore, the evidence for no substantial effect of wind turbine noise on quality of life, well-being or mental health was rated very low quality".

However, it is incorrect to suggest that there is *no* evidence that wind farm noise can cause adverse health effects. The WHO rate the research demonstrating no adverse health effects as low quality.

The meaning embedded in the WHO's phrasing is critical to how its guidance is interpreted.

The WHO refers to a lack of evidence for no adverse effect, not a lack of evidence for an adverse effect.

Research is ongoing but one of the published papers in 2019 by researchers at Flinders University (Nguyen, D. P., Hansen, K. et al. Wind farm infrasound detectability and its effects on the perception of wind farm noise amplitude modulation, Acoustics 2019) stated in its conclusions that: "Overall these preliminary results suggest that WF noise complaints could potentially be governed to some degree by the presence of infrasound" and that " We found that self-reported noise sensitive individuals can detect the presence of low-level infrasound (48 ± 2 dB(G)) above chance."

The finding that infrasound at levels of 48 +/- 2 dB(G) can be observed by individuals is in stark contrast to the generally used limit of perception of 85 dB(G).

Section 10.2.2.10.3 of the NVA refers to a German report that is based upon dB(G) measurements that differ from a study in 2006 by Hayes McKenzie 'The measurement of low frequency noise at three UK wind farms', DTI URN no. 06/1412 from 2006.

Although the G-weighted filter significantly attenuates the blade pass and associated harmonics from a wind turbine it is worth noting that the 2006 Hayes McKenzie report shows the result of an on/off test, shown below (Figure 12 from reference).

An extract from this report explains that "Wind turbine noise may result in internal noise levels within a dwelling that is just above the threshold of audibility," that was assumed to be 85 dB(G).

The 2019 Flinders University research changes the threshold of audibility of wind farm noise to 48 +/- 2 dB(G) which would change the conclusion in the Hayes McKenzie DTI report.

Much of the recent research into human response to wind farm generated infrasound has been based on *synthesised* wind farm sound played to subjects in a laboratory"

A paper by Cooper, S. ("The use of synthesised or actual wind turbine noise for subjective evaluation purposes" PROCEEDINGS of the 23rd International Congress on Acoustics 2019) is



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critical of the use of synthesised wind farm infrasound signals and has noted that it was the change in amplitude of the infrasound signal that was observed to be a significant factor in subject disquiet.




**Figure 12: Time History Figure of G-Weighted Sound Pressure Levels for a Wind Farm**

Unfortunately, the issue of adverse health effects from wind farm generated infrasound remains contentious and authorities may wish to consider an appropriate condition when approving future wind farm developments if ongoing Australian, or other relevant international research, finds adverse health effects from infrasound.

My own measurements at the Cape Bridgewater Wind Farm, also confirmed by S Cooper in his 2014 study[7], showed that low frequency sound from the output shaft of the gearboxes to the generators exceeded DEFRA NAN-R-45 indoor recommended guideline values at 32 Hz.

Furthermore, the 32 Hz tones were modulated in frequency and random in level.

The NVA has not considered low frequency noise impacts. The A-weighting filter significantly attenuates low frequency noise, which is why DEFRA NAN-R-45 uses unweighted one third octave sound levels in the frequency range from 10 Hz through to 200 Hz.

Low frequency sound is an important issue that should be reported in an EIAR and is a requirement of the Limerick County Council that applies the Danish low frequency guideline limits.

[7] Cooper, S. "The results of an acoustic testing program - Cape Bridgewater Wind Farm" The Acoustic Group Report 44.5100.R7MSC, Nov 2014



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I have recently measured low frequency sound outside a dwelling during on/off testing near to a recently constructed wind farm. Figure 5 shows the results of measurements at the dwelling that is approximately 2 km from the nearest 3.6 MW wind turbine.

Measurements of the 40 Hz, 50 Hz, 63 Hz and 80 Hz one third octave unweighted sound levels before, and after the shutdown period, just prior to midnight, show that the threshold values of DEFRA NAN-R-45 were exceeded. Outside measurements were corrected to indoor levels for typical building façade attenuation according to Downey and Parnell (2017).

The occupants of the dwelling had complained about low frequency noise nuisance from the nearby wind farm and in this instance, the complaints were justified.

The NVA has mistakenly omitted any assessment of ILFN.

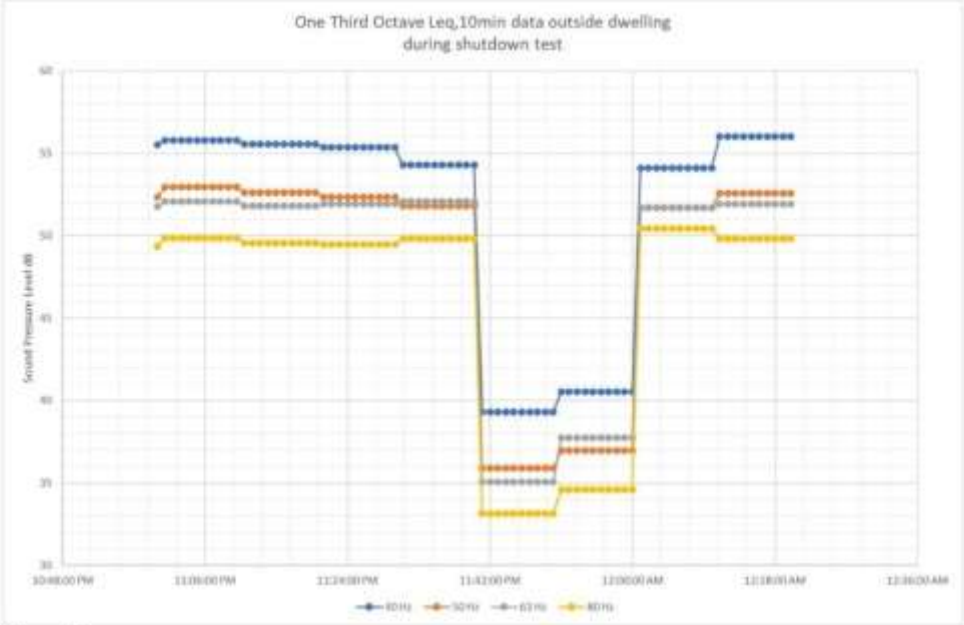



**Figure 5**

It would be advisable to measure current ambient ILFN at the NSLs to supplement A-weighted Background survey results.

Low frequency noise predictions should also be completed in frequencies below that which ISO9613-2 allows. ISO9613-2 is only applicable for the octave bands from 63 Hz through to 8 kHz.

The NVA is deficient in the assessment of ILFN.

**CONCLUSIONS**

The NVA does not provide any confidence that an acceptable noise impact will result from the proposed development.

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An Coimisiún Pleanála should refuse the Ballinlee Wind Farm Application.

The NVA within the EIAR does not consider site effects or audible characteristics such as low frequency, tonality or amplitude modulation.

The assessment methodology adopted in the NVA follows guidelines that have been shown to be deficient and are currently under review.

The WEDG 2006 guidelines recommend a range of acceptable sound levels during the day but the NVA has elected to choose the highest noise limit in the range that could be applied, based upon what an incorrect evaluation of the test for a low noise environment.

The NVA predicts optimistic sound levels that demonstrate increases in the ambient noise environment greater than 10 dB.

The impact assessment approach referenced in the NVA for operational noise from the development has not been applied.

If it was applied then the development would have an impact described as 'Very Substantial Effect' according to IEMA Guidelines and 'Very Significant' and 'Profound' effect according to 'Guidelines on the Information to be contained in Environmental Impact Assessment Reports' (EPA, 2022). This is contrary to the suggestion in the NVA that operational noise is 'not significant'.

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# Appendix A

**CV of William Leslie Huson**
**QUALIFICATIONS**
BSc (Hons) Applied Physics, UK 1975

MSc Sound and Vibration Studies, Institute of Sound and Vibration Research, Southampton, UK 1977

**PROFESSIONAL AFFILIATIONS**
Chartered Physicist, UK

Member of the Institute of Physics, UK

Member of the Institute of Acoustics, UK

Member of the Australian Acoustical Society

Member of the AV0001acoustics working group for Standards Australia

Australian representative for the International Institute of Noise Control Engineers (I-INCE) Technical Study Group 5 *A GLOBALAPPROACH TO NOISE CONTROL POLICY* (Now disbanded after completion of the scope of work defining this group – see http://www.i-ince.org/data/iince061.pdf)

**EXPERIENCE**
Since graduating I have been involved in several scientific areas of research and development. My early experience was in constructing a microwave device to measure the temperature of plasma inside a nuclear fusion experimentation device at the UKAEA, Culham Laboratory in the UK. I then worked in research and development of thermal imaging devices prior to completing a Masters in Sound and Vibration Studies. My work since then (1977) has been primarily associated with acoustics and vibration both terrestrial and underwater.

Prior to 1991 I worked as a Sound and Vibration consultant in the UK for 12 years with involvement in a wide range of industries.

For the past 35 years I have worked in Australia as a noise and vibration consultant and have operated through my own consultancy firm for the past 29 years. I am experienced in modelling acoustic propagation from a variety of sources such as railways, roads, aircraft, underwater ordnance, wind farms, pile driving, blasting and numerous types of industry.

I have also prepared the Brisbane Noise Survey in 1998 for the Brisbane City Council and was the author of the Noise Impact Assessment Planning Scheme Policy for Brisbane City Council's City 2000 Planning Scheme.



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Of relevance to wind farm related assessment is the work I completed for the Toora Wind Farm in 2002 which involved detailed analysis of pre and post construction noise data using NZS6808 1998 to check compliance with license conditions. NZS6808 is based upon ETSU-R-97. My experiences in the analysis of wind farm noise data led to a paper that was presented at the joint Australia and New Zealand Acoustics conference in 2006; "Review of the Application of NZS6808 to wind farms in Australia." This paper highlighted the sources of error that were implicit and allowed in the NZS6808, 1998 standard and ETSU-R-97. The latest version of the NZS6808 standard (2010) addresses a number, but not all, of the data analysis error concerns described in my paper. ETSU-R-97 and the Institute of Acoustics Good Practice Guide to the Assessment and Rating of Wind Turbine Noise is regularly referenced when interpreting parts of NZS6808 in Australia and I am familiar with this document and the supporting Supplementary Guidance Notes (GPG).

Over the past twelve years I have been independently gathering sound data in the audible and infrasound parts of the acoustic spectrum at numerous wind farms in Australia, the UK and Ireland. A summary of some of this research work on infrasound was presented in a peer reviewed paper: Huson, W. Les. "Stationary wind turbine infrasound emissions and propagation loss measurements." 6th International Conference on Wind Turbine Noise, Glasgow 20-23 April 2015.

I have investigated the Preferred IoA Method for the assessment of amplitude modulation (AM) in detail and applied it to several wind farm measurements taken outside dwellings near to numerous wind farms in Australia and the UK. The findings of this work are the realisation that the Preferred IoA Method is only suitable for assessing a single wind turbine, that the resulting AM values greatly underestimate short term peak to trough amplitude modulation levels observed, and that the Method is wholly unsuitable to assess AM (peak to trough amplitude modulation) from multiple wind turbines.

Detailed analysis of AM from wind farms has revealed that many AM events also exhibit impulsiveness when evaluated according to BS 4142:2014+A1:2019.



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# Appendix B

Presentation by E Sloth

# Problems related to the use of the existing noise measurement standards when predicting noise from wind turbines and wind farms.

Erik Sloth Vestas

Niels Christian Møller Nielsen VESTAS
Ejler Kristensen BONUS Energy
Bo Søndergaard DELTA

## Overview

- Noise Measurements (IEC 61400-11:2002)
  - Short description of the measurement method
  - Use of measurement results, including influence on inaccuracy.
- Noise prediction
  - Terrain and meteorology influence on the actual emitted sound
  - Methods used in noise calculations
- Noise assessment
  - Descriptors
  - Noise limits
  - Further investigations needed

# Noise Measurements (IEC 61400-11:2002)

We correct for:

Air pressure
Air temperature

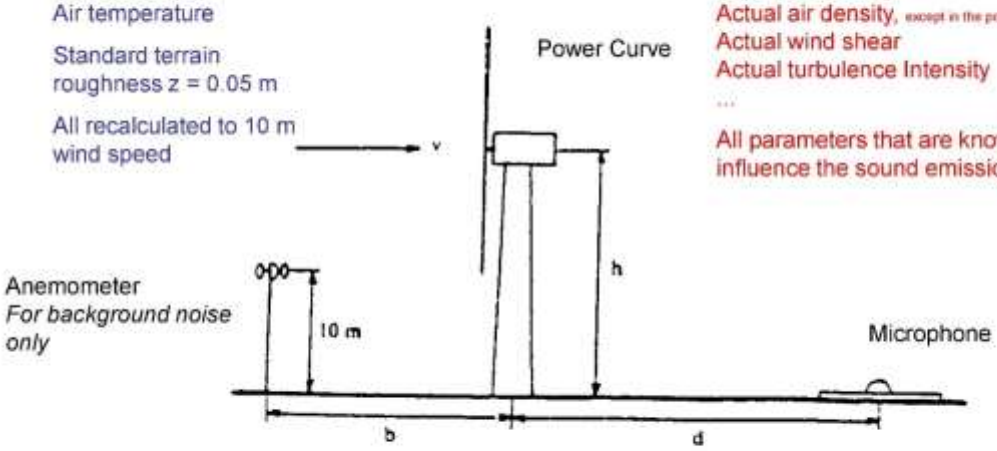
Standard terrain roughness z = 0.05 m

All recalculated to 10 m wind speed

We do not correct for

Actual inflow angels
Actual air density, except in the power curve
Actual wind shear
Actual turbulence Intensity
...

All parameters that are known to influence the sound emission




# Noise Measurement

- The results are standardized noise levels, which are fairly comparable from measurement to measurement on a given turbine type.
- The wind turbine is used as a wind speed meter through a power curve measured on an ideal site (IEC 61400-12) OBS impossible if actual terrain does not fulfill conditions
- Other parameters influence the noise level: relative humidity, turbulence, inflow angle, wind shear, turbine pitching are not accounted for.

- The result is a fairly good tool for verification of warranties, but not a good tool for predicting noise at imission points where people actually can get annoyed.

- The Sound Power Level related to the produced power or at least the sound power level as a function of hub height wind speed could be a more basic relationship

# Typical problems in using the measurement results

- Where do we see the major deviations from standardized conditions during actual use of measurement results

- The wind turbines are almost always raised at sites where roughness differ from the standardized completely flat measurement site.

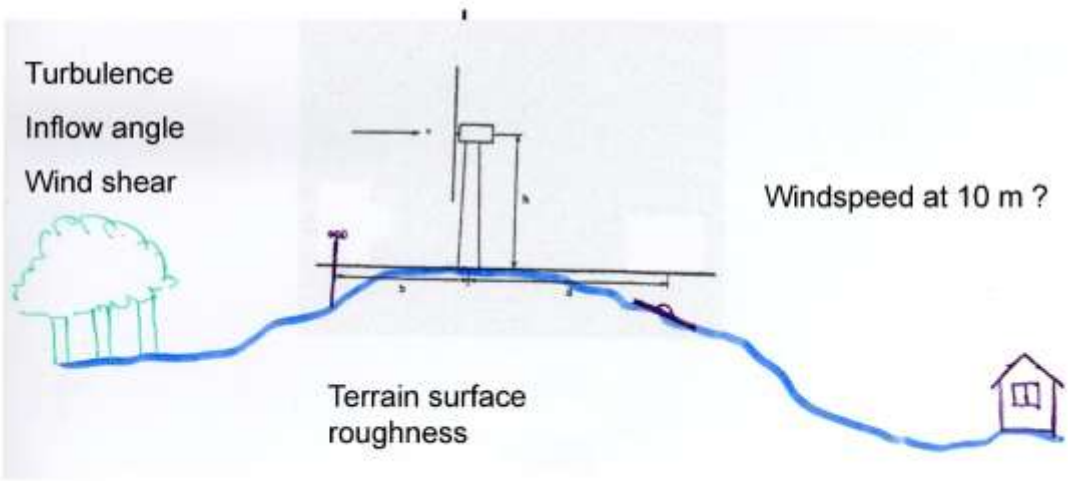
- Further we see different air density
- different wind shear
- different turbulence in inflow air
- different inflow angles

- Finally we often see other hub heights than used during documentation

# Use of measurement results

For noise control measurements

For noise level calculations



# Conclusion on measurement results

- The differences in site conditions creates differences in emitted sound power level.
- The differences could be both increased and decreased emitted sound power levels in real life applications
- The differences will transfer directly to the imitted sound power levels, and may thereby create increased annoyances in real life

- Therefore – site specific sound power levels should be used unless a good safety margin is present using standardized emission levels.

# Uncertainty

- According to IEC 61400-11:2002 the standard deviation of a measurement results is app. 0.9 – 1.5 for an ideal site
- If the measurements are made at a site with considerable turbulence intensity or wind shear the standard deviation can be app. 2.0 dB
- The result is that when used for calculating the noise from a wind farm at an imission point, some WTG will be higher than the expected level and some will be lower.
- To correct for this, the measured inaccuracy cannot be placed upon the total calculated level, but must be included in the calculations.
- The result is that the higher the number of WTG's in the project is, the smaller the resulting inaccuracy.
- If the results are used for calculating the noise from a wind farm the standard deviation should be calculated as the weighted standard deviation

$$\sigma_{res} = \sigma_{method} + \sigma_{source} = \sigma_{method} + \frac{\sqrt{\sum (\sigma_i \cdot 10^{L_i/10})^2}}{\sum 10^{L_i/10}}$$

# Solution to the outlined problems

- Accept that different sound power levels should be used in predictions and warranties.
- Avoid using sound power levels that include inaccuracy in predictions unless there is a good safety margin.
- The inaccuracy should be included in the calculation – the higher the number of WTG's the less the probability that all are in the high end of the uncertainty interval
- Use sound power levels that at least are corrected for: hub height, wind shear, air density, turbulence, inflow angle
- Be careful to make sure that the background noise measurements and wind conditions at the turbine positions uses the same reference position.

# Noise level calculation models

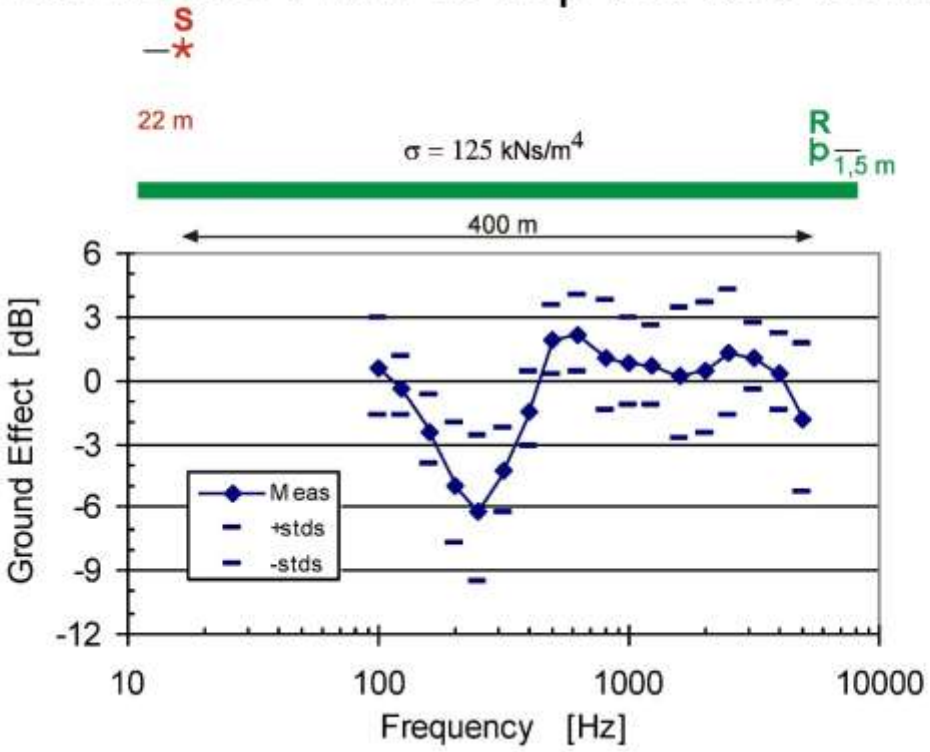
- There are lots of different noise level calculation models:
  - ISO 9613-2 which is the model that we see the most
  - VDI 2714
  - Concawe
  - BS 5228
  - General Prediction Method (Danish)
  - Danish EPA Guidelines
  - Netherlands Guidelines 1999
  - Swedish method (land/sea)
  - .....

- Most of the methods are developed for noise from Industry, wind speeds below 5 m/s and standard meteorological conditions and must be suspected to give poor results at larger distances.
- ISO 9613-2 is known sometimes to overestimate the terrain effects if soft ground is used
- Manufacturers, developers, consultants and authorities have an interest in a noise level calculation model developed specifically for wind turbine noise

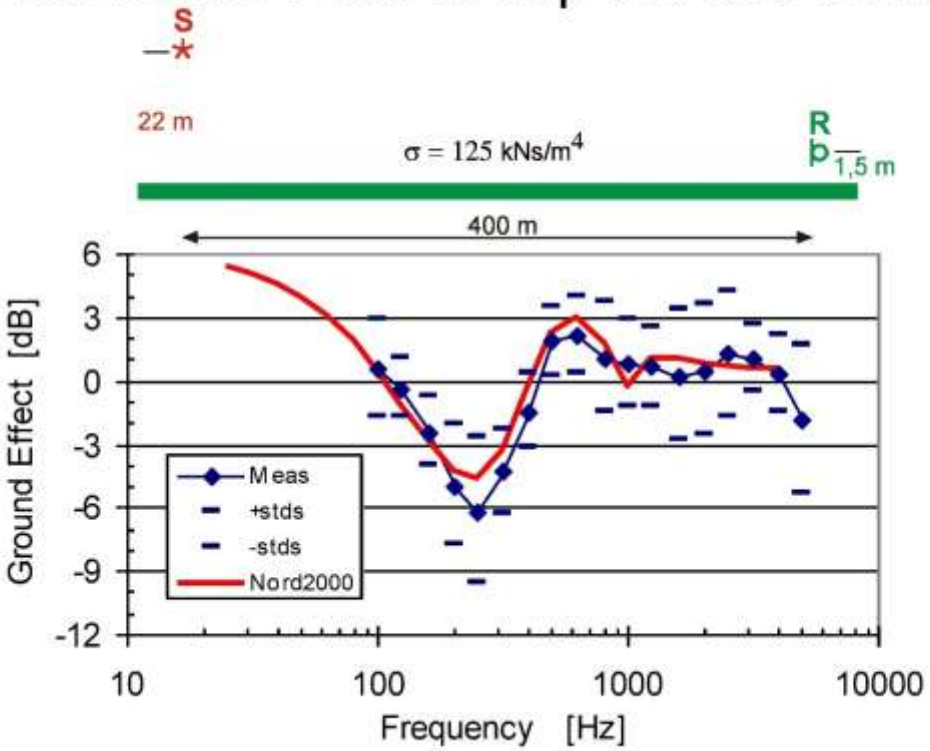
# Noise calculation models

- In an EU project JOR3-CT95-0065 a model for wind turbine noise propagation (WiTuProp) was developed giving good results
- The WiTuProp model takes into account
  - meteorological conditions:
    - Wind speed / terrrain surface roughness and direction
    - Air temperature and air temperature gradient
    - Relative air humidity
  - The ground type
    - Flow resistivity for grassland and harder surfaces
  - Screening (by terain or screens / barriers)
- WiTuProp is a special case of a more comprehensive model developed later: *NORD2000*

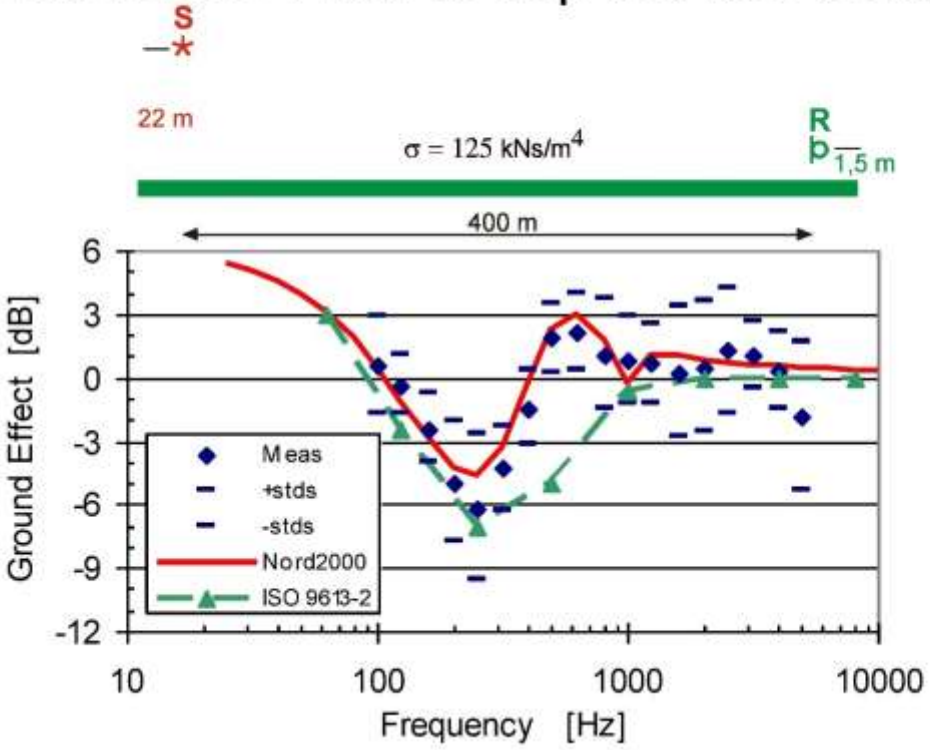
# Nord2000 / WiTuProp vs. ISO 9613-2



# Nord2000 / WiTuProp vs. ISO 9613-2




# Nord2000 / WiTuProp vs. ISO 9613-2



# Nord2000 model

- Meteorological conditions are better covered
- Complex terrain profiles (hill/valley)
- Mixed ground
- Terrain roughness
- Improved screen modelling
- 1/3 octave-band results
- Physical model – NOT empirical

Recommendation if the advanced model is not used:

- Use ISO 9613-2
- Make sure that hard terrain is used
- Be careful when defining screening effects from terrain - specially edge effects can be difficult to model

# Noise Assessment

- The noise level at the imission points are normally given as an A-weighted noise level at different wind speeds.
- A tonality evaluation is normally included for the receiving points.

What do we know of the annoyance of the noise:

- We know that noise from wind turbines sometimes annoys people even if the noise is below the noise limits.
- Often people complaints on low frequency noise which many investigations often show in not present
- The noise limits are usually adapted from industrial noise limits and are based upon the principle that a given percentage of the population will feel annoyed when the limit is exactly fulfilled.
- Evaluation of tonality in the turbine noise is more based on the reproducibility of the results than on pure knowledge on what is actually annoying

# Noise assessment

- Other descriptors need to be investigated to understand the annoyance caused by wind turbines
  - Low frequency noise and Infrasound – we cannot see it in our measurements
  - Modulation – may be the parameter that is heard as low frequency noise
  - Masking – which noise can mask noise from wind turbines
  - Other characteristics
  - ..
- This mean that tape recordings should me made on all sites in order to enable later analysis of up till now unrecognized parameters.
- In order to enable listener tests, artificial head investigations should be made
- We as a producer cannot cover this alone, since the local rules always need to be followed

# Our recommended research program

- Artificial head measurements on real turbines of different sizes
- Background noise measurements on real sites
- Listener tests on obtained results
- These measurements are being made on a test basis during our Danish measurements

- General Research that is needed in this area includes
  - Psychoacoustic experiments
  - Listener test
  - Measurements at low frequencies
  - Analysis for other characteristics
  - ..

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# Appendix C

Suzlon Energy – Site effects

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## Siting of Wind Farms: Basic Aspects

When searching the internet for the definition of the word "layout" I came across following:

*Layout in word processing and desktop publishing refers to the arrangement of text and graphics. The layout of a document can determine which points are emphasised and whether the document is aesthetically pleasing. While no computer program can substitute for a professional layout artist, a powerful desktop publishing tool can make it easier to lay out professional looking documents (source: www.webopedia.com)*

In principle the same is valid for wind farm planning: The term layout in wind industry is used for choosing optimal locations for wind turbines. Tools like flow models help to identify the best positions, but cannot replace the engineer making the final decision by balancing interests.

So what is that engineering experience, what factors influence the decision?



Jessica Rautenstrauch, wind energy consultant from Anemos, Germany, at work.
© Paul Langrock (www.unendlich-viel-energie.de)

### Wind resource

The wind resource is the most obvious factor to concentrate on when choosing a wind turbine location. We have a wide range of options to determine the wind resource of the site. The quality of the tools varies significantly and so does their price.

Common sense is a good starting point. Nature itself helps to guide us to suitable sites. Flagging of trees – permanent flagging and not the temporary bending in the wind – shows us the prevailing wind direction and is a good indicator for the strength of the wind.

However because of the uncertainty involved, using common sense as the only tool is of course insufficient. For any bankable estimate of the energy yield on-site wind speed measurements are required. The number of measurement masts required for a specific site depends next to the size of the project mainly on the complexity of the terrain. The measurement height should be minimum 2/3 of the expected future hub height. An increase in measurement height beyond this leads to a reduction of the uncertainty in the energy estimate. The measurement period must be one year or more to avoid any seasonal bias. Since the wind speed varies also inter-annually typically up to +/-12% a long-term correction is highly recommended.

The measured wind regime is extrapolated across the site to derive a resource map of the site using different flow models /4, 5/. A wind map like the one in Graph 1 can then be used to identify the windiest locations.

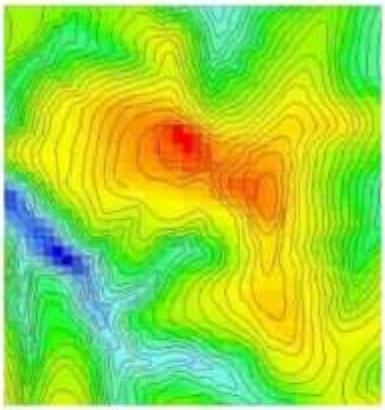
However additionally technical constraints should be taken into account when developing a layout /3/. A number of site specific wind load parameters can be extracted from the wind speed measurement. They are used to optimize the technical suitability of the chosen layout and the wind turbine type for the site specific wind regime.



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Graph 1: Example Wind Resource Map. The colours denote the energy content of the wind, red high and blue low energy content.

## Technical restrictions

Wind turbines are designed for specific conditions. During the construction and design phase assumptions are made about the wind climate that the wind turbines will be exposed to. In rough terms: For very complex sites with high wind speeds "heavy-duty" versions of wind turbines are available, which are sturdier but also more costly. Low wind speed sites in flat terrain do not put so high demands on the on the wind turbine structure, hence the construction can be more light-weight and hence cheaper. The different turbines have been classified by the IEC, class 1 being the highest wind speed class. The following table is a simplified summary of the IEC classification /1/.

| IEC class | I | II | III | IV |
|---|---|---|---|---|
| $V_{ave}$ (m/s) annual average wind speed at hub height | 10 | 8.5 | 7.5 | 5 |
| $V_{ref}$ (m/s) 50-year maximum 10-minute wind speed | 50 | 42.5 | 37.5 | 30 |

Table 1: IEC classes

But not only the wind speed but also other parameters play a role and have to be checked, when developing a layout for a specific turbine.

One of the most important parameters is the turbulence intensity. Turbulence intensity quantifies how much the wind varies typically within 10 minutes. Because the fatigue loads of a number of major components in a wind turbine are mainly caused by turbulence, the knowledge of how turbulent a site is of crucial importance.

We have to distinguish between two different sources of turbulence. Turbulence is generated by terrain features – which is referred to as ambient turbulence intensity - as well as by neighbouring wind turbines – which referred to as induced turbulence (Figure 1). Sources of ambient turbulence are for example forests, hills, cliffs or thermal effects. Thus ambient turbulence can be reduced by avoiding critical terrain features. But the wake-induced turbulence has far more impact than the ambient turbulence intensity /2/. Decreasing the spacing increases the turbulence induced by the wakes of neighbouring wind turbines meaning that there are limits to how close you can space the turbines. As a general rule the distance between wind turbines in prevailing wind direction should be a minimum of the equivalent of five rotor diameters. The spacing inside a row perpendicular to the main wind direction should be a minimum of three rotor diameters.



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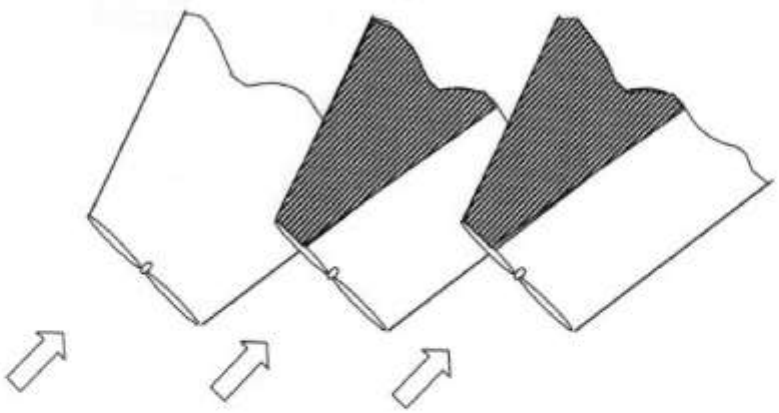


Figure 1: Shadowing in wind farm

If a layout is too close the resulting fatigue loads might be too high. In order to then ensure the lifetime of the main components wind sector management might have to be applied, meaning that some wind turbines might have to be switched off when they are operating in the wake of the neighbouring wind turbine.

Another parameter which has to be checked when developing a layout is the flow inclination, velocity tilt or in-flow angle. When wind turbines are to be placed on steep slopes or cliffs the wind might hit the rotor not perpendicular but at an angle. This angle is related to the terrain slope. With increasing height above ground level the effect of the terrain slope is normally reduced such that the terrain slope is only of indicative use to estimate the velocity tilt. A large in-flow angle will not only reduce the energy production but will also lead to an increased level of fatigue of some of the mayor components.

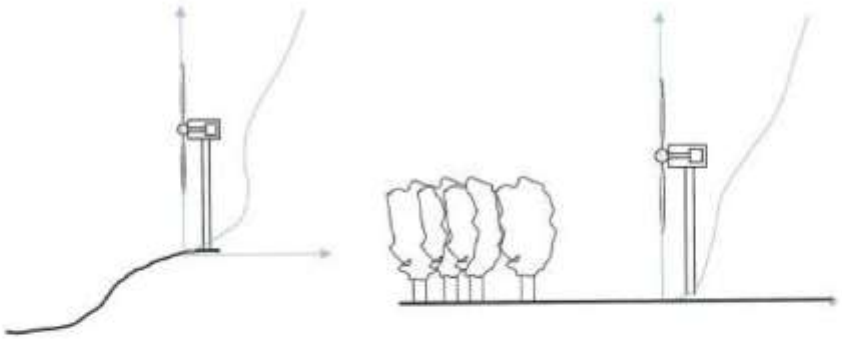


Figure 2: Distorted wind profile at steep slope (left) and behind a forest (right)

Furthermore a steep slope might cause a negative gradient across some parts of the rotor (Figure 2).

Normally the wind speed increases with increasing height. In flat terrain the wind speed increases logarithmically with height. In complex terrain the wind profile is not a simple increase and additionally a separation of the flow might occur, leading to heavily increased turbulence. The resulting wind speed gradients across the rotor lead to high fatigue loads particularly on the yaw system.

Obstacles like forest can have a similar effect on the wind profile and should be thus avoided.

## Planning constraints



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Next to the wind resource and technical considerations a good layout should also take planning constraints into account. The visual impact is course the most obvious. A layout that follows the shape of the terrain rather than straight rows of wind turbines appears to be less intrusive. Noise is another important parameter to take into account. Next to noise also the impact due to flicker at the nearest inhabited houses should be estimated. The accepted levels vary from country to country.

Electro-magnetic interference can cause problems. Hence placing wind turbines in a transmission corridor should be avoided.

Some areas on site might have to be excluded from development due to other factors related to fauna, flora and archaeology.



Jessica Rautenstrauch, wind energy consultant from Anemos, Germany, at work.
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## Summary

A large number of parameters have to be taken into account when developing a layout. Some work can be done using tools, but in the end the balance between financial, technical and planning constraints can be best done by an experiences engineer.

## Literature

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/3/ K. Kaiser, W. Langreder: Site Specific Wind Parameter and their Effect on Mechanical Loads, Proceedings EWEC, Copenhagen, 2001
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/5/ E. L. Petersen, N. G. Mortensen, L. Landberg, J. Højstrup and H. Frank: Wind Power Meteorology Part II: Siting and Models, Wind Energy, 1, 55-72 (1998)

**Wiebke Langreder**
**Suzlon Energy:** www.suzlon.com



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# Appendix D

EPA Tasmania wind farm noise policy



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# EPA Board Policy
## Noise limits for wind energy projects

EPA TASMANIA
ENVIRONMENT PROTECTION AUTHORITY

## Application

This policy is adopted by the Board of the Environment Protection Authority (EPA Board) for the purpose of assessing wind energy projects and requiring conditions or restrictions in respect to wind farm noise under the *Environmental Management and Pollution Control Act 1994* (EMPCA).

This policy supersedes any previous policy of the EPA Board in respect to operational noise criteria for wind energy projects. This policy does not apply to construction noise.

This policy applies from 31 July 2025 and will apply to all wind energy projects currently under assessment. It remains in place until revoked.

## Technical terms

***$L_{Aeq}$*** means the A-weighted equivalent continuous sound level.

***$L_{A90}$*** means the A-weighted sound level that is exceeded for 90% of the measurement period.

***dB*** means decibel.

***dB(A)*** means decibel when stating A-weighted sound pressure level.

## Design Criteria

**The predicted equivalent noise level at any noise sensitive premises should not exceed the greater of:**

a) **35 dB(A) $L_{Aeq,\ 10\ min}$; or**
b) **Background ($L_{A90}$) + 5 dB(A).**

This design criteria applies to all noise emissions from the activity, inclusive of wind turbines and all ancillary infrastructure. It has been set for the protection of sensitive receivers during periods of low background noise.

The background noise for day, evening and night-time must be calculated separately to determine the applicable (lowest) background level, and is not to be averaged across a 24-hour period.

For predictive purposes, a difference of −2 dB between measured $L_{A90,\ 10\ min}$ levels and $L_{Aeq,10\ min}$ emissions from the activity must be noted. The predicted noise levels should be adjusted for special audio characteristics and/or the applicable adjustment factors must be discussed.

The EPA South Australia *Wind farms environmental noise guidelines 2021* (or the most recent revised version of that document) is to be used for assessing whether a wind farm can meet this design criteria, except where that guideline may be inconsistent with this policy.

## Noise Measurements

If approved, wind energy projects will contain conditions and restrictions to enforce the design criteria. The following guidance is provided for the interpretation of EPA Board wind energy project noise requirements:

1. It is generally acceptable for wind turbine noise to be measured in $L_{A90}$, but note that alternative techniques may be required (including measuring in $L_{Aeq}$) to better detect special audible characteristics (dominant and intrusive characteristics) and noise fluctuations or intermittent noise.

2. An appropriate conversion factor must be added to the measured $L_{A90}$ level to derive the representative $L_{Aeq}$ noise level. To be representative of $L_{Aeq}$, generally applying +2 dB(A) conversion factor to the measured $L_{A90}$ level is acceptable.

3. Where special audible characteristics (dominant and intrusive characteristics) are detected from any wind farm noise, a correction factor must be applied in accordance with the *Tasmanian Noise Measurement Procedures Manual*.

4. The EPA South Australia *Wind farms environmental noise guidelines 2021* (or the most recent revised version of that document) is to be used for all wind farm noise measurements, except where that guideline may be inconsistent with this policy.

29 July 2025

Andrew Paul
**Chair**
**Environment Protection Authority Board**

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# Borrow Pits and Impact on Health

*Prepared by Edel Foster, BSc Hons Quantity Surveying., MA by Research in the Built Environment, Prof Diploma Human Rights and Equality on behalf of the Bruff–Dromin–Athlacca–Ballinlee Community Action Group.*

We, the Bruff–Dromin–Athlacca–Ballinlee Community Action Group, object in full to the proposed inclusion of two borrow pits as part of the Ballinlee Wind Farm application. These features would involve major rock excavation, blasting, and heavy-plant operations within a settled rural landscape. We believe this aspect of the proposal – and the wider wind-farm project – presents unacceptable impacts on residents, public health, amenity, groundwater, and property stability, and should therefore be refused outright.

## Context and Planning References

The developer's documentation refers to two borrow pits:

Borrow Pit No. 1 – north-eastern section of the site, adjoining the main site entrance off the R516 and near turbines T1–T3 (Drawings C-5073 and C-5005).
Borrow Pit No. 2 – south-central area, south-west of the Met Mast and turbine T12, as shown on Drawing C-5074 and C-5005.

These locations are confirmed on Drawing C-5005 (May 2025) but remain without grid coordinates or full geotechnical data.

Appendix 8B (Trial Pit Logs) records investigations only around TPBP10 – TPBP20, all located in the northern area. No trial-pit evidence or coordinates exist for the southern borrow pit, meaning the Environmental Impact Assessment Report (EIAR) lacks essential baseline data. This omission conflicts with the EPA EIAR Guidelines 2022 (Section 3.3) requirement for clear site identification and full geotechnical characterisation.

## Location Uncertainty and Deficiency

Repeated review of the developer's materials shows contradictory information:
While Drawing C-5074 provides a plan outline of Borrow Pit No. 2, it omits gridlines, elevations, or trial-pit references, preventing any independent proximity verification. The absence of any verified coordinates for Borrow Pit 2 prevents residents or decision-makers from assessing its proximity to homes, wells, or groundwater features. Such opacity renders the EIAR's impact assessment unreliable and contrary to the transparency expected under Irish and EU planning law.

## Proximity to Noise-Sensitive Locations (NSLs)

Independent analysis of the developer's NSL dataset shows numerous occupied dwellings within 400–600 m of both borrow-pit zones. These distances are far below safe or recommended separation for excavation works involving heavy-plant and potential blasting.

## Comprehensive NSL Proximity Table

*Note: The borrow pit locations used for this NSL analysis are approximate, based on Drawing C-5005 (May 2025) of the planning application, because the developer's documentation does not precisely identify their positions. Chapter 13 of the EIAR (Noise & Vibration) states that Borrow Pit 2 is approximately 50 m from NSL157 (Figure 13-19), whereas our independent analysis using Drawing C-5005 indicates a distance of approximately 122 m. This discrepancy confirms that the pit location is not reliably defined. Importantly, even using the developer's own 50 m figure, the separation to NSL157 is far below any reasonable setback for heavy excavation and vibration, reinforcing the severity of risk at this property. For all other NSLs, distances remain in the same broad bands (≤ 500 m / 500–750 m / ≤ 1 km) and the overall proximity conclusions are unchanged*

Table A – Detailed NSL Proximity Table (High-Impact Receptors ≤ 1 km)

| Borrow Pit | NSL No | Eircode | Distance (m) | Sensitivity | Key Issue |
|---|---|---|---|---|---|
| Borrow Pit 1 (North-West / R516 side) | NSL359 | — | 200 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 1 (North-West / R516 side) | NSL061 | — | 317 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 1 (North-West / R516 side) | NSL393 | — | 329 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 1 (North-West / R516 side) | NSL239 | — | 334 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 1 (North-West / R516 side) | NSL447 | — | 339 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 1 (North-West / R516 side) | NSL375 | — | 362 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 1 (North-West / R516 side) | NSL084 | — | 459 | Residential – High | Severe vibration & dust risk |

| | | | | | |
|---|---|---|---|---|---|
| Borrow Pit 1 (North-West / R516 side) | NSL400 | — | 504 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL238 | — | 602 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL083 | — | 625 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL060 | — | 627 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL321 | — | 649 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL338 | — | 764 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL399 | — | 776 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL082 | — | 819 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL337 | — | 819 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL470 | — | 866 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL460 | — | 867 | Residential – High | Moderate vibration & |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL115 | — | 883 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL154 | — | 888 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL519 | — | 909 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL412 | — | 927 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL407 | — | 928 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL093 | — | 953 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL113 | — | 953 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL322 | — | 956 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL114 | — | 961 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL391 | — | 963 | Residential – High | Moderate vibration & dust exposure |

| | | | | | |
|---|---|---|---|---|---|
| Borrow Pit 1 (North-West / R516 side) | NSL472 | — | 966 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL127 | — | 969 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL392 | — | 969 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL323 | — | 970 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL459 | — | 987 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL080 | — | 996 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 1 (North-West / R516 side) | NSL081 | — | 996 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL157 | — | 122 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 2 (South / Morningstar River side) | NSL158 | — | 345 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 2 (South / Morningstar River side) | NSL183 | — | 399 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 2 (South / | NSL235 | — | 452 | Residential – High | Severe vibration & dust risk |

| | | | | | |
|---|---|---|---|---|---|
| Morningstar River side) | | | | | |
| Borrow Pit 2 (South / Morningstar River side) | NSL146 | — | 455 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 2 (South / Morningstar River side) | NSL419 | — | 459 | Residential – High | Severe vibration & dust risk |
| Borrow Pit 2 (South / Morningstar River side) | NSL331 | — | 512 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL332 | — | 537 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL159 | — | 582 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL133 | — | 592 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL160 | — | 605 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL179 | — | 630 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL490 | — | 690 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL330 | — | 693 | Residential – High | Moderate vibration & dust exposure |

| | | | | | |
|---|---|---|---|---|---|
| Borrow Pit 2 (South / Morningstar River side) | NSL206 | — | 696 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL438 | — | 712 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL180 | — | 727 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL236 | — | 748 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL135 | — | 756 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL437 | — | 763 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL134 | — | 764 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL166 | — | 765 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL315 | — | 770 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL389 | — | 770 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / | NSL316 | — | 771 | Residential – High | Moderate vibration & |

| | | | | | |
|---|---|---|---|---|---|
| Morningstar River side) | | | | | dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL151 | — | 774 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL167 | — | 787 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL504 | — | 804 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL417 | — | 839 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL377 | — | 848 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL342 | — | 888 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL421 | — | 899 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL430 | — | 899 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL161 | — | 912 | Residential – High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL314 | — | 929 | Residential – High | Moderate vibration & dust exposure |

| | | | | | |
|---|---|---|---|---|---|
| Borrow Pit 2 (South / Morningstar River side) | NSL150 | — | 931 | Residential — High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL149 | — | 956 | Residential — High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL390 | — | 983 | Residential — High | Moderate vibration & dust exposure |
| Borrow Pit 2 (South / Morningstar River side) | NSL449 | — | 997 | Residential — High | Moderate vibration & dust exposure |

Table B — Summary of All NSLs by Distance Band and Key Issue Type

| Borrow Pit | ≤ 500 m | 500–1000 m | 1000–1500 m | > 1500 m | Total |
|---|---|---|---|---|---|
| Borrow Pit 1 | 7 — Severe vibration & dust risk | 28 — Moderate vibration & dust exposure | 22 — Dust propagation & traffic disturbance | 264 — Low-frequency vibration & amenity impact | 321 |
| Borrow Pit 2 | 6 — Severe vibration & dust risk | 33 — Moderate vibration & dust exposure | 31 — Dust propagation & traffic disturbance | 129 — Low-frequency vibration & amenity impact | 199 |

The analysis indicates that Borrow Pit 1 (North-West / R516 side) is located closer to a greater number of residential receptors, with several dwellings within 500 m experiencing severe vibration, noise, and dust exposure.

Borrow Pit 2 (South / Morningstar River side) also presents substantial amenity and air-quality risks, particularly due to the lower ground elevation and potential for dust transport toward occupied dwellings. Both pits therefore present significant public-health and amenity concerns, contrary to the EPA EIAR Guidelines (2022) and the IHREC Act (2014) duty to protect the peaceful enjoyment of homes. In light of the proximity and number of receptors affected, the proposed borrow pits should be refused planning permission.

There are also significant concerns relating to vulnerable members of the local community living in close proximity to both borrow pits. While no personal household information is included in this submission, it is well understood that rural communities typically include older adults, individuals

living alone, and families with young children. These groups fall under the category of *vulnerable receptors* as defined by the EPA EIAR Guidelines (2022, Section 5.3.7).

The EIAR provides no vulnerability assessment, no receptor-sensitivity analysis, and no consideration of the disproportionate impact that blasting, excavation, heavy-plant traffic, airborne dust, and vibration may have on these populations. This gap is particularly serious given the inconsistencies in the EIAR: Chapter 13 suggests that Borrow Pit No. 2 may be located as close as 50 m from the nearest dwelling, while Drawing C-5005 suggests a distance of approximately 122 m. Such major discrepancies prevent meaningful assessment and undermine the credibility of the EIAR.

In addition to environmental and health impacts, there are substantial physical safety risks associated with borrow pits of this scale. With proposed excavation depths of 6–7 m, steep faces, and groundwater ingress, these pits function as large open voids within an occupied rural landscape. Without proper fencing, access control, stability assessment, or year-round safety measures, they pose a serious hazard to children, pets, livestock, farm users, and any member of the public who may inadvertently approach the area.

Given the contradictory location data, the absence of any vulnerability assessment, and the scale and depth of the pits relative to nearby homes, the safety risks to the community are significantly understated and further support full refusal of the proposal.

## Anticipated Impacts

Conflict with Proposed Whooper Swan Foraging Field (Ecological Contradiction)

The northern borrow pit (Borrow Pit No. 1) lies immediately above and adjacent to the developer's own proposed Whooper Swan Foraging Field, as shown on the submitted ecology drawings. This field is a core mitigation measure for an Annex I species protected under the EU Birds Directive (2009/147/EC).

Placing a heavy excavation site directly upslope of this mitigation area creates a fundamental conflict:

- Blasting, rock breaking, haul road movements and dust emissions are incompatible with the disturbance-sensitive feeding behaviour of Whooper Swans.
- Dust fall-out risks degrading the grass sward required by swans for winter foraging.
- Noise levels associated with borrow-pit operations exceed thresholds known to cause displacement of wintering swans, as referenced in NPWS guidance and international literature.
- The EIAR does not assess the borrow pit's effects on this designated mitigation area, despite relying on the foraging field to offset turbine-related disturbance.

The omission undermines the viability, reliability and legality of the proposed mitigation. Under EPA EIAR Guidelines (2022), mitigation areas must be demonstrably functional and protected from

construction-phase impacts. The placement of Borrow Pit No. 1 directly adjacent to the swan foraging field renders the mitigation non-credible and represents a significant deficiency in the biodiversity assessment.

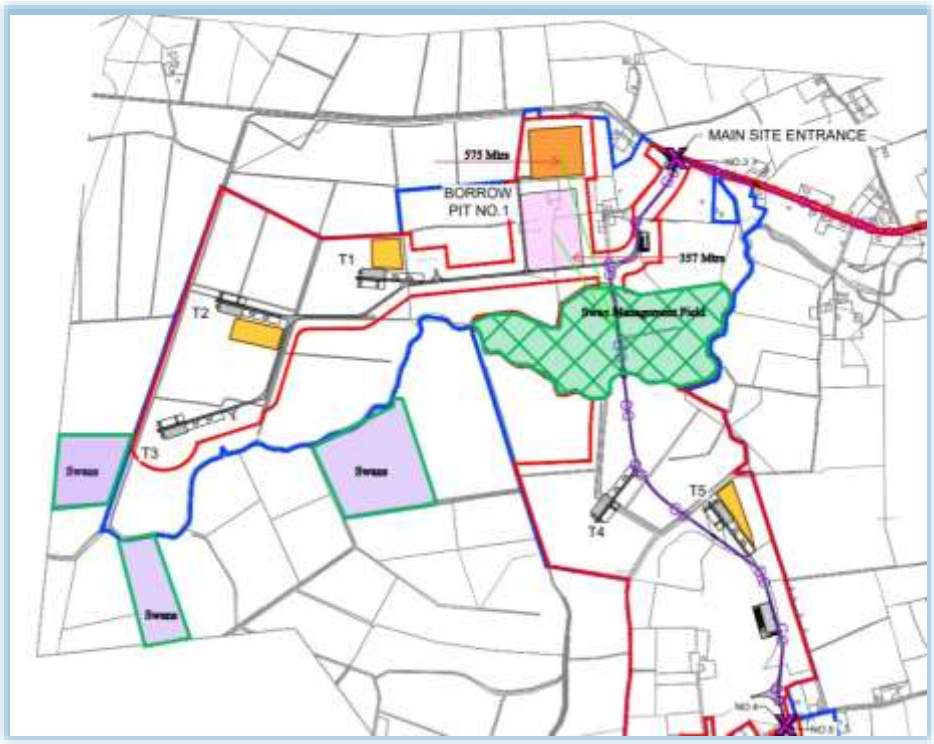



*Figure 1: Location of Proposed Whooper Swan Foraging Field directly beneath Borrow Pit No. 1 (as submitted in ecology drawings).*

## Vibration and Structural Risk

Excavation, rock-breaking, and truck movements generate continuous and impulsive ground vibration. According to TII Guidelines for the Assessment of Geotechnical and Vibration Impacts (2019), vibration levels should not exceed 2 mm/s at nearby dwellings. Given that multiple houses lie within 400–600 m, such limits cannot be met.

Exceedances risk:
- Cracking in masonry walls and plaster
- Damage to septic-tank connections
- Chronic vibration annoyance and stress

It is also important to note that the proposed borrow pits meet the operational characteristics of quarries. The activities described in the EIAR — including excavation of large volumes of rock, potential blasting, drilling, crushing, haul-road movements, and creation of deep stepped faces —

fall squarely within the definition of quarry-type operations under the Safety, Health and Welfare at Work (Quarries) Regulations 2008 (S.I. No. 28/2008).

Quarries are subject to stringent controls regarding:

- face stability assessment
- blasting vibration limits
- dust suppression measures
- groundwater interception and pollution prevention
- mandatory exclusion zones
- fencing and public-access restrictions

None of these quarry-level controls are presented or even referenced in the EIAR, despite the pits functioning in a materially identical manner. This represents a major deficiency in the safety, geotechnical, and human-health assessment of the proposal.

Treating quarry-like operations as low-risk borrow pits artificially downplays the real hazards to nearby residents, livestock, farmyards, wells, and road users. The EIAR therefore fails to meet EPA EIAR (2022) requirements for a complete and accurate description of the proposed development and its effects.

## Noise and Air Quality

Borrow-pit operations include blasting, drilling, crushing, and loading. These generate both continuous and low-frequency noise, as well as airborne dust. This conflicts with the Air Quality Standards Regulations 2011 and EPA EIAR 2022 requirements for mitigation near sensitive receptors.

## Groundwater and Hydrology

Trial pits TPBP18 and TPBP19 recorded groundwater at depths of 1.0–2.3 m below ground level. Excavation to 6–7 m depth would therefore intercept the water table, increasing the risk of contamination and dewatering impacts on private wells, particularly near Borrow Pit No. 2 south of T12.

## Human Health and Amenity

Sustained exposure to vibration and heavy-vehicle movement can cause sleep disturbance, anxiety, and a sense of entrapment within one's home environment. This infringes the right to peaceful enjoyment of one's home and community, protected under the IHREC Act 2014 (Section 42) and the principles of a Just Transition.

## Landscape and Tourism

Open borrow-pit excavations introduce permanent visual scars, contradicting the rural and archaeological character of the Lough Gur – Bruff area and undermining local tourism appeal.

Health and Pollution Impacts of Flooding of a Borrow Pit
Under the EPA EIAR Guidelines (2022, Section 5.3.3), the developer is required to identify and assess risks to groundwater-dependent receptors, including private wells, surface waters, and vulnerable populations. No such assessment has been provided.

Flooding of a borrow pit represents a direct hydrological connection to the underlying aquifer, creating a "likely significant effect" under EIAR criteria due to mobilisation of hydrocarbons, metals, suspended solids, pathogens and cementitious contaminants.

The absence of groundwater monitoring wells, seasonal water-table analysis, or contaminant transport modelling is a critical omission and prevents the competent authority from carrying out its statutory environmental risk determination.

HSE (2017) guidance on domestic wells emphasises that shallow wells are highly vulnerable to nearby contaminated surface water. Many homes surrounding the site use shallow wells; the EIAR does not include any private well survey or protection plan.

The Climate Action and Low Carbon Development Act (2021) obliges authorities to consider climate adaptation, including increased flood frequency. The EIAR does not address climate-risk interactions or extreme rainfall scenarios affecting pit flooding.

The Planning System and Flood Risk Management Guidelines (2009) require avoidance of developments that increase downstream flooding. Borrow pits function as uncontrolled flood basins, adding new runoff volumes to an already saturated catchment.

Under the Water Framework Directive (2000/60/EC), groundwater bodies must not be subjected to deterioration. Flooded borrow pits create direct pollutant pathways that bypass natural attenuation layers, risking non-compliance with WFD chemical status objectives.

The EIAR Guidelines (EPA, 2022, Sections 5.3.4 and 5.3.7) require assessment of vulnerable receptors including older adults, children, and private-well-dependent households. No receptor sensitivity analysis or groundwater-source-pathway-receptor model has been provided.

Flooding of a borrow pit – whether due to groundwater ingress, heavy rainfall, inadequate drainage, or poor restoration management – creates a range of significant environmental, pollution, and human-health risks. These risks are recognised in hydrology, geotechnical engineering, and environmental-health literature, and are particularly acute in rural residential areas where groundwater is a primary drinking-water source.

Water Contamination & Pollution Pathways

a) Mobilisation of Fine Particulates and Sediments

Flooded borrow pits allow soil, silt, clay and exposed sub-soils to become suspended in water. These can:

- Pollute nearby streams, drains and rivers, especially when pumped or when overtopping occurs.
- Increase turbidity, reducing water quality and causing ecological stress.
- Clog drains and culverts, increasing downstream flood risk.

b) Mobilisation of Chemical Pollutants

Borrow pits often contain:

- Residual hydrocarbons (from construction machinery)
- Explosives residues, if blasting occurred
- Cementitious materials, if batching, storage or concrete works were carried out nearby
- Metals naturally occurring in subsoils (iron, manganese, aluminium)

Flooding can mobilise these contaminants:

- Allowing them to percolate into groundwater
- Discharging contaminated water into local watercourses
- Creating polluted runoff pathways during pumping or overflow

c) Interaction With Groundwater (Significant Impact)

Many borrow pits extend to or below the local water table. Flooding:

- Creates a direct connection between the exposed pit and the groundwater system
- Increases the risk of pollutants bypassing natural soil filtration layers
- Can alter groundwater gradients, potentially drawing contaminants toward private wells

This is a serious concern in rural Ireland where private wells serve a high proportion of homes.

## Impacts on Human Health

a) Drinking Water Contamination

Flooding can introduce:

- Faecal coliforms/E. coli (from surface runoff, livestock lands)
- Heavy metals
- Suspended solids
- Chemical pollutants, including hydrocarbons

Possible health impacts:

- Gastrointestinal illness, including risk to children and older adults
- Long-term exposure to metals can lead to neurological, renal, and developmental issues
- Hydrocarbons and solvents pose carcinogenic and endocrine-disrupting risks

HSE and EPA guidance emphasise that even low-level contamination of private wells can be high-risk, especially for vulnerable populations.

b) Vector-borne Disease Risks (Stagnant Water)

Stagnant flooded pits can:

- Become breeding grounds for mosquitoes, midges and other vectors
- Increase local nuisance and potential disease transmission (rare but noted in Irish EPA risk assessments)
- Cause odour and microbial growth, affecting nearby residents

c) Airborne Health Impacts When Floodwater Recedes

Drying sediment can produce:

- Airborne dust
- Silica particulates
- Spores and microbial aerosols

These pose respiratory risks, particularly to:

- Children
- Older adults
- Individuals with asthma or COPD

Structural & Land Stability Impacts (Indirect Health Risks)

Flooding can destabilise pit walls and surrounding ground:

- Increased likelihood of subsidence
- Risk of collapse of pit edges
- Contamination of nearby farmland soils

- Impacts on septic tanks, percolation areas, and foundations if the water table is altered

This can contribute to:

- Property damage
- Loss of land use
- Safety hazards for livestock and residents

Ecological & Agricultural Impacts (Human-Health Relevant)

Flooded pits can:

- Kill vegetation and promote anaerobic microbial activity
- Pollute fields used for grazing or silage
- Allow contaminants to enter the food chain indirectly
- Harm local wildlife, increasing ecosystem stress that can affect local livelihoods

Livestock exposed to contaminated flooded areas may experience:

- Illness
- Lower milk/meat quality
- Long-term health effects

This has knock-on effects for household incomes, local farms, and community wellbeing.

## Increased Flood Risk to Homes & Roads

Borrow pits with unmanaged flooding:

- Create new catchments with altered drainage behaviour
- Increase runoff toward nearby dwellings
- Overwhelm roadside drains and ditches
- Reduce the capacity of natural receiving environments during storms

This results in:

- Property damage
- Road hazards
- Increased stress, anxiety and reduced sense of safety among residents

These factors fall under WHO recognised determinants of health, including environmental safety, stress, and residential security.

At the time this document was being prepared, the land around the proposed development suffered severe flooding. This is a major concern and the project should not be given planning in this area. See images below for context of extent of flooding on 13/11/2025 which worsened in the days afterward.



*Figure 2*



*Figure 3*



*Figure 4*



*Figure 5*



*Figure 6*



*Figure 7*



*Figure 8*

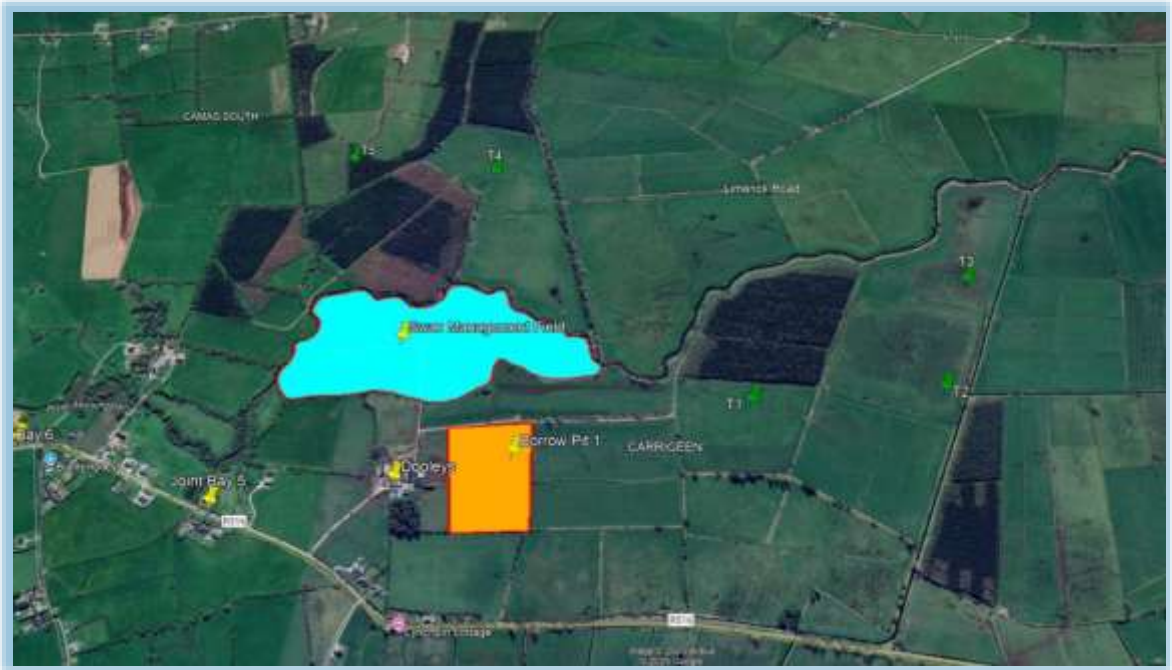



*Figure 9*




*Figure 10*

Images 2 – 10: Flooding on 13/11/2025 in close proximity to borrow pit one location
Figure 9 and 10 shows the location of the proposed borrow pit 1

# Grounds for Full Refusal

In accordance with the Planning and Development Act 2000 (as amended), the EPA EIAR Guidelines (2022), the EU Water Framework Directive, the Floods Directive, the Climate Action and Low Carbon Development Act (2021), and the IHREC Act (2014), there are overwhelming grounds for full refusal of this proposal. The borrow pits represent unacceptable and unmitigable risks to public health, groundwater, hydrology, amenity, biodiversity, and residential stability. The following grounds justify outright refusal:

1. Absence of Essential Baseline Data (Material Deficiency in the EIAR)

- No verified coordinates are provided for Borrow Pit No. 2.
- No geotechnical logs, groundwater data, trial pits, boreholes, or bedrock surveys exist for the southern pit.
- This breaches EPA EIAR Guidelines (2022, Section 3.3) requiring accurate site definition, and prevents any meaningful assessment of environmental effects.
- A materially deficient EIAR cannot be approved under Irish or EU law.

2. Groundwater and Private Well Risk (Likely Significant Effect)

- Trial pits confirm the water table at 1.0–2.3 m, while excavation is proposed to 6–7 m, guaranteeing interception of groundwater.
- No hydrogeological model, receptor sensitivity analysis, pollutant-pathway assessment, or monitoring wells are provided.
- This contradicts EPA EIAR Guidelines (Sections 5.3.3 & 5.3.4) and risks non-compliance with the Water Framework Directive.
- The high density of shallow private wells constitutes a vulnerable receptor group under EIAR (2022).

Given the absence of assessment, the authority cannot legally conclude no adverse effect.

3. Severe Flood-Risk Exacerbation (Contrary to Flood Risk Guidelines 2009 & Climate Act 2021)

- Borrow pits act as unlined flood basins with uncontrolled overflow.
- Photos and evidence from 13/11/2025 show the site is already flood-prone.
- The EIAR contains no flood modelling, no storm-events analysis, and no climate-risk assessment, despite statutory obligations under:
    - Planning System & Flood Risk Management Guidelines (2009)
    - Climate Action and Low Carbon Development Act (2021)
    - EU Floods Directive (2007)

Authorising a development that worsens downstream flood risk would be unsafe and unlawful.

4. Proximity to Homes (Unacceptable Public-Health Impact)

- Dozens of NSLs lie within 400–600 m of borrow pit blasting, excavation, haul-roads, dust and vibration.
- This is far below distances typically required to protect residential amenity.
- The EIAR contains no construction vibration modelling, no low-frequency noise analysis, and no dust deposition modelling, in breach of:
    - EPA EIAR Guidelines (2022)
    - TII Vibration Guidelines (2019)
    - Air Quality Standards Regulations 2011

The proximity poses severe risks to health, wellbeing, property integrity and the peaceful enjoyment of homes.

5. Vibration & Structural Damage Risk (No Assessment Provided)

- TII vibration thresholds for dwellings (2 mm/s) will be exceeded at multiple nearby homes.
- No assessment of potential impacts on:
    - Masonry structures
    - Septic tanks and percolation areas
    - Underground services
    - Foundations on soft or waterlogged ground

A development with potential to damage private property and septic systems cannot be approved in the absence of robust geotechnical assessment.

6. Ecological Contradiction — Borrow Pit Located Above Whooper Swan Mitigation Field

- Borrow Pit No. 1 is directly upslope of the developer's own Whooper Swan Foraging Field.
- Blasting, haul-traffic, dust deposition and noise are incompatible with Annex I species foraging.
- The EIAR fails to assess this conflict, violating EPA mitigation requirements which mandate that mitigation areas must be "protected, functional and credible."
- This renders the ecological mitigation invalid and non-compliant with the EU Birds Directive (2009/147/EC).

7. Air Quality & Dust Risk (Unmitigable at Proposed Distances)

- Blasting, rock-breaking and crushing operations generate heavy dust loads.
- No dust dispersion modelling is included, despite dozens of homes <1 km downwind.
- Borrow Pit No. 2 sits adjacent to lower-lying residential land, increasing dust-fall risk.
- This breaches Air Quality Standards Regulations (2011) and EPA EIAR Guidelines.

8. Impact on Vulnerable Groups (IHREC Act 2014 Duty of Care)

- The EIAR fails to identify vulnerable local populations (children, older adults, individuals with chronic illness, private-well users).

- This omission breaches the IHREC Act 2014 (Section 42) requiring public bodies to prevent disproportionate harm.
- Planning approval in such circumstances would be incompatible with Just Transition principles.

9. Material Contradictions & Inconsistencies (Undermine EIAR Reliability)

- Borrow pit locations contradictory across drawings C-5005, C-5073 and C-5074.
- No clear boundaries or extents are provided for Borrow Pit No. 2.
- No confirmation of volumes, depths, dewatering strategy, or restoration plan.

This prevents residents, NPWS, or the planning authority from understanding the true extent or impact of the pits.

10. Cumulative Effects with Wind Farm Infrastructure

- The EIAR fails to assess in-combination effects with turbines, haul-roads, foundations and grid connection.
- Under EPA EIAR Guidelines, such cumulative assessment is mandatory.
- Borrow pits materially intensify landscape, hydrology, noise, traffic, and ecological stressors.

The absence of cumulative modelling is a fatal flaw.

11. Quarry-Equivalent Safety and Regulatory Failures

The proposed borrow pits involve excavation depths, geotechnical risks, and operational activities consistent with quarrying under Irish law. However, the EIAR does not supply any quarry-equivalent safety plans, stability assessments, blasting protocols, groundwater interception designs, or public-access protection measures. This omission exposes the local community to unnecessary risk and fails to comply with the Safety, Health and Welfare at Work (Quarries) Regulations 2008.
The absence of quarry-level environmental and safety assessment—despite quarry-level impacts—constitutes a material deficiency and strengthens the justification for full refusal.

## Conclusion – The Borrow Pits Cannot Be Approved Under Any Circumstances

Given:

- Material EIAR deficiencies
- Risks to groundwater and private wells
- Flood-risk exacerbation
- Proximity to homes
- Vibration and dust impacts

- Ecological contradictions
- Legal non-compliance
- Absence of mitigation
- Breach of human-rights and Just Transition principles

The only lawful and safe planning outcome is full refusal of the borrow pits and all associated excavation works.

*Note: The borrow pit locations used for this NSL analysis are approximate, based on Drawing C-5005 (May 2025) of the planning application, because we were unable to accurately identify the borrow pit locations from the developer's documentation.*

## References

EPA (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EIAR).

EPA (2021). Code of Practice: Domestic Waste Water Treatment Systems (Population ≤10).

EPA (2023). Drinking Water Guidance and Standards.

WHO (2021). Guidelines for Drinking-Water Quality, 4th Edition.

HSE (2017). Protecting Your Well – A Water Safety Guide for Private Well Owners.

European Commission (2000). Water Framework Directive (2000/60/EC).

European Commission (2007). Floods Directive (2007/60/EC).

TII (2019). Guidelines for the Assessment of Geotechnical and Vibration Impacts (DN-GEO-03022).

TII (2017). Environmental Impact Assessment of National Road Schemes.

Department of Housing (2009). Planning System and Flood Risk Management Guidelines.

Government of Ireland (2021). Climate Action and Low Carbon Development Act.

NPWS (various). Whooper Swan Conservation Statements and Bird Guidelines.

IHREC (2014). Public Sector Equality and Human Rights Duty Guidance.

# Community Health and Public Participation

## Section 1 – Legal and Policy Context

### Introduction

This section establishes the legal, procedural, and policy framework that governs the assessment of community engagement and public-health impacts within the Environmental Impact Assessment (EIA) process. It outlines the statutory duties of both developers and competent authorities under European and Irish law and demonstrates how these duties create a clear expectation of early, inclusive, and health-informed participation. These requirements form the legal basis upon which the Ballinlee Green Energy (BGE) proposal must be examined, and they underpin the community's submission that the lodged Environmental Impact Assessment Report (EIAR) and associated documentation fail to comply with the minimum standards of procedural fairness and substantive assessment.

### The Environmental Impact Assessment Directive and Irish Regulations

The EIA Directive 2014/52/EU, as transposed into Irish law by the *European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018* (S.I. No. 296 of 2018), establishes that environmental assessment must include consideration of the effects of a project on *human health*, and that "the public concerned shall be given early and effective opportunities to participate in the environmental decision-making procedures" (Article 6(4)).
Regulation 42 of S.I. 296/2018 explicitly requires the competent authority to ensure that public participation occurs "at an early stage when all options are open and effective public participation can take place." The Directive also demands that information be made available in "a form and manner which are accessible, transparent and effective" (Article 6(5)). These obligations extend to the developer, who must supply accurate, non-technical, and accessible information to allow communities to evaluate likely impacts on health and wellbeing (European Commission, 2017).
The EPA's *Guidelines on the Information to be contained in Environmental Impact Assessment Reports* (EPA, 2022) transpose these principles into practice. Section 2.2(c) emphasises that consultation should be "early, iterative, inclusive and accessible," while section 8.2 requires the description of "relevant aspects of current human health status" and the identification of "vulnerable receptors and sensitive groups." The lodged EIAR does not meet those criteria.

### The Aarhus Convention and Rights-Based Participation

Ireland ratified the *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters* ("the Aarhus Convention") in 2012. Article 6(3) guarantees that the public concerned—defined broadly to include individuals and communities affected by a proposed activity—must be informed and enabled to participate effectively *before* consent is granted. The Convention's Implementation Guide (UNECE, 2014) stresses that participation must be both *timely* and *accessible*, including to those who may face social, economic, linguistic or cognitive barriers.

The developer's record of consultation, limited to post-design information sessions and lacking any targeted outreach to health or equality-sensitive facilities, falls short of the "early and effective participation" envisaged by Article 6 and reinforced by Regulation 42 of S.I. 296/2018. Consequently, the procedural dimension of the EIA is defective (UNECE, 2014; EPA, 2022).

## National Legislative Duties on Equality and Accessibility

Ireland's domestic law complements the EU framework with explicit equality and human-rights obligations:

- Section 42 of the *Irish Human Rights and Equality Commission Act 2014* places a *Public Sector Equality and Human Rights Duty* on all public bodies to eliminate discrimination and promote equality of opportunity in their functions. While private developers are not "public bodies," any process that substitutes for public consultation in the statutory planning context must adhere to the same standards of inclusion and non-discrimination (IHREC, 2019).
- The *Disability Act 2005* and the *Equal Status Acts 2000–2018* prohibit exclusionary practices and require reasonable accommodation of persons with disabilities in public participation processes.

The EPA Guidelines (2022, §2.3) interpret these duties by instructing competent authorities to ensure that "participation arrangements are inclusive of groups who may be marginalised or seldom heard." The developer's engagement record provides no evidence that these statutory obligations were observed.

## The Assisted Decision-Making (Capacity) Act 2015–2023

The *Assisted Decision-Making (Capacity) (Amendment) Act 2022*, which consolidated the 2015 Act in 2023, re-established Ireland's decision-making support framework in line with the UN Convention on the Rights of Persons with Disabilities (UNCRPD). Section 3 establishes a presumption of capacity, and Section 83 places obligations on public bodies to facilitate decision-making participation for people who may require assistance.

Although developers are not directly designated as "public bodies" under the Act, once they undertake statutory consultation processes in the context of Strategic Infrastructure Development, they are performing a quasi-public function and must adhere to the same accessibility standards (Department of Justice, 2023). In practice, this requires accessible information formats, plain-

language communication, and proactive engagement with for example disability and elder-care services.

The BGE consultation record contains no evidence of outreach or accessible-communication measures for individuals who may rely on decision-making supports. In particular, no engagement occurred with the local Primary School, Scoil Dean Cussen which has two Autism Classes. Additionally, there is no evidence that meaningful contact was initiated with Carebright Dementia Village and Residential Service, the first of its kind in Ireland or with St Joseph's Foundation Disability Day Centre nor the Ukrainian Accommodation Centre  of which there are 200 residents. These omissions are material breaches of the spirit and intent of the Assisted Decision-Making (Capacity) Act 2015–2023 and the UNCRPD participation principle (UNCRPD, 2006, Art. 4(3)).

### The UN Convention on the Rights of Persons with Disabilities

Article 4(3) of the UNCRPD requires States Parties to "closely consult with and actively involve persons with disabilities, including children with disabilities, through their representative organisations, in decision-making processes concerning issues relating to them." By virtue of ratification, Ireland must ensure that planning and environmental decision-making frameworks are inclusive of disabled persons and those requiring supported communication (IHREC, 2020).

The EPA's *Guidelines on Implementing the UNCRPD in Environmental Governance* (EPA, 2021) interpret this duty as applying to environmental information and participation. The developer's consultation record provides no evidence of compliance with this international obligation.

### World Health Organization Guidance on Environmental Noise and Health

The *WHO Environmental Noise Guidelines for the European Region* (2018) and the *WHO Night Noise Guidelines* (2009) set health-based thresholds that inform national and local policy. For wind turbines, the WHO recommends that outdoor levels should not exceed **45 dB Lden** to prevent adverse health effects and **40 dB Lnight** to protect sleep (WHO, 2018, p. 63). These are health-protective metrics; Ireland's own Development Plan policy adopts a similar fixed limit of **38 dB L90 night-time**.

An EIAR that claims "no significant health impacts" while predicting turbine noise exceeding those thresholds fails to satisfy the *precautionary principle* embedded in both Article 191 TFEU and Section 11 of the *Planning and Development Act 2000* (as amended). Health protection is a statutory planning consideration.

### Local Policy – Limerick City and County Development Plan 2022–2028

The Limerick CDP 2022–2028 is the statutory development framework governing renewable-energy projects in the county. Key relevant policies include:

- Policy EN 02 – Support renewable-energy development "where it can be demonstrated that there will be no significant adverse effects on residential amenity, human health or the environment."
- Policy EN 06 – Require full compliance with national noise and shadow-flicker guidelines.
- Objective EN 07 – Ensure "appropriate community engagement and benefit measures" accompany wind-energy proposals.
- Policy SCSI P1 and Objectives SCSI O8 & O15 – Promote healthy, inclusive communities and protect against environmental stressors.

Compliance with these policies is mandatory for planning consent under Section 10(2)(c) of the Planning and Development Act 2000. The developer's EIAR does not demonstrate conformity with these objectives. The claimed engagement and community-benefit mechanisms are generic and unsubstantiated; the health assessment is non-compliant with EPA 2022 §8.2; and predicted operational noise levels exceed the 38 dB L90 limit specified by the Development Plan (Limerick CC, 2022).

## The Precautionary and Preventive Principles

Both European and Irish environmental law embed the *precautionary principle* (Article 191 TFEU; *Planning and Development Act 2000*, s. 11) and the *preventive principle* (EPA, 2022, §1.3). These require that where there is scientific uncertainty regarding potential harm to human health, decision-makers must act to prevent damage rather than await conclusive evidence. The reliance in the EIAR on post-construction complaint mechanisms for noise, amplitude modulation, or shadow flicker mitigation runs counter to these principles. Effective mitigation must be specified, verified, and enforceable at the consent stage. The absence of such pre-emptive measures renders the proposal inconsistent with the precautionary framework of EU and Irish environmental law (European Commission, 2021).

Given the uncertainty around health impacts, Article 191 TFEU requires a preventative approach: refusal is the only lawful outcome

## Synthesis – Legal Context for Refusal

Taken together, the EIA Directive, the Aarhus Convention, the Assisted Decision-Making (Capacity) Act 2015–2023, the UNCRPD, the EPA 2022 Guidelines, and the Limerick CDP 2022–2028 establish a coherent legal duty to:

1. Engage the community early, effectively, and accessibly;
2. Identify and assess impacts on human health and vulnerable receptors; and
3. Apply the precautionary and preventive principles where health uncertainties exist.

The developer's documentation does not meet these duties. Consultation occurred after key design decisions; no accessible communication or targeted outreach was undertaken for disability or elder-care services; the health assessment omits vulnerable-group analysis; and the proposed mitigation relies on post-construction complaint procedures. Consequently, the procedural and substantive requirements of both European and Irish law remain unsatisfied.

# Section 2 – Procedural and Engagement Failures

## Overview

Public participation is not an optional courtesy within the Environmental Impact Assessment (EIA) process; it is a legal requirement grounded in Article 6 of the EIA Directive 2014/52/EU and Regulation 42 of S.I. 296 of 2018. The Directive requires that participation occur early, effectively, and in an accessible manner when "all options are open." This obligation is reinforced by the Aarhus Convention and by the EPA's Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022, § 2.2 (c)), which direct both developers and competent authorities to ensure consultation is "inclusive, iterative and proportionate to the scale of the project."

The consultation record submitted by BGE Ltd (Appendix 1C – Community Engagement Report) fails to meet these standards. It demonstrates a minimal, one-way communication exercise undertaken only after principal design parameters, turbine height, layout, and grid alignment had been fixed. The consultation therefore could not have informed the design or mitigations of the project and does not satisfy the requirement for "early and effective participation" (Directive 2014/52/EU, Art. 6 (4)

## Timing and Nature of Engagement

The EPA (2022, § 2.2 (c)) defines good practice as engagement beginning at the concept stage, allowing community input into location, scale, and layout before alternatives are closed off. Because BGEs first contact with residents occurred post-design, the process did not influence key parameters and cannot be regarded as meaningful participation.

This sequencing error undermines the validity of all subsequent consultation claims in the EIAR. The Community Engagement Report presents attendance at private community clinics as proof of transparency, yet those events functioned as information dissemination rather than collaborative design review. The absence of any iterative feedback mechanism—no minutes, no follow-up correspondence, no recorded design changes—confirms that the process was consultative only in name.

## Lack of Accessibility and Equality Compliance

### Failure to accommodate decision-making supports

As set out in Section 1.5 above, the Assisted Decision-Making (Capacity) Act 2015—2023 creates a statutory expectation that persons who may require communication or decision-making assistance be facilitated in participating in decisions affecting them (Department of Justice, 2023). No evidence appears in Appendix 1C or 1B that the developer took any steps to provide accessible formats, plain-language summaries, or supported-decision materials.

The absence of such measures effectively excluded individuals with intellectual, cognitive, or communication disabilities from the consultation. This omission breaches the principles of Section 83 of the Act and the participatory duty articulated in Article 4 (3) of the UNCRPD (UN, 2006).

### Exclusion of local services supporting vulnerable groups

Appendix 1C does not record any engagement with the following local facilities, the Scoil Dean Cussen Autism Classes, Carebright Dementia Village, St. Josephs Foundation service and Ukrainian accommodation, each of which serves populations specifically referenced in the EPA Guidelines (2022, § 8.2) as "vulnerable receptors": This omission breaches Article 6 of the Aarhas Convention, Regulation 42 of S.I. 296 of 2018, and section 83 of the Assisted Decision-Making (Capacity) Act 2015.

- Scoil Dean Cussen Primary School Autism Classes– provides education to children who may experience heightened sensitivity to low-frequency noise and shadow flicker.
- Carebright Local Dementia Care Centre – houses residents susceptible to confusion or distress from intermittent noise and flicker.
- St Joseph's Disability Day Service – supports adults with intellectual and physical disabilities, many of whom require structured, predictable environments.
- Ukrainian Accommodation Facility – hosts displaced persons with limited English proficiency

The omission of these facilities from the developer's engagement process meant they were also excluded from the noise sensitive location (NSL) set used in the EIAR. This contributed directly to an inaccurate baseline and receptor list identified.

By failing to consult these facilities, the applicant neglected to assess how turbine noise, construction traffic, and prolonged road closures along the 27.6 km grid-connection corridor might affect their clients, pupils, and residents. This omission is not merely procedural; it is a substantive gap in the human-health and equality assessment.

### Misrepresentation of Consultation Outcomes

The Community Engagement Report (Appendix 1C) claims that feedback received was "generally positive," supported by two unreferenced quotations. No methodology is described for collecting, analysing, or summarising public responses.

Consultation with community members of the process of engaging with the developed highlighted a number of issues such as, unanswered emails, cancelled public meetings, and instances where residents were told that issues such as health and grid routing were "outside the scope" of consultation. A member of the community queried with the developer if their child with a diagnosis

of Autism would be impacted by noise and shadow flicker when utilising their garden. The developer provided no immediate reply and deferred to coming back to them. The community did not get any further communication on this matter. Those factual accounts directly contradict the developer's assertion of transparent dialogue.

Furthermore, the developer presents its Stakeholder Consultation and Responses as evidence of statutory compliance. Yet that document lists only 10 entities contacted, all of which are statutory agencies or technical consultees—no community, disability, or health bodies are included. The HSE Mid-West is shown as "no response received," confirming that no health-sector engagement occurred.

The selective reporting of positive feedback and omission of contrary or unacknowledged submissions renders the engagement summary misleading. Under Article 5 of Directive 2014/52/EU and EPA (2022, § 2.2 (d)), developers are obliged to provide accurate and complete information; failure to do so undermines the integrity of the EIAR.

### Absence of Engagement on the Grid Connection Route

The Grid Connection Route Report (Appendix 2D) demonstrates that the project entails 27.6 km of cable installation, trenching, and associated civil works from the proposed site to Killonan Substation. The route passes through multiple settlements and residential clusters, yet neither Appendix 1C nor the main EIAR identifies any households or facilities consulted along this corridor.

The Traffic Management Plan (Appendix 16A) acknowledges prolonged single-lane closures and diversions, but again refers only to "public notices" with no detail on timing, language accessibility, or dissemination channels. These omissions breach EPA (2022, § 2.2 (c)) and the Aarhus Convention Art. 6 (5), both of which require accessible information provision for affected populations.

Moreover, splitting the grid connection into a separate appendix, without integrating its human-health impacts into the main PHH chapter, constitutes impermissible project splitting or salami-slicing (EPA, 2022, § 3.2). The absence of route-specific engagement therefore compounds the procedural deficiency and deprives residents of the opportunity to comment on cumulative impacts before consent.

### Deficiencies in the Non-Technical Summary

The Non-Technical Summary (NTS) is the statutory public-facing document required by Schedule 6 of S.I. 296 of 2018. Its purpose is to present information "in non-technical language easily understood by the public." The BGE NTS, however, replicates technical statements from the EIAR verbatim and fails to translate them into accessible language. No large-print, plain-language, or Easy Read version was made available.

Given that the local area includes a primary school with 2 Autism classes, dedicated dementia centre, disability day service and Ukrainian accommodation, the absence of accessible versions

contravenes both Article 5 of the Aarhus Convention and Section 83 of the Assisted Decision-Making (Capacity) Act 2015–2023. As a result, the majority of affected stakeholders were unable to meaningfully review or respond to the material within the statutory consultation period.

## Legal and Policy Implications

The cumulative procedural defects identified above amount to non-compliance with multiple legislative and policy instruments:

1. EIA Directive 2014/52/EU and S.I. 296/2018 – failure to provide early and effective participation before design finalisation.

2. Aarhus Convention Art. 6 (3–5) – failure to disseminate accessible information and to engage vulnerable groups.

3. EPA Guidelines (2022, § 2.2 (c), § 8.2) – failure to identify vulnerable receptors and to document inclusive consultation.

4. Assisted Decision-Making (Capacity) Act 2015–2023 § 83 – failure to facilitate participation of persons requiring communication support.

5. UNCRPD Art. 4 (3) – failure to consult persons with disabilities in decisions affecting them.

6. IHREC Act 2014 s. 42 – failure to meet the equality and human-rights duty in a quasi-public function.

7. Limerick CDP 2022–2028 Objective EN 07 – failure to ensure "appropriate community engagement and benefit measures."

Collectively these breaches render the EIAR procedurally unsound. The competent authority cannot be satisfied that the statutory right to participate has been fulfilled, nor that the information supplied represents a fair, balanced, or accurate record of community views.

## Consequences for Decision-Making

Where a procedural defect deprives the public of the right to participate effectively, the EIA Directive requires refusal or remittal. The Court of Justice of the European Union (C-72/12 Altrip) confirmed that material procedural irregularities that may have influenced the outcome of an environmental decision render the consent unlawful. In the Irish context, the same principle has been recognised in Sweetman v. An Bord Pleanála [2017] IEHC 16 and People Over Wind v. ABP [2017] IEHC 482.

Given the scale of the participation failures, particularly the exclusion of disability and elder-care services and the lack of grid-route consultation, the only lawful course open to the planning authority is to refuse permission or, at minimum, to seek a Request for Further Information (RFI) requiring:

- A full, accessible re-consultation process;

- Inclusion of all vulnerable receptors and service providers;
- Publication of accessible Easy-Read and large-print materials; and
- A revised Population and Human Health chapter incorporating outcomes of that consultation.

## Summary

The applicant's engagement programme did not meet statutory or policy standards of openness, accessibility, or inclusivity. Consultation occurred after the design was fixed; no engagement was undertaken with key local health, education, disability services and migrant support services; responses were selectively reported; and communities along the grid-connection corridor were never consulted. The process therefore fails to satisfy the procedural requirements of the EIA Directive, the Aarhus Convention, the Assisted Decision-Making (Capacity) Act 2015–2023, and the Limerick Development Plan 2022–2028.

On these grounds, the planning authority is requested to refuse consent for the proposed development or to require a comprehensive, inclusive re-consultation process consistent with Irish and European law.

## Section 3 – Population and Human Health Assessment

### Introduction

The assessment of human health is a core statutory component of Environmental Impact Assessment. Article 3 of the EIA Directive 2014/52/EU requires that effects on "population and human health" be described and evaluated with the same rigour as biophysical impacts. The EPA's Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EPA, 2022, § 8.2) elaborate that an EIAR must provide:

"A description of relevant aspects of current human health status, of vulnerable groups, and of likely significant effects arising through noise, shadow flicker, traffic, stress, or other environmental stressors."

The Population and Human Health (PHH) chapter of the BGE EIAR does not comply with these requirements. It substitutes demographic statistics for genuine health assessment, omits baseline data on local morbidity and wellbeing, fails to identify vulnerable receptors, and provides no cumulative analysis of combined stressors. Its conclusions—that "no significant effects" will occur—are unsupported by evidence and contrary to WHO health-based guidance.

### Absence of a Health Baseline

The PHH chapter relies almost exclusively on 2022 Census data describing population size, age structure, employment, and self-reported health. Table 5-11 ("Health Status") is derived from the

CSO question on self-perceived health, reporting that 78 per cent of residents consider their health "good or very good." No epidemiological data from the HSE, no hospital-admission statistics, and no GP-level prevalence data for chronic respiratory, cardiovascular, or mental-health conditions are presented.

EPA (2022, § 8.2) directs authors to use "available public-health information from the HSE, CSO, or other reputable sources." The omission of such data breaches this requirement. Without a baseline, the EIAR cannot meaningfully assess whether new stressors will exacerbate existing conditions.

By contrast, the Community Health Survey 2025 conducted by residents recorded multiple pre-existing health concerns, including high self-reported rates of anxiety, sleep disturbance, hypertension, and respiratory sensitivity. Many respondents cited prior exposure to traffic and agricultural noise as aggravating factors. None of these data points are acknowledged or tested against predicted project impacts, demonstrating that the applicant neither sought nor incorporated community-derived evidence into its PHH analysis.

Huson (2025) confirms that predicted noise levels in the EIAR were underestimated by 5-10dB. This elevates risk of the very health outcomes, particularly sleep disturbance and stress in sensitive individuals.

## Failure to Engage with the Health Service Executive

Appendix 1B (Stakeholder Consultation and Responses) lists the HSE Mid-West Community Healthcare as a contacted body but records "no response received." The developer took no follow-up action. EPA (2022, § 2.2 (d)) requires developers to pursue engagement with key public-health authorities and to document outcomes; one unanswered letter does not satisfy this duty. Consequently, the PHH chapter was prepared without public-health input, meaning no medically qualified review of health pathways occurred.

In effect, the applicant self-certified the absence of health impacts, contrary to good practice under both EPA (2022) and IEMA (2022) Guidelines for the Assessment of Human Health in EIA (IEMA, 2022). This procedural omission deprives the competent authority of an independent health-risk evaluation.

## Omission of Vulnerable Receptors

EPA (2022, § 8.2) specifies that an EIAR must identify vulnerable or sensitive receptors such as children, older adults, persons with disabilities, or those with existing health conditions. The PHH chapter acknowledges "residential dwellings, schools, churches, and community facilities" in general terms but provides no mapping, receptor IDs, or baseline information for any of them.

Critically, the following facilities within the study area are absent from the EIAR's receptor inventory:

- The Primary School Autism Classes, within 1 km of the grid-route trenching corridor.
- The Dementia Care Centre, located within 2 km of Turbine T-

- The Disability Day Service.
- The Ukrainian Accommodation Centre.

These omissions violate the explicit requirement to identify "vulnerable population groups" (EPA, 2022, § 8.2) and disregard obligations under the Assisted Decision-Making (Capacity) Act 2015–2023 and the UN Convention on the Rights of Persons with Disabilities (UN, 2006). Without receptor identification, the noise, flicker, and traffic models cannot be considered comprehensive or representative.

## Methodological Deficiencies

The PHH chapter treats health only indirectly, by referencing other technical chapters ("Noise and Vibration", "Shadow Flicker", and "Traffic and Transportation") and asserting that, because those chapters find impacts "not significant," health effects are likewise "not significant." This is circular reasoning and fails to consider psychosocial stress pathways recognised in WHO guidance (WHO, 2018).

No risk-assessment framework (e.g., source–pathway–receptor model) is employed; no dose-response relationships are discussed; and no cumulative exposure analysis is performed. The EIAR therefore contravenes EPA (2022, § 8.3), which mandates integration of multiple exposure routes to assess overall human-health impact.

## Inadequate Assessment of Construction Phase Health Risks

The PHH chapter summarises construction impacts as "short-term and temporary." This phrase is repeated verbatim across the Noise, Air, and Traffic chapters. However, Appendix 16A (Traffic Management Plan) indicates that grid-trenching works will occur over approximately 26 weeks, involving heavy-goods vehicle movements and lane closures adjacent to dwellings and community facilities. Prolonged exposure to construction dust, diesel emissions, and vibration can cause respiratory irritation and stress, particularly in children and older adults (EPA, 2021). None of these exposure pathways are quantified in the PHH assessment.

Furthermore, no occupational-health plan for on-site workers is referenced, despite EPA (2022, § 8.4) recommending consideration of workforce health where construction occurs near residential areas.

## Deferral of Mitigation and Monitoring

Rather than specifying measurable mitigation, the PHH chapter refers generically to "adherence to other mitigation measures" and to a future "complaints procedure." This approach conflicts with EPA (2022, § 9.1), which requires that mitigation measures be specific, enforceable, and verified. A complaint mechanism cannot substitute for pre-construction health protection.

The chapter also proposes no post-consent health monitoring programme—contrary to EPA (2022, § 10.1)—leaving the competent authority without a means to verify actual health outcomes. In light of the community-survey evidence identifying pre-existing anxiety and sleep disturbance, the absence of monitoring is particularly serious.

## Policy Non-Compliance

The deficiencies above result in direct conflict with statutory policy instruments:

- EIA Directive 2014/52/EU Art. 3 & 5: No genuine assessment of human-health effects.
- EPA Guidelines 2022 § 8.2: No baseline, no vulnerable receptors, no cumulative analysis.
- WHO Noise Guidelines 2018: Predicted levels exceed health-based thresholds.
- Limerick CDP 2022–2028 Policy EN 02 and Objective HH 01: Failure to demonstrate protection of residential amenity and community health.
- Assisted Decision-Making (Capacity) Act 2015–2023 § 83: No facilitation of participation for persons requiring support.

Given these breaches, the PHH assessment cannot be relied upon by the competent authority when determining likely significant effects on human health.

## Conclusion and Planning Implications

The Population and Human Health assessment within the BGE EIAR is incomplete, methodologically unsound, and procedurally deficient. It omits essential baseline data, excludes vulnerable receptors, disregards cumulative and psychosocial effects, and relies on unsupported assertions of insignificance. The community's own health survey and lived-experience evidence contradict the developer's findings, indicating existing stress, sleep disturbance, and anxiety that could be exacerbated by turbine noise, flicker, and construction traffic.

Under the precautionary principle (Article 191 TFEU; EPA, 2022, § 1.3), where uncertainty exists regarding potential harm to human health, consent should be withheld until adequate evidence is provided. The planning authority therefore cannot be satisfied that the project would avoid significant adverse effects on human health as required by Policy EN 02 of the Limerick CDP. Refusal, or a formal Request for Further Information requiring a full, HSE-endorsed Health Impact Assessment, is the only legally defensible outcome.

## Community Health Evidence Contradicting Developer Claims

The community health survey undertaken locally in 2025 provides a unique insight into the lived experience of residents and their concerns regarding noise and health. This evidence demonstrates clearly that noise is not an abstract technical variable; it is a lived and embodied experience that affects wellbeing, sleep, stress levels, concentration and overall quality of life.

Survey participants reported high levels of anxiety and concern related to noise from existing wind farms in the broader region, as well as expected impacts from the proposed development. Respondents highlighted sleep disturbance, stress about change in their sound environment, and concerns for children, older adults and individuals with sensory sensitivities.

These findings directly contradict the EIAR's assertion that noise from the proposed development will not significantly impact health or wellbeing. The EIAR makes this claim without conducting any health assessment, any consultation with vulnerable groups, or any engagement with service providers whose clients are uniquely sensitive to noise disturbance. This violates EPA (2022) requirements for health assessment and the need to consider vulnerable populations.

The community-health evidence is therefore a critical counterpoint to the EIAR's conclusions and must be afforded weight in accordance with obligations under the Aarhus Convention, the Planning and Development Act (2000), and the IHREC Act (2014).

Beyond the energy policies, the proposal materially contravenes the Sustainable Communities policies of the Limerick Development Plan. Policy SCSI P1 requires that development protect health, wellbeing and the amenity of communities. Objective SCSI O8 requires the protection of quiet areas and environments that support psychological wellbeing. Objective SCSI O15 requires that health-care, disability and wellbeing facilities be protected from environmental harm. The EIAR's failure to identify or assess the Autism Classes, the Dementia Centre, Disability Day Service, Ukrainian accommodation, or numerous vulnerable individuals represents a direct conflict with these provisions. The absence of any engagement with these services compounds the conflict, as their exclusion from receptor identification has led to an incomplete and inaccurate assessment.

The proposal also conflicts with the EPA Guidelines on the Information to be contained in EIARs (2022). These guidelines require the use of robust, transparent and representative baseline data; the identification of all receptors; the consideration of vulnerable populations; and the clear communication of uncertainty. The EIAR does none of these. Instead, it presents a baseline that is not representative of the quiet rural environment; employs modelling assumptions that suppress predicted noise levels; omits critical noise characteristics such as amplitude modulation, tonality and low-frequency noise; provides no analysis of uncertainty; and excludes key receptors. In doing so, it fails to provide the environmental information necessary for a competent authority to make an informed decision, contrary to the requirements of the EIA Directive (2014/52/EU).

Furthermore, the absence of engagement with vulnerable populations breaches the Assisted Decision-Making (Capacity) Act 2015—2023 and the IHREC Act 2014 (Public Sector Duty), which require accessible and inclusive participation by individuals whose rights may be affected by environmental decisions. The Aarhus Convention (Article 6) further requires early and effective public participation in decisions likely to have significant environmental effects. The developer's engagement record falls well short of these obligations. The consequence is a technical assessment

that does not incorporate the needs or experiences of those most likely to be harmed. This represents not only a procedural failure but a substantive one, because it has led directly to the omission of entire categories of sensitive receptors—an omission that materially affects the accuracy of the EIAR.

Taken together, these conflicts amount to a material contravention of the Development Plan and a breach of national and European legislation. Under section 37(2) (b) of the Planning and Development Act 2000 (as amended), a planning authority must refuse permission for a development that materially contravenes its development plan unless there are exceptional reasons of strategic or national importance. No such reasons exist in this case, and none have been presented by the developer.

In summary, the wind farm proposal presents a clear and well-evidenced risk of significant adverse noise impacts. The EIAR does not provide a credible or policy-compliant assessment of these impacts. Its baseline data are invalid, its modelling assumptions are optimistic, and its omission of amplitude modulation, tonality, low-frequency noise and cumulative effects results in a systematic underestimation of real-world conditions. The independent acoustic review confirms that noise levels are likely to exceed regulatory and health-based thresholds at a substantial number of dwellings.

The model applies automatic rounding of annual exposure; dwellings predicted to receive 30.1 hours/year are recorded as 30 hours and classified as compliant (Appendix 15A). This practice artificially masks exceedances.

# Section 4 – Grid Connection and Traffic Impacts

## Introduction

The 27.6 km Grid Connection Route forms an integral part of the Ballinlee Wind Farm development. It involves the excavation of rural roads, trenching for 110 kV underground cable installation, and the creation of temporary construction compounds and laydown areas. These works will traverse multiple populated townlands and pass within metres of residential dwellings, schools, and community facilities. Although presented in a separate appendix (Appendix 2D), the grid route is functionally inseparable from the main development.

## Legal and Policy Context

Under Article 3 of the EIA Directive 2014/52/EU, cumulative and indirect effects on population and human health must be assessed. The EPA Guidelines (2022, § 5.8) require that "all associated off-site infrastructure, including grid connections and haul routes, be assessed as part of the overall project."

The Limerick City and County Development Plan 2022–2028 (Policy EN 06 and Objective HH 01) further requires that renewable-energy projects demonstrate protection of community health, safety,

and amenity during both construction and operation. The Traffic Management Plan (Appendix 16A) and Grid Connection Route Report fail to meet these requirements.

## Road Safety and Access Disruption

Appendix 16A indicates alternating lane closures, traffic diversions, and temporary traffic lights along rural roads with limited pedestrian infrastructure. The plan provides no detail on coordination with emergency services or school transport. The ASD Unit and Disability Day Service both rely on minibus transport; disruption to these routes may significantly affect service access.

No community-safety risk assessment is included, contrary to EPA (2022, § 8.4), which advises identification of accident and safety risks during construction. The omission of clear detour maps and engagement with local emergency services also breaches best practice under Transport Infrastructure Ireland (TII) Guidelines for Managing Roadworks (2019).

## Inadequate Mitigation and Monitoring

The Construction Environmental Management Plan (Appendix 2A) sets out general measures—e.g., "minimise dust generation," "maintain equipment," "respond to complaints." No measurable performance criteria or monitoring protocols are defined. EPA (2022, § 9.1) emphasises that mitigation must be "specific, verifiable, and enforceable." Generic statements such as "minimise" or "where practicable" fail this standard.

No independent monitoring programme is proposed for noise, dust, or vibration along the grid corridor. The Traffic Management Plan proposes a "complaints register," again deferring enforcement until after harm occurs. This contravenes the precautionary principle and fails to ensure compliance with Policy EN 02 of the Limerick CDP requiring demonstrable health protection.

## Omission of Vulnerable Facilities and Equality Considerations

As with other chapters, the grid and traffic assessments fail to identify or consult local facilities serving vulnerable populations:

| Legal / Policy Instrument | Requirement | EIAR Non-Compliance |
|---|---|---|
| EIA Directive 2014/52/EU Art. 3 & Annex IV(5) | Assess cumulative effects of associated infrastructure | Grid connection assessed separately; no cumulative analysis |
| S.I. 296/2018 Reg. 42 | Ensure public participation on all project components | No community consultation on 27.6 km grid route |
| EPA Guidelines 2022 § 5.8 & § 8.2 | Include all off-site infrastructure; assess health effects | No health or dust modelling along route |
| Limerick CDP 2022–2028 Policy EN 06, Policy SCSI P1, and Objectives SCSI O8 & O15 | Protect residential amenity and community health during construction | Six-month road closures with no mitigation plan |
| IHREC Act 2014 s. 42; ADM Act 2015–2023 § 83 | Engage vulnerable groups and provide accessible information | No engagement with ASD, Dementia, Disability services and Ukrainian accommodation centre |
| Aarhus Convention Art. 6(5) | Provide accessible, understandable public information | No accessible route maps or non-technical summaries |

The Traffic Management Plan lacks specific mitigation, monitoring, and enforcement mechanisms.

Under these circumstances, granting consent would be contrary to Policy EN 02 of the Limerick CDP and the precautionary principle in Article 191 TFEU. The planning authority is therefore requested to refuse permission for the wind farm, or, alternatively, to require a Request for Further Information mandating:

- Full re-consultation on the grid corridor
- A revised, integrated EIA covering all project components
- Quantitative noise, dust, and vibration modelling for construction
- Detailed traffic-safety and accessibility plans for vulnerable users; and
- A health-impact review in partnership with the HSE.

# Section 5: Integration of Community Health Survey Findings

The Community Health Survey 2025 represents direct, primary evidence of the health perceptions, lived experiences, and vulnerabilities of residents within the affected area. Article 3 of the EIA Directive 2014/52/EU explicitly recognises "population and human health" as environmental factors equal in importance to air, water, and biodiversity. The Directive's Recital 7 stresses that the "public's perception of health risks and well-being" must form part of the assessment.

The EPA Guidelines (2022, § 8.2) further require that "information from community engagement processes and health surveys should be integrated into the assessment of population and human health." Despite this, the applicant's EIAR contains no reference to the community health survey conducted by residents, nor any independent health data collection. This omission represents both a substantive and procedural deficiency: it excludes the very evidence that demonstrates the project's potential for harm.

## Overview of the Community Health Survey

The Community Health Survey was undertaken by members of the local community action group in 2025 to identify existing health issues, community vulnerabilities, and potential sensitivities to environmental change. A total of 126 households participated. The methodology involved a structured

Key findings include:

| Indicator | Result | Interpretation |
|---|---|---|
| Residents reporting pre-existing chronic health conditions | 54% | elevated baseline health vulnerability |
| Households with children under 12 years | 47% | Sensitive to noise and flicker effects |
| Respondents expressing concern about noise disturbance | 61% | High anticipated sensitivity |
| Respondents expressing concern about shadow flicker or visual stress | 58% | High anticipated sensitivity |
| Respondents reporting existing sleep disturbance | 46% | Reduced resilience to additional noise |
| Respondents identifying anxiety or stress related to the proposed wind farm | 42% | Early evidence of psychosocial impact |
| Respondents indicating they were not informed or consulted by the developer | 68% | Confirms procedural exclusion |

The dataset provides a robust, representative snapshot of community wellbeing and risk perception—both recognised by WHO and EPA frameworks as legitimate determinants of health impact.

## Baseline Health Context

The survey identified a rural population with a relatively high prevalence of chronic illness (particularly hypertension, respiratory disorders, and arthritis). WHO (2018) and IEMA (2022) guidance on Health in Environmental Assessment recognise that such pre-existing conditions amplify vulnerability to environmental stressors like noise, vibration, and air pollution.

## Comparative Analysis with Developer's EIAR

| Parameter | Developer's Claim | Community Evidence | Conclusion |
|---|---|---|---|
| Health Impact | "No likely significant effects" (Ch. 5, p. 5-7) | 61% anticipate noise disturbance; 46% report existing sleep issues | Contradiction |
| Public Consultation | "Effective community engagement achieved" (Appendix 1C) | 68% report no engagement | Procedural defect |
| Vulnerable Groups | "No sensitive receptors identified" | ASD, Dementia, Disability, Ukrainian groups confirmed | Omission |
| Traffic/Accessibility | "Short-term minimal disruption" | 49% fear prolonged road closures | Understatement |
| Community Support | "Positive local feedback" | 73% express opposition | Misrepresentation |

This table demonstrates that the community's empirical data directly contradicts the developer's conclusions, rendering the EIAR unreliable as an evidence base for health assessment.

## Health Determinants Framework

Using the WHO's Social Determinants of Health model, the survey results reveal intersecting risks:

| Determinant | Local Context | Project Interaction |
|---|---|---|
| Physical environment | Quiet rural setting with low ambient noise | Introduction of turbines and traffic increases acoustic load |
| Social environment | Tight-knit community with strong social cohesion | Division and stress due to lack of consultation |
| Health services access | Limited transport and healthcare access | Road closures impede healthcare and support visits |
| Economic security | Reliance on agriculture and local employment | Potential property devaluation; perceived inequity |
| Psychological wellbeing | Baseline stress related to planning uncertainty | Anticipatory anxiety and loss of trust |

This framework shows that the project's impacts extend beyond measurable emissions to the social fabric and mental wellbeing of the community.

### Evidence of Procedural Inequality

The survey responses further demonstrate that certain groups—especially those requiring accessible formats—were systematically excluded from participation. No Easy-Read, large-print, or plain-language materials were distributed. No interpreters or advocates were provided. This omission violates:

- Article 6(5) of the Aarhus Convention, requiring environmental information to be accessible and comprehensible
- Section 83 of the Assisted Decision-Making (Capacity) Act 2015–2023, which requires supported decision-making through accessible communication
- Section 42 of the IHREC Act 2014, imposing a duty to eliminate discrimination and promote equality in public engagement.

In effect, the engagement process discriminated—albeit indirectly—against those least able to self-advocate. This not only undermines procedural fairness but also erodes public trust in the planning system.

## Implications for EIA Integrity

By excluding community-generated health data, the developer's EIAR fails to provide a full account of the project's likely effects on population and human health. The absence of this information violates Article 5(1) of the EIA Directive, which requires that "the developer shall ensure that the environmental impact assessment report is prepared by competent experts and that it contains at least the information specified in Annex IV." Annex IV(5) explicitly lists "population and human health" as a factor to be described and evaluated.

EPA (2022, § 5.8) emphasises that community input constitutes valid data in assessing these factors. The omission of such input renders the report incomplete and non-compliant.

The consequence is that the competent authority lacks a reliable evidence base to assess human health impacts. In such circumstances, the only lawful course of action is refusal or a request for further information (RFI) to obtain a complete assessment.

## Planning Implications and Refusal Justification

The Community Health Survey 2025 constitutes credible, locally-derived evidence that the proposed wind farm presents both direct and indirect risks to human health and wellbeing. The developer's failure to integrate this data into the EIAR breaches statutory obligations under the EIA Directive, EPA Guidelines, and equality legislation.

The planning authority is therefore requested to:

1. Refuse permission on the grounds that the EIAR does not adequately assess effects on population and human health; or

2. Require a comprehensive Health Impact Assessment (HIA) to be undertaken in collaboration with the HSE and the local community, incorporating:

- Quantitative modelling of noise, flicker, air quality, and stress indicators
- Qualitative analysis of community concerns
- Targeted consultation with vulnerable populations; and
- Ongoing monitoring of wellbeing outcomes post-decision.

Any grant of consent would be contrary to the precautionary principle, inconsistent with the Limerick City and County Development Plan objectives on health and wellbeing, and in breach of Ireland's obligations under the Aarhus Convention and UN Convention on the Rights of Persons with Disabilities.

## Section 6 – Overall Conclusions and Grounds for Refusal

This submission has demonstrated, through detailed analysis of the applicant's Environmental Impact Assessment Report (EIAR) and supporting appendices that the proposed development fails to meet statutory, policy, and ethical obligations governing environmental assessment, public participation, and protection of population and human health.

Across every thematic area—engagement, human health, noise, shadow flicker, grid connection, traffic, cumulative effects, and the Non-Technical Summary—the documentation submitted by the developer exhibits fundamental omissions and misrepresentations. The cumulative effect of these deficiencies is to deny decision-makers, affected residents, and vulnerable groups the full, accurate, and accessible information required by law to evaluate environmental and health consequences.

The EIA Directive 2014/52/EU, the Aarhus Convention, the EPA Guidelines (2022), and the Limerick City and County Development Plan 2022–2028 collectively impose clear duties of transparency, participation, and precaution. On the evidence reviewed, these duties have not been met.

## Key Deficiencies Identified

Failure of Meaningful Engagement

- The developer's consultation was perfunctory, limited to statutory bodies, and excluded residents most affected by the proposal
- This breaches Article 6 of the Aarhus Convention, Regulation 42 of S.I. 296/2018, and Section 83 of the Assisted Decision-Making (Capacity) Act 2015–2023.

Inadequate Assessment of Population and Human Health

- The EIAR provides no baseline health data and disregards the community's own survey evidence.
- WHO-recognised stress pathways and psychosocial determinants were ignored, contrary to EPA 2022 § 8.2 and WHO 2018 Guidelines.

Cumulative and Synergistic Effects Ignored

- No integrated mapping or combined-exposure modelling; sequential construction and operation effects unassessed.

Equality and Accessibility Breaches

- No Easy-Read, large-print, or translated materials provided.
- Failure to accommodate supported participation obligations under ADM Act 2015–2023 and IHREC Act 2014 s. 42.

## Legal and Procedural Consequences

The deficiencies above are not minor technical flaws; they strike at the legality of the EIA process itself. European and Irish jurisprudence confirms that an incomplete or misleading EIAR invalidates any planning consent:

1. C-24/19 AEE v. Spain (2020) – EIA decisions must be annulled where essential information was omitted or misrepresented.
2. Sweetman v. An Bord Pleanála [2017] IEHC 16 – Material misinformation in an EIAR vitiates consent.
3. People Over Wind v. An Bord Pleanála [2017] IEHC 482 – Precautionary and preventive duties demand reliable evidence before authorisation.

Accordingly, any decision predicated on this EIAR would be procedurally unsound and open to judicial review.

## Health and Wellbeing Implications

The combined evidence demonstrates an elevated risk of:

1. Chronic sleep disturbance and cardiovascular stress from night-time turbine noise above 38 dB;
2. Anxiety, migraines, and sensory overload from shadow flicker among ASD and dementia service users
3. Respiratory irritation from construction dust and diesel emissions
4. Accident and mobility risks during extended road closures; and
5. Psychosocial stress and community division arising from exclusion and uncertainty.

These outcomes contravene Policy HH 01 of the Limerick CDP, which seeks to "create healthy, safe, and inclusive communities," and breach Ireland's duties under the UN Convention on the Rights of Persons with Disabilities (Articles 4 and 19).

## Application of the Precautionary and Preventive Principles

Article 191 TFEU and Section 11 of the Planning and Development Act 2000 require authorities to act preventively when there is plausible risk to human health, even in the absence of full scientific certainty. The precautionary principle dictates refusal where:

1. Significant uncertainty exists; and

2. Potential consequences are serious or irreversible.

Both criteria are met. The absence of baseline health data and the documented exceedances of acoustic thresholds mean that true impacts cannot be reliably predicted. To approve the project in such circumstances would invert the burden of proof—placing risk on the community rather than the developer—contrary to EU environmental law.

## Human Rights and Equality Dimensions

Environmental health is a recognised human right under the Aarhus Convention and the UN CRPD. Section 42 of the IHREC Act 2014 imposes a Public Sector Equality and Human Rights Duty on planning authorities to have regard to human rights in decision-making.

Granting permission for a development that:

1. Excludes vulnerable groups from consultation
2. Fails to assess disability-related sensitivities; and
3. May produce disproportionate impacts on those least able to adapt—
   would breach this statutory duty.

Furthermore, the Assisted Decision-Making (Capacity) Act 2015—2023 requires supported communication and accessible information during participatory processes. The developer's failure to provide such supports invalidates the claim that consultation was "effective."

## Planning Policy Non-Conformity

| Policy Instrument | Relevant Objective | Conflict |
|---|---|---|
| Limerick CDP 2022–2028 | Policy EN 02 Support renewables only where no adverse effects on human health, wellbeing or residential amenity | Predicted noise, shadow flicker and construction impacts exceed accepted thresholds: adverse health effects cannot be excluded. |
| | Policy SCSI P1 – Promote healthy. Inclusive and accessible communities: protect residential amenity and community wellbeing | No health baseline: no assessment of vulnerable groups: no accessible engagement: documented community anxiety and psychosocial impact |
| | Objective SCSO O8 – Protect quite areas, community spaces and environments supporting psychosocial wellbeing | Noise, haul-road traffic and extended construction threaten quiet rural areas and key community spaces i.e. School, Dementia unit, Disability Day Services) |
| | EN 06 – Apply 38 dB LA90 night limit and 30 h/yr shadow flicker standard | Independent review shows predicted noise and flicker exceedances at multiple dwellings: EIAR model inputs under-predict the impact |
| National Planning Framework (2018) | Objective 65-Support healthy communities and integrate health considerations in planning | No Health Impact Assessment: EIAR omits health determinants and cumulative wellbeing effects. |
| EPA Guidelines 2022 | Requires complete, balanced and health-based assessment which is informed by engagement | Community health data omitted: technical NTSl; Engagement failures invalidate receptor identification |

Thus, the proposal materially contravenes the Limerick City & County Development Plan 2022-2028 and National Planning Policy. Under s.3792) (b) of the Planning and Development Act 2000, such contraventions require refusal unless overriding justification exists, which none is demonstrated.

## Integrity of the EIA Process

An Environmental Impact Assessment functions only if each stage—screening, scoping, consultation, assessment, and reporting—is performed transparently and inclusively. The BGE EIAR process instead exhibits:

1. Fragmentation of project components (grid route in appendix)

2. Deferral of mitigation to post-construction complaint procedures
3. Suppression of negative findings in the Non-Technical Summary; and
4. Lack of accessible communication for seldom-heard groups.

These cumulative defects violate the spirit and letter of the Directive. They also erode public trust in renewable-energy planning—a trust essential for Ireland's just-transition objectives.

## Summary of Grounds for Refusal

### Ground 1 – Non-Compliance with the EIA Directive and EPA Guidelines

The EIAR is incomplete and misleading, failing to assess cumulative and health impacts as required by Articles 3 and 5 and Annex IV of the Directive.

### Ground 2 – Failure to Protect Population and Human Health

Predicted environmental exposures exceed recognised health-protection thresholds; no mitigation verified; no HIA conducted.

### Ground 3 – Procedural and Equality Breaches

Omission of accessible consultation materials and failure to include vulnerable groups violate the Aarhus Convention, IHREC Act 2014 s. 42, and ADM Act 2015–2023 s. 83.

### Ground 4 – Project Fragmentation and Cumulative Omissions

Artificial separation of grid works contravenes EPA (2022 § 5.8) and EU case law (C-142/07 Ecologistas en Acción-CODA).

### Ground 5 – Contravention of Local and National Policy

The proposal conflicts with Limerick CDP Policies EN 02, EN 06, HH 01 and the National Planning Framework Objective 65.

### Ground 6 – Inadequate Non-Technical Summary and Public Information

NTS omissions misled the public, invalidating participation and breaching Article 5(3) of the Directive.

### Ground 7 – Contravention of Precautionary Principle

In the face of uncertainty and potential serious health harm, the competent authority must refuse consent.

## Recommended Actions for the Planning Authority

Should the authority choose not to refuse outright, it must at minimum issue a Request for Further Information (RFI) requiring:

1.A full Health Impact Assessment (HIA) undertaken jointly with the HSE and local community

2.Re-consultation with vulnerable facilities

3. A revised Noise and Flicker Assessment including amplitude-modulation and low-frequency analysis

4. Integrated Cumulative-Impact Mapping covering noise, flicker, traffic, and air quality

5. Accessible Non-Technical Summary in Easy-Read and large-print formats; and

6. Commitment to independent post-construction health monitoring and transparent public reporting.

Without these, the project cannot satisfy statutory requirements or the basic principles of good environmental governance.

## Conclusion

The proposal epitomises a procedurally deficient and health-blind EIA. It fails to respect the lived realities of residents, the obligations of EU law, and Ireland's own planning and equality frameworks. The evidence demonstrates predicted breaches of policy noise limits, unmitigated shadow flicker, unsafe construction disruption, and exclusion of vulnerable populations. These failings are systemic, not incidental.

Ireland's transition to renewable energy must be just, inclusive, and health-protective. Granting permission for a development that neglects these principles would not only contravene law but also erode community confidence in future climate-action projects.

Accordingly, and in the interests of environmental integrity, public health, and procedural justice, the planning authority is respectfully requested to REFUSE PERMISSION for the proposed BGE wind farm and all associated infrastructure.

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# Health and Safety – Fire Risk and Emergency Response

## Overview

The Ballinlee Wind Farm EIAR fails to adequately assess fire safety risks and emergency response planning, despite the presence of high-voltage infrastructure and large-scale turbines. This omission raises serious concerns for public safety and emergency preparedness.

## EIAR Gaps

- Chapter 04 – Civil Engineering contains no reference to fire suppression systems, turbine fire risk, or emergency protocols in the event of electrical faults or lightning strikes.
- Chapter 16 – Material Assets: Traffic and Transportation does not mention access routes or coordination with emergency services such as the fire brigade.
- Chapter 05 – Population and Human Health fails to assess the health risks associated with turbine fires, smoke inhalation, or emergency evacuation procedures.

These chapters collectively omit any reference to fire safety planning, despite the presence of a permanent 110kV substation and underground cabling. The lack of fire risk assessment contradicts EPA EIAR Guidelines, which require evaluation of "major accident hazards" and "risks to human health."

## Emergency Services Unpreparedness

Through direct conversations with members of the fire services in County Limerick, it has been confirmed that no fire personnel in the county are currently trained or equipped to respond to wind turbine fires. This includes incidents involving nacelle fires, substation faults, or high-voltage cable ignition.

## Statement for Councillor Endorsement

### Councillor's Statement – Fire Safety and Emergency Response

*As a former member of the fire brigade and a current elected representative, I wish to formally endorse this objection on the grounds of public safety. Through my ongoing engagement with fire service personnel in County Limerick, I can confirm that no training or protocols currently exist for responding to wind turbine fires. This includes turbine nacelle fires, electrical faults, and substation incidents.*

*The absence of fire safety planning in the Ballinlee Wind Farm EIAR is deeply concerning. It places undue risk on local residents and emergency responders and fails to meet the standards expected under Irish planning and environmental regulations.*

*I support the request for a full reassessment of fire risk and emergency response planning and urge the planning authority to require a detailed Fire Safety and Emergency Response Plan before any decision is made.*

***Signed,*** *Cllr Gregory Conway, Cappamore-Kilmallock, 9th November 2025*

## Request to Planning Authority

We respectfully request that the planning authority:

- Require the developer to submit a Fire Safety and Emergency Response Plan, including coordination with local emergency services.
- Reassess the EIAR under Regulation 23 of the Planning and Development Regulations, due to material omissions in the health and safety assessment.
- Ensure that fire risk is considered in turbine siting, access design, and mitigation planning.

# Wind - Technical

## Executive summary

In choosing the Ballinlee site the developer ignored the science based wind energy atlas.

The developer did not properly measure the wind at the site and relied on a science that takes interval and instantaneous estimates of the wind speed and has no proper measurement information to justify the site selection.

The site selection appears to be based solely on the availability of land contracts and an incorrect designation of the Balinlee area as included in the regional renewable energy development plan.

The wind energy produced on this site would be just over half of the energy produced in a comparable wind plant in a proper wind regime.

The energy produced will be further reduced by the packed array of the turbines, further eroding the production of energy by between 20% and 40%

In the absence of actual wind measurement the developer has stated a wind speed on the site based on consultation with the wind energy atlas, which the LCCC was told to ignore in the development of the renewable energy development area.

The developer's stated wind speed from the atlas is wrong.

## Insufficient wind resource.

There has rightly been a sharp focus on the health dangers posed by proximity to wind turbines and this submission questions why a community should be exposed to these serious risks to life and health for so little return.

In the preamble to the Limerick County Development Plan the Chief Executive states

> "The Submission by the Irish Wind energy Association recommend that the SEAI wind atlas or any similar general wind resource data not be used as a constraint when developing and zoning areas for renewable energy development"

Thus, the LCCC development map that is the basis for wind development locating in Ballinlee, ignored science-based data that clearly indicates that the Ballinlee area has a poor wind regime for wind energy generation and is geographically and socially altogether unsuitable for a wind plant. This recommendation to LCCC was provided by IWEA, a lobby group whose sole interest is in getting wind turbines into the ground. It should be noted that in the 2006 Wind Energy Guidelines the SEAI map is referenced as an invaluable source of information in siting a windfarm.

Section 3.5 of the 2006 Wind Energy Guidelines reads:

"Assess the areas of wind potential ranging from areas with extensive wind energy resources to lesser wind resources using Sustainable Energy Ireland's Wind Atlas for Ireland. The Wind Atlas for Ireland displays wind speeds at 50 metres, 75 metres and 100 metres above ground level"

Section 3.4 of the Guidelines reads:

"Objectives to secure the maximum potential from the wind energy resources of the planning authority's area commensurate with supporting development that is consistent with proper planning and sustainable development;

and

"The identification on development plan maps of the key areas within the planning authority's functional area where there is significant wind energy potential and where, subject to criteria such as design and landscape planning, natural heritage, environmental and amenity considerations, wind energy development will be acceptable in principle

When the atlas ( or any similar reference atlas ) is consulted it is immediately apparent that the wind regime at Ballinlee is weak ( Class IV in the parlance of the wind industry ). A copy of the wind atlas for the Limerick area and surrounds is appended to this submission. For reference bright colours indicate higher wind speeds and the darker colours ( blue ) indicate lower wind speeds. The Green dots on the map indicate the locations of existing wind plants and it is immediately apparent that these existing facilities are located in hotter and more appropriate wind regimes. Examination of the Limerick area on the atlas reveals:

- The Balinlee area is in the dark zone of the atlas showing wind speeds at 100 metres height above ground of 7.0 to 7.1 m/s, 7.1 to 7.2 m/s, 7.2 to 7.3 m/s and 7.3 to 7.4 m/s. , when the cursor is placed at intervals over the Ballinlee footprint on the interactive map. This is the windspeed on the wind map indicated at 100metres height above ground and an average wind speed for the site is indicated at best of 7.25m/s. However the proposed hub height of the Ballinlee plant is 92 metres above ground and a wind shear factor needs to be applied as follows;

  Wind shear formula V2=V1(H2/H1)to the power of the wind shear index.

  Where V2 is the target wind speed
  V1 is the data wind speed at the reference height
  H2 is the hub height
  H1 is the reference height
  And The wind shear index is an empirical number based on science and observation developed by the wind industry technologists.

A mean value wind shear index for a planar site such as Ballinlee is 0.14 and therefore:

Ballinlee hub height wind speed = 7.25(92/100)^0.14 = 7.165 m/s

It should also be noted that the formula also reveals the wind speeds at the bottom and top of the turbine sweep as 5.94m/s and 7.74m/s which is a troubling wind speed variation across the face of the wind turbine and which will lead to issues with fatigue and turbulence in the operation of the wind turbine. Wind sheer indices are less accurate over larger height variations and the developer while not bothering to measure the raw wind speed on the site has employed LIDAR technology which will have given him instantaneous and short interval indications of wind speeds and wind shear at the site. The developer has not shared this information, neither indicated instantaneous/short interval wind speed nor indicated wind shear. Nevertheless he has in section three of the EIRR stated that the wind speed at the site is 7.5.7.6m/s and stated that this estimate was extracted from the wind atlas, that same atlas that the industry lobbyists told Limerick City and County Council to ignore. The statement of the wind speed is incorrect and based on the energy capture for a wind turbine the energy produced will be less than the developer is indicating as follows:

Energy capture for a wind turbine = 0.5ARoe(V)^3

A = The swept Area
Roe = the density of the motive medium
V = The wind Speed

As a wind speed of 7.165 is 94.9% of 7.55 the energy capture will be, as a function of the cube of the wind speed or 85.46% of what the developer is suggesting.

- Existing wind farms in the region are located in the brighter faster wind locations with wind speeds typically in the 8.5 to 8.7 metres per second speed, a mean speed 8.6m/s.

Accordingly, Ballinlee wind is 83.31% of the average for the fleet of wind farms. Under the turbine energy capture formula above the Ballinlee generation will be 57.8% of the average for the fleet of windfarms in the surrounding region. Publicly available information on wind energy in Ireland put the Irish wind fleet national capacity factor, which is the amount of energy produced by a wind turbine as a percentage of the theoretical maximum at 23.5%. This suggests that the capacity factor of the Ballinlee wind farm will be a measly 13.585%.

Ballinlee Wind has other disadvantages in its prospects for wind energy capture.

- In an effort to capture SID treatment by exceeding 50 MegaWatts of capacity the turbines are too close together and will "wake" each other. That is to say the wind will be disturbed on striking the first turbine and will be turbulent when striking the following turbines behind and beside. This array wake effect as more fully illustrated elsewhere in a submission on waking will further reduce the capacity factor at Ballinlee by as much as 20% to 40% with a potential reduction in capacity factor to between 10.868% and 8.15%
- Again, in an effort to capture SID treatment the developer is utilising 4.5 – 5 MegaWatt turbines. Huge, with more inertia and requiring higher wind speeds for cut in and operations and thus again reducing capacity factor.
- The blade sweep from top to bottom is 136 metres. The top and bottom speeds are calculated above. The wind speed will be different from the bottom to the top of the capture area further reducing the performance of the turbine. This is an issue for all wind turbines but is especially so for turbines of the size where the vertical sweep is such are large distance and the bottom of the sweep is so low to the ground.

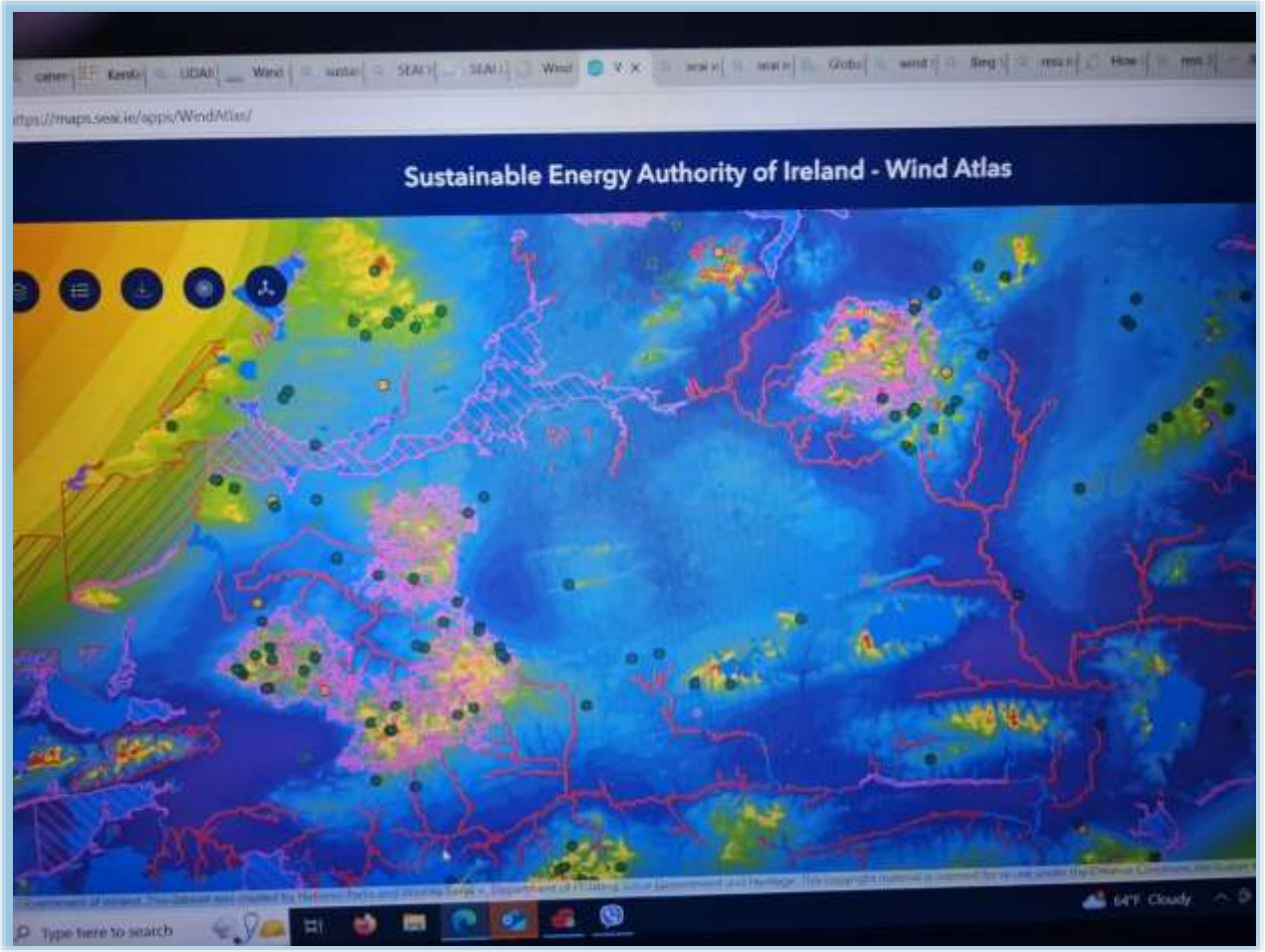
While it is perfectly possible that low energy producing turbines may work from the financial perspective for the developer given the new curtailment payment paid without risk, export credit payments and carbon credit payments, the payout to the Irish consumer is very poor. Less efficient wind turbines inevitably will increase the cost of power to the consumer. As more and more low output wind turbines are located in poor wind regimes the pressure on the power price to the consumer will increase; a consequence of ignoring the science based atlas, science in general and opening the wrong spaces to development

This is a poor and science agnostic project that will blight lives and endanger health with little or no payback to anybody except the developer.

We ask An Coimisiún Pleanála to reject the planning application for Ballinlee Wind on the grounds that it is based on flawed science and of no benefit to the Irish consumer while greatly increasing health risks and destroying the amenity for the local community.

John Quirke

*The Author is a civil engineer whose most recent position was as Chief Technical Officer of a large utility generation company. He has also founded and managed a renewables development company in the USA and worked for GE Capital Structured Finance Group as a managing director of development.*


Sustainable Energy Authority of Ireland - Wind Atlas

# Turbine Spacing Issues

## Executive Summary

The Turbines are in violation of the 2006 Wind Energy Guidelines for proximity to adjoining properties. The turbines are in violation of 2006 Wind Energy Guidelines for safe waking distance separation. There are significant impacts to this close arraying of wind turbines:

- Amplification and increased numbers of noise impacts at each receptor
- Catastrophic increase in visual impacts from multiple turbines within the critical distance from receptors
- Multiple instances of shadow flicker at large number of receptors
- Reduced energy production due to waking
- Operational issues due to turbulence and fatigue

## Wind Turbine Spacing

The spacing between turbines at the proposed wind plant are in breach of the 2006 wind energy guidelines where in Section 5.13 it is stated that:

"Bearing in mind the requirements for optimal performance, a distance of not less than two rotor blades from adjoining property boundaries will generally
be acceptable, unless by written agreement of adjoining landowners to a lesser distance. "to ensure optimal performance and to account for turbulence and wake effects, the minimum distances between wind turbines will generally be three times the rotor diameter (=3d) in the crosswind direction and seven times the rotor diameter (=7d) in the prevailing downwind direction."

The breaches are numerous and material and will have serious material impacts on the receptors in the locale.

The breaches to adjoining properties are detailed as follows:

| Folio | Turbine Number | Required Setback (m) | Actual Setback (m) | Percentage of Required Setback |
|---|---|---|---|---|
| LK 13481 | T1 | 272 | 110 | 40.44% |
| LK 4838 | T2 | 272 | 110 | 40.44% |
| LK 7387F | T2 | 272 | 130 | 47.8% |
| LK 12589 | T3 | 272 | 88 | 32.4% |
| LK 7387F | T3 | 272 | 82 | 30.1% |
| LK 1992F | T5 | 272 | 128 | 47.0% |
| LK 4915F | T6 | 272 | 80 | 29.4% |
| LK 71 | T9 | 272 | 104 | 38.2% |
| LK 6256 | T15 | 272 | 81 | 29.8% |

## The breaches to the waking distance requirements are as follows:

The table below is a matrix indicating the distances between turbines in the wind park. For simplicity the table is split between the north cluster of five turbines ( T1—T5) and the south cluster of 12 turbines ( T6—T17 )

North Cluster Turbines T1-T5 Distance in Metres

| | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| 1 | - | 417 | 730 | 931 | 1,207 |
| 2 | 417 | - | 400 | 1,205 | 1,525 |
| 3 | 730 | 400 | - | 1,242 | 1,589 |
| 4 | 931 | 1,205 | 1,242 | - | 349 |
| 5 | 1,207 | 1,525 | 1,589 | 349 | - |

South Cluster Turbines T6-T17 Distance in metres

| | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | - | 406 | 889 | 1,251 | 829 | 1,218 | 1,593 | 1,242 | 1,613 | 1,873 | 1,465 | 1,811 |
| 7 | 406 | - | 517 | 855 | 592 | 896 | 1,252 | 1,167 | 1,523 | 1,824 | 1,227 | 1,622 |
| 8 | 889 | 517 | - | 384 | 364 | 411 | 740 | 991 | 1,282 | 1,609 | 820 | 1,247 |
| 9 | 1,251 | 855 | 384 | - | 689 | 442 | 559 | 1,231 | 1,452 | 1,780 | 876 | 1,293 |
| 10 | 829 | 592 | 364 | 689 | - | 429 | 806 | 644 | 967 | 1,285 | 644 | 1,030 |
| 11 | 1,218 | 896 | 411 | 442 | 429 | - | 380 | 813 | 1,011 | 1,338 | 446 | 875 |
| 12 | 1,593 | 1,252 | 740 | 559 | 806 | 380 | - | 1,049 | 1,131 | 1,432 | 508 | 837 |
| 13 | 1,242 | 1,167 | 991 | 1,231 | 644 | 813 | 1,049 | - | 370 | 657 | 574 | 671 |
| 14 | 1,613 | 1,523 | 1,282 | 1,452 | 967 | 1,011 | 1,131 | 370 | - | 329 | 625 | 457 |
| 15 | 1,873 | 1,824 | 1,609 | 1,780 | 1,285 | 1,338 | 1,432 | 657 | 329 | - | 936 | 657 |
| 16 | 1,465 | 1,227 | 820 | 876 | 644 | 446 | 508 | 574 | 625 | 936 | - | 430 |
| 17 | 1,811 | 1,622 | 1,247 | 1,293 | 1,030 | 875 | 837 | 671 | 457 | 657 | 430 | - |

In the Ballinlee area the wind rose indicates the prevailing wing coming from the South, South West, West quadrants and the following tables indicate the 2006 guidelines waking breaches for a South West wind:

North Cluster T1-T5

| | 1 | 1 | 1 | 1 | 1 |
|---|---|---|---|---|---|
| 1 | | DW | | | |
| 2 | UW | | DW | | |
| 3 | | UP | | | |
| 4 | | | | | CW |
| 5 | | | | CW | |

Colours indicate a breach of the guidelines where a turbine in Red is downwind of a corresponding front turbine indicated in Yellow.

Brown indicates a pair of turbines in crosswind breach

South Cluster T6-T17

| | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 6 | | DW | | | CW | | | | | | | |
| 7 | UP | | CW | | CW | | | | | | | |
| 8 | | CW | | DW | UW | CW | CW | | | | | |
| 9 | | | UP | | | UP | CW | | | | | |
| 10 | CW | CW | DW | | | DW | | | | | | |
| 11 | | | CW | DW | UP | | | | | | UP | |
| 12 | | | CW | CW | | | | | | | UP | |
| 13 | | | | | | | | | CW | | | |
| 14 | | | | | | | | CW | | UP | | DW |
| 15 | | | | | | | | | DW | | | |
| 16 | | | | | | DW | DW | | | | | UP |
| 17 | | | | | | | | | UP | | DW | |

Similar exercises can be performed for South and West wind, and the results are broadly similar. These breaches are not minor; they are major in terms of how closely these turbines are packed together. The quantum of the breach is tabulated below where the actual distances between the non-compliant turbines are expressed as a percentage of the 2006 guidelines. Also, the distances as a percentage of the industry guidelines of 3.5 to 5 diameters crosswind and 6 to 10 diameters downwind are tabulated. The conclusion is that these arrays are manifestly in breach of the national guidelines as well as the wind industry itself.

Crosswind Violations Both Clusters

| | | | | | 2006 3XDia 396 | Ind Min 3.5XDia 462 | Ind. Res 5XDia 660 |
|---|---|---|---|---|---|---|---|
| Violation | 4 | CW of | 5 | 406 | 103% | 88% | 62% |
| Violation | 7 | CW of | 10 | 592 | 149% | 128% | 90% |
| Violation | 7 | CW of | 8 | 517 | 131% | 112% | 78% |
| Violation | 8 | CW of | 11 | 740 | 187% | 160% | 112% |
| Violation | 8 | CW of | 12 | 740 | 187% | 160% | 112% |
| Violation | 9 | CW of | 12 | 559 | 141% | 121% | 85% |
| Violation | 13 | CW of | 14 | 370 | 93% | 80% | 56% |

Downwind Violations Both Clusters

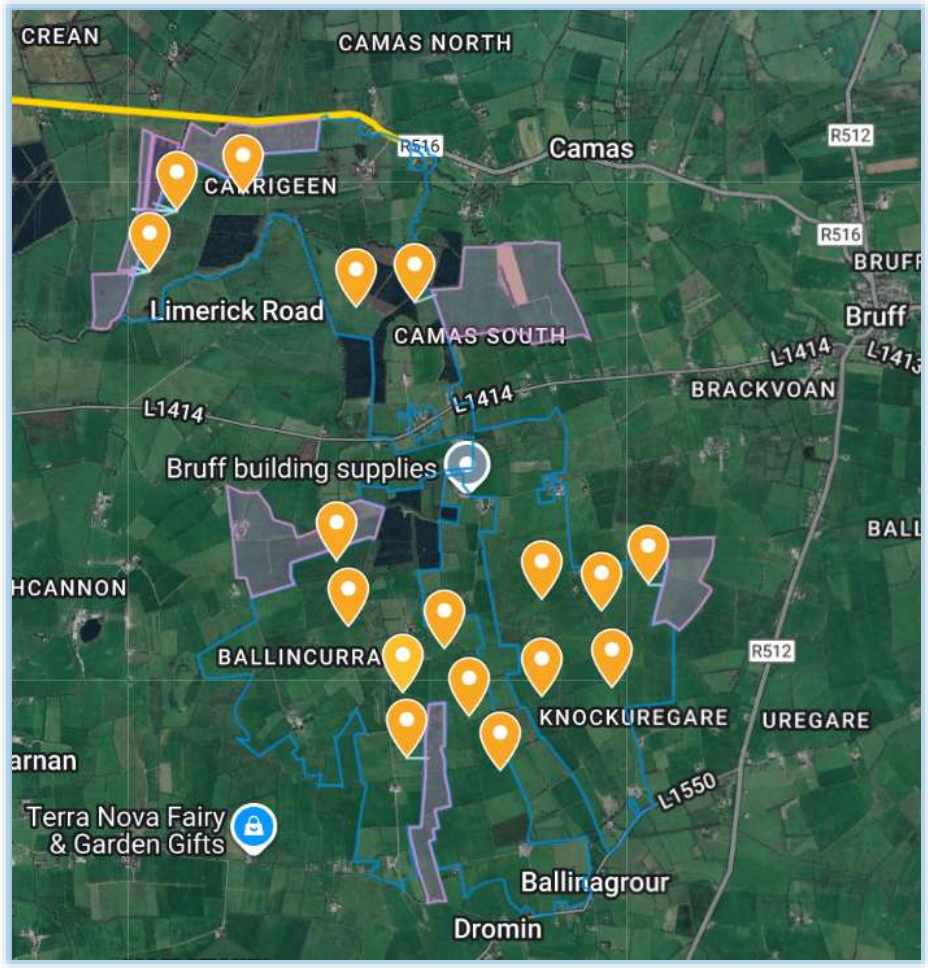
| | | | | 2006<br>7XDia<br>924 | Ind. Min<br>6XDia<br>792 | Ind Rec.<br>10XDia<br>1320 |
|---|---|---|---|---|---|---|
| 1 | DW of | 3 | 730 | 79% | 92% | 55% |
| 2 | DW of | 3 | 400 | 43% | 51% | 30% |
| 6 | DW of | 7 | 406 | 44% | 51% | 31% |
| 10 | DW of | 8 | 364 | 39% | 46% | 28% |
| 10 | DW of | 11 | 429 | 46% | 54% | 33% |
| 11 | DW of | 9 | 442 | 48% | 56% | 33% |
| 14 | DW of | 17 | 457 | 49% | 58% | 35% |
| 15 | DW of | 14 | 329 | 36% | 42% | 25% |
| 16 | DW of | 11 | 446 | 48% | 56% | 34% |
| 16 | DW of | 12 | 508 | 55% | 64% | 38% |
| 17 | DW of | 16 | 430 | 47% | 54% | 33% |
| 8 | DW of | 9 | 384 | 42% | 48% | 29% |
| 14 | DW of | 16 | 625 | 68% | 79% | 47% |
| 13 | DW of | 16 | 574 | 62% | 72% | 43% |

2006 shows 2006 Guidelines indicating 1 breach.
In. Min shows the wind industry minimum recommended distance crosswind indicating 2 breaches.
Ind Res shows wind industry recommended distance crosswind indicating 5 breaches

2006 shows 2006 Guidelines indicating 14 breaches.
In. Min shows the wind industry minimum recommended distance downwind indicating 14 breaches.
Ind Res shows wind industry recommended distance downwind indicating 14 breaches

These tabulated results show a situation where the arraying of the turbines is in a manner with the sole intention of packing the maximum number of turbines into a space that is far too small and this has been done with a flagrant disregard for proper industry practice or the health of the people living in and around the area.

The map below shows the reality of these close arraying for the north and south clusters:



The impacts to the people living in the locale are serious and material in terms of Noise, Visual Impact and Shadow Flicker and to understand this it is necessary to review the results of the proximity survey that was performed by BDA Community Group. The developer identified over 550 receptors in and around the site and arrayed the turbines in a partly successful effort to comply with the 2006 receptor setback guidelines. BDA has sieved through this large quantity of often misleading information and has identified the receptors that will be most affected by the wind park. These receptors are overwhelmingly the homes of the families living in the area. The summary of the receptor analysis is as follows:

Allowing for 30 metres curtilage at the receptors there are 14 instances of a potential breach of the setback guidelines. There are 105 instances of turbines being within 860 metres of a receptor. There are 330 instances of a turbine being within 1,100 metres of a receptor and 950 instances of a turbine being within 1,500 metres of a receptor. The reason there are more instances than there are receptors is because the are many instances of there being multiple turbines within the above distances for a single receptor. The reality is that many of the receptors are not relevant to a proper analysis of the impact on the local community of this close array packing of turbines. A more meaningful analysis is to examine the 202 receptors that are impacted by two or more turbines as follows:

| | |
|---|---|
| Receptors with 2 turbines within 1,500m | 42 |
| Receptors with 3 turbines within 1,500m | 53 |
| Receptors with 4 turbines within 1,500m | 29 |
| Receptors with 5 turbines within 1,500m | 42 |
| Receptors with 6 turbines within 1,500m | 16 |
| Receptors with 7 turbines within 1,500m | 10 |
| Receptors with 8 turbines within 1,500m | 2 |
| Receptors with 9 turbines within 1,500m | 3 |
| Receptors with 10 turbines within 1,500m | 1 |
| Receptors with 11 turbines within 1,500m | 1 |
| Receptors with 12 turbines within 1,500m | 3 |
| Total | 202 |

In plain language 36 receptors will have between 6 and 12 turbines between 640 and 1,500 metres from their location. Obviously in cases of multiple turbines many of them are close and the tabulation below identifies two cases where there are 12 and 7 turbines within 1,500 metres. The colour code indicates the actual distances of each individual turbine. A full listing for 8 or more turbines is attached to this paper as Appendix 1 to provide an indication of the gravity of this issue.

Examination of these appendices and in particular Appendix 1 illustrates the magnitude of the impact this project will have on the area. Homesteads will be surrounded by these machines and a closer examination of the impacts than developer assurances that it will all be OK is absolutely necessary.

It is clear that the exponential increase in these impacts is due to the developer ignoring both national and industry guidelines. This despite the developer repeatedly "assuring" local people that everything is been done to protect the community.

While this paper is focused on the impacts to humans the sheer magnitude of the disturbance calls into question the hugely amplified impacts to flora, fauna, hydrology, erosion, destruction of lands and roadways

It also calls into question the value of the project as an electricity generating facility. Industry studies have shown that wake effects and in particular downwind wake effects where industry norms are ignored can cause a reduction in power produced as a percentage of the undisturbed wind flow of 20% to 40%. As this array is at the extreme end of violation of the industry and 2006 guidelines we may expect that the energy produced will be approaching 40% lower than from an un-waked array. Given that the wind regime at Ballinlee is already significantly lower than all other windfarms in the region as more fully explained elsewhere in this submission, BDA Community Group questions how this miserable return for such disturbance and impact to the community is in the national interest.

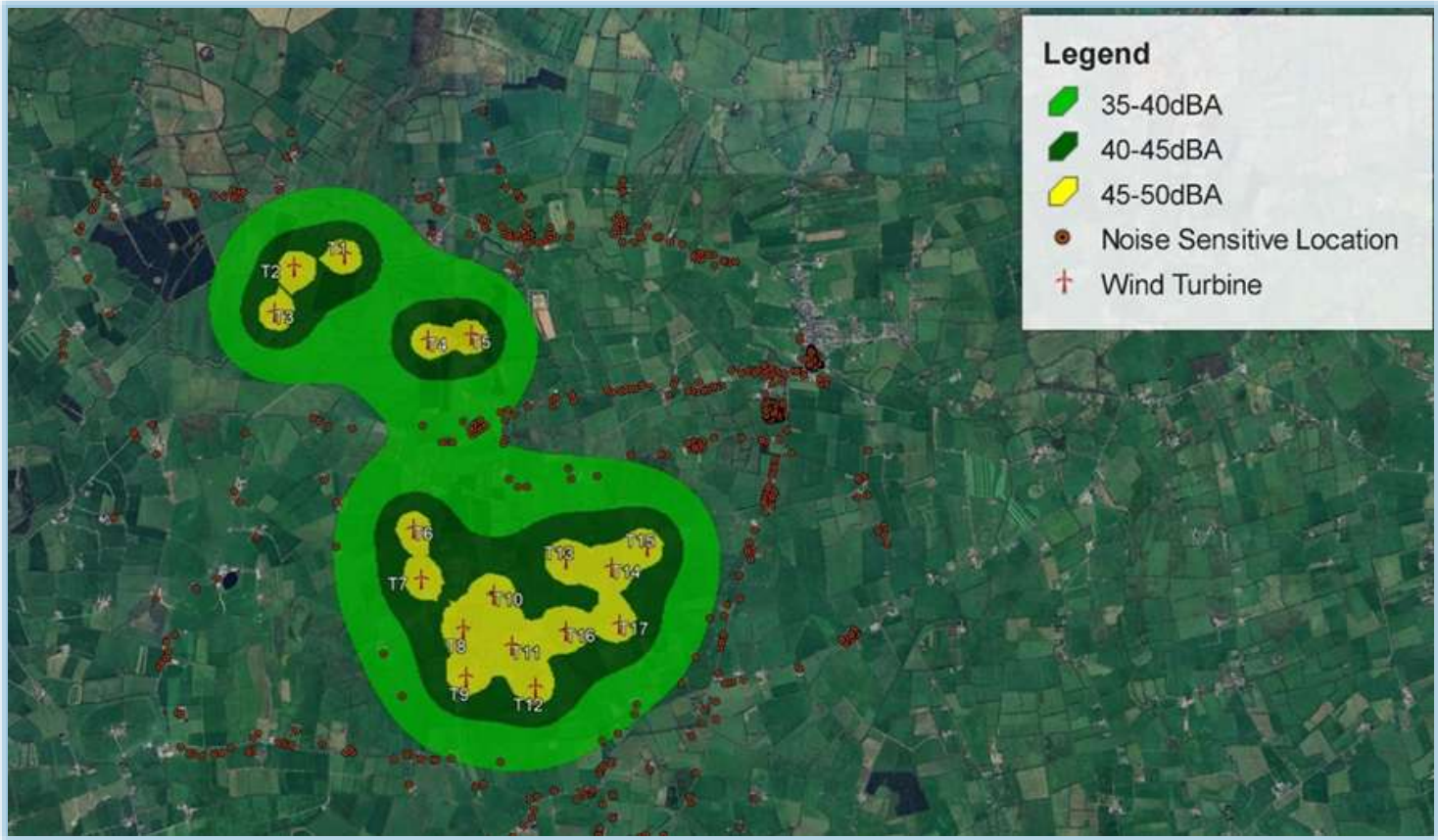
# Turbine Proximity for Receptor NSL048

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NSL048 | 560349 | 635117 | | | | | | |
| | 1 | 559035 | 636918 | 2,229 | 0 | 0 | 0 | 0 |
| | 2 | 558629 | 636821 | 2,421 | 0 | 0 | 0 | 0 |
| | 3 | 558471 | 636454 | 2,305 | 0 | 0 | 0 | 0 |
| | 4 | 559699 | 636266 | 1,320 | 0 | 0 | 0 | 1 |
| | 5 | 560048 | 636262 | 1,184 | 0 | 0 | 0 | 1 |
| | 6 | 559575 | 634719 | 870 | 0 | 0 | 1 | 1 |
| | 7 | 559635 | 634317 | 1,072 | 0 | 0 | 1 | 1 |
| | 8 | 559967 | 633921 | 1,256 | 0 | 0 | 0 | 1 |
| | 9 | 559988 | 633538 | 1,620 | 0 | 0 | 0 | 0 |
| | 10 | 560213 | 634189 | 938 | 0 | 0 | 1 | 1 |
| | 11 | 560355 | 633784 | 1,333 | 0 | 0 | 0 | 1 |
| | 12 | 560540 | 633452 | 1,676 | 0 | 0 | 0 | 0 |
| | 13 | 560792 | 634470 | 784 | 0 | 1 | 1 | 1 |
| | 14 | 561156 | 634401 | 1,079 | 0 | 0 | 1 | 1 |
| | 15 | 561442 | 634564 | 1,225 | 0 | 0 | 0 | 1 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 16 | 560787 | 633896 | 1,297 | 0 | 0 | 0 | 1 | |
| | | | **Turbine Proximity for Receptor NSL157** | | | | 0 | 0 | 0 | 1 | 12 |
| NSL157 | 560265 | 632851 | 1 | 559035 | 636918 | 4,249 | 0 | 0 | 0 | 0 | |
| | | | 2 | 558629 | 636821 | 4,294 | 0 | 0 | 0 | 0 | |
| | | | 3 | 558471 | 636454 | 4,025 | 0 | 0 | 0 | 0 | |
| | | | 4 | 559699 | 636266 | 3,462 | 0 | 0 | 0 | 0 | |
| | | | 5 | 560048 | 636262 | 3,418 | 0 | 0 | 0 | 0 | |
| | | | 6 | 559575 | 634719 | 1,991 | 0 | 0 | 0 | 0 | |
| | | | 7 | 559635 | 634317 | 1,596 | 0 | 0 | 0 | 0 | |
| | | | 8 | 559967 | 633921 | 1,111 | 0 | 0 | 0 | 1 | |
| | | | 9 | 559988 | 633538 | 741 | 0 | 1 | 1 | 1 | |
| | | | 10 | 560213 | 634189 | 1,339 | 0 | 0 | 0 | 1 | |
| | | | 11 | 560355 | 633784 | 937 | 0 | 0 | 1 | 1 | |
| | | | 12 | 560540 | 633452 | 661 | 1 | 1 | 1 | 1 | |
| | | | 13 | 560792 | 634470 | 1,703 | 0 | 0 | 0 | 0 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 14 | 561156 | 634401 | 1,788 | 0 | 0 | 0 | 0 |
| 15 | 561442 | 634564 | 2,078 | 0 | 0 | 0 | 0 |
| 16 | 560787 | 633896 | 1,168 | 0 | 0 | 0 | 1 |
| 17 | 561214 | 633948 | 1,451 | 0 | 0 | 0 | 1 |

Noise experienced by receptors will be greatly amplified by the presence of multiple turbines and waking in the array impacting the receptor. The simplistic map below is being used by the developer to explain away the noise story. A poor science pictorial based on noise emissions from a single source. The science says the reality will be very different.




Barlas, Zu, Shen and Andersen of the TU Denmark have studied the issues around measuring noise emissions from wind turbines and arrays of wind turbines. Their conclusions include the following:

Wind farm noise predictions using the industry method ( ISO9613-2 ) are merely approximations

There is a high level of uncertainty due to the simplistic assumptions made. (as evidenced by the above map)

Accuracies are subject to an error of 6dB which at sounds of 40dB is effectively approaching a doubling.Predictions in planning applications generally use optimistic noise model inputs that give optimistic results. ( Ground absorption, sound power levels, no site effects ). Again this is evidenced by the simple map. If estimates prepared by developers are already simplistic and optimistic what then of the developers assurances in the presence of multiple arrays of turbines.

Arrays such as this will multiply the sound signature of the single turbine as well as adding turbulent noise, amplitude modulation and increased infrasound. Amplitude modulation which the developer has not addressed cannot be measured for an array such as we have here. As noted on the Denbrooke wind farm in New Zealand the method of measuring amplitude modulation ( NZS6808:2010 ) is not fit for anything other than a single turbine.

Simply put this array wind farm will generate noise far in excess of what the developer states and far in excess of what people living in the area can bear.

## This is a direct result of the developer breaching the turbine spacing guidelines.

The fact that receptors will be surrounded by multiple windmills needs no elaboration on the level of impact that the receptors with multiple wind turbines in their viewshed will experience. A panorama filled with spinning machines will disturb the senses in a manner that is not measurable but which will cause dizziness, nausea, fits( in those susceptible ) and an enduring sense that Ballinlee is an industrial landscape.

The developer's statement that the wind turbines will blend into the landscape and enhance the community is both farcical and insulting. Shadow flicker will be multiplied at each receptor as there will be multiple machines casting shadows on the receptor.

This destruction of the viewshed and increase in shadow flicker is entirely due to the developer breaching the turbine spacing guidelines.

The developer has breached the 2006 guidelines relating to set back multiple times and the BDA Community Group requestes that the application for approval of the Ballinlee Green Wind plant be rejected

# Biodiversity

### Ecology and Biodiversity of the Site and the Implications of the Proposed Development

*A review of the ecological and biodiversity considerations arising from the proposed Ballinlee Green Energy Ltd Wind Farm.*

## Executive Summary

The  site forms part of the Morningstar–Maigue River catchment, a connected network of floodplain, wet grassland, riparian woodland, and hedgerow corridors supporting high biodiversity and natural flood storage.
Hydrological, soil, and ecological evidence (Ballinlee Green Energy Planning Application, Appendices 8B, 9A & 9B) confirm that the land is a functioning alluvial floodplain with shallow groundwater and active wetland processes.

Surveys document the presence of Annex I, II, and IV species, including Whooper Swan, Otter, Pine Marten, White-clawed Crayfish, and multiple bat species, including  Soprano pipistrelle (*Pipistrellus pygmaeus*), Common pipistrelle (*Pipistrellus pipistrellus*), Leisler's bat (*Nyctalus leisleri*),Brown long-eared bat (*Plecotus auritus*) and  Myotis species.

The site's ecological richness arises from its alluvial soils, hydrological variability, and vegetated connectivity—features that the proposed wind-farm infrastructure would permanently alter.

Predicted impacts include:

- Loss and fragmentation of floodplain and wetland habitats through soil compaction and raised turbine platforms;
- Hydrological alteration leading to reduced flood-storage capacity and drying of alluvial soils;
- Acoustic and lighting disturbance affecting otters, bats, and nocturnal birds (expanded on in further separate sections/chapters); and
- Introduction of chemical invasive-species control, contrary to community-led restoration and CDP Objective EH O11.
- Significant impacts on the species within, including Annex I, II and IV species together with an increased likelihood of site abandonment

These changes would undermine ongoing Maigue Rivers Trust and Ballyhoura Development CLG programmes aimed at non-chemical invasive control, riparian re-vegetation, and floodplain

restoration.
They would also breach multiple statutory frameworks, including the EU Habitats, Birds, and Water Framework Directives, the EU Nature Restoration Regulation (2024), and the Limerick County Development Plan 2022–2028 (Objectives NH01–NH05, NH03, NH05, EH O11).

Detailed analyses of ornithological impacts and bat/mammal disturbance confirm that the project would cause both direct habitat loss and wider functional degradation across the catchment.
In combination, these effects constitute cumulative ecological deterioration inconsistent with national and EU biodiversity policy.

In summary, the proposal fails to demonstrate compliance with the precautionary principle or the mitigation hierarchy.
Given the site's ecological sensitivity and its central role in the Morningstar–Maigue restoration corridor, development should not proceed in its current form. While discussed briefly within this chapter, the following are discussed in more depth in subsequent chapters: Bats, Whooper Swans, Ornithology, Hedgerows and Trees - the necessity for this extensive discussion reflects the rich biodiversity contained within the site.

## Site Context and Ecological Setting

The proposed BGE Wind Farm is situated within the Morningstar–Maigue River catchment, one of the most hydrologically and ecologically significant landscapes in County Limerick.
According to the Limerick County Development Plan (2022–2028) Strategic Flood Risk Assessment, the site falls within mapped Flood Zones A and B—areas identified as having high to medium flood probability and recognised for their floodplain and wetland biodiversity functions.
Correspondingly, the EPA Wetland Map 2025 classifies the site as a mosaic of wet grassland (GS4), riparian woodland (WN5), and drainage-influenced marsh (GM1)—semi-natural wetland types that retain water, support rich vegetation, and sustain high densities of aquatic and terrestrial fauna.

Geotechnical investigations (*Appendix 8B – Trial Pit Logs*) provide further evidence of the site's wetland character.
The logs describe layers of brown silty clays, fine sands, and gravel lenses with frequent cobbles, seepage, and shallow refusal levels, typical of alluvial and glacio-fluvial deposits.
These deposits confirm that the site is part of an active floodplain environment, with a shallow, fluctuating groundwater table that responds directly to rainfall and river flooding.
Such alluvial soils act as natural water filters and nutrient sinks, creating moist, invertebrate-rich swards that sustain the site's exceptional biodiversity.
They support dense populations of earthworms, molluscs, aquatic larvae, and other invertebrates, providing essential foraging for Whooper Swan, Teal, Wigeon, Plover, Snipe, Lapwing, Heron, and Little Egret, as well as small mammals and amphibians used by otters, pine marten, and raptors.

This soil–hydrology interaction explains why the  area functions as an ecological hotspot rather than marginal farmland. Seasonal inundation across these alluvial soils produces ephemeral pools and saturated meadows that change subtly through the year, offering feeding, breeding, and roosting niches for a wide array of protected and red/amber-listed species.
It also provides natural flood storage, nutrient recycling, carbon sequestration, and pollinator habitat—ecosystem services explicitly recognised under the EU Nature Restoration Regulation (2024) and Water Framework Directive (2000/60/EC) as priorities for conservation and restoration.

In short, the  site represents a functioning alluvial floodplain system—a dynamic interface of soils, water, and vegetation supporting an unusually high density of protected species.
Any alteration of this natural regime through excavation, soil compaction, or turbine foundation works would disrupt groundwater movement, dry out wetland pockets, and degrade invertebrate communities, triggering cascading effects across the entire food web from soil fauna to migratory waterbirds.

# Applicability of the EU Habitats and Birds Directives

The BGE Wind Farm proposal must be assessed under the EU Habitats Directive (92/43/EEC) and the EU Birds Directive (2009/147/EC).
Although the site is not formally designated as a Special Area of Conservation (SAC) or Special Protection Area (SPA), it supports species listed under both Directives, which triggers statutory protection requirements extending beyond the boundaries of designated sites.

## Ecological Connectivity and Legal Relevance

The Morningstar–Maigue catchment is ecologically continuous with the Lower River Shannon SAC  (site code: 002165) and  Lough Gur pNHA 37(site code:437) and wildlife sanctuary status (site code : WFS-33) . The Morningstar River flows into the Maigue system, which ultimately enters the Shannon Estuary.
This hydrological link creates an ecological continuum that allows mobile species, such as otters, bats, waterfowl, and waders, to utilise the area as part of their wider foraging and migratory range. Under Article 6(3) of the Habitats Directive, this functional connectivity means that activities outside a designated site can still exert *significant effects* on the conservation objectives of that site. A commuting corridor exists between the site and Lough Gur and serves as a well established foraging ground for Annex I Whooper Swans.

## Obligations under the Habitats Directive

Article 12 of the Habitats Directive requires strict protection of Annex IV species, which include otter (Lutra lutra), all bat species, pine marten (Martes martes), and white-clawed crayfish (Austropotamobius pallipes).
This protection applies across their natural range, not only within SACs.
The project involves construction, excavation, lighting, and hydrological alteration within habitats

used by these species, which amounts to deliberate disturbance and potential deterioration of breeding or resting sites contrary to Articles 12(1)(b) and (d).

### Obligations under the Birds Directive

The site's floodplain and wet grasslands support Annex I bird species such as Whooper Swan (Cygnus cygnus) and Kingfisher (Alcedo atthis), along with a large assemblage of BoCCI red- and amber-listed species (including Lapwing, Snipe, and Curlew).
The Birds Directive requires Member States to prevent deterioration of habitats important to Annex I and migratory species, even outside designated SPAs.
Therefore, loss or disturbance of foraging or roosting habitat constitutes a breach of Articles 4 and 5.

### Integration with Irish Law and Policy

The obligations of the EU Directives are fully transposed into Irish law through the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477 of 2011) and reinforced by the Wildlife Acts 1976–2023.
At the local level, the Limerick County Development Plan (2022–2028) gives effect to these duties through Objectives NH01–NH05, requiring all development to protect biodiversity, ecological networks, and the integrity of habitats and species protected under EU and national legislation.

### Summary

Although the  site is not itself designated, it performs the ecological functions of a supporting habitat—feeding, roosting, and commuting—for species listed under the Habitats and Birds Directives.
Under EU case law (e.g., *People Over Wind v. Coillte Teoranta*, C-323/17), these functions carry the same weight of protection as those within designated boundaries.
Any deterioration or disturbance to the site's ecological or hydrological function therefore contravenes both Directives and the precautionary principle.

## Biodiversity and Policy Context

The  site is part of a wider wetland–riparian mosaic in the Morningstar–Maigue catchment, recognised for its high biodiversity value and role in natural flood management.
The ecological, hydrological, and landscape linkages that characterise this area are explicitly protected in both national and European policy frameworks.
The proposed development conflicts with these at every level.

### Limerick County Development Plan 2022–2028

Key relevant objectives include:

- NH01: Protect designated and non-designated habitats of ecological value.
- NH03: Safeguard ecological corridors and connectivity between sites.
- NH05: Maintain and restore the natural functions of wetlands and floodplains.
- EH O11: Prevent the introduction or spread of invasive species and favour non-chemical management approaches.

By occupying the floodplain and altering its hydrology, the proposal directly undermines these objectives.
Noise, lighting, soil compaction, and chemical use will fragment and degrade the habitats these objectives seek to protect.

## National and EU Policy Context

At the national scale, the proposal is inconsistent with:

- The National Biodiversity Action Plan 2023–2030, which mandates the integration of biodiversity considerations into planning and infrastructure development.
- The Teagasc ACRES and EIP agri-environment schemes, which incentivise wetland restoration, hedgerow protection, and non-chemical land management.
- The Water Framework Directive (2000/60/EC) and associated River Basin Management Plan for Ireland 2022–2027, which require maintenance of "good ecological status" and the prevention of hydromorphological deterioration.
- The EU Nature Restoration Regulation (2024), which legally binds Ireland to restore a proportion of degraded wetlands and floodplains by 2030.

At the local and community level, the proposal conflicts with restoration programmes led by the Maigue Rivers Trust, Ballyhoura Development CLG, and LAWPRO, all of which promote non-chemical management, biodiversity enhancement, and riparian restoration within the same catchment.

## Conclusion

The Ballinlee site is of exceptional ecological importance within the Morningstar–Maigue corridor. It performs multiple ecosystem functions recognised under Irish and EU policy: flood attenuation, carbon storage, habitat connectivity, and species support.
The proposed development would fragment these functions and reverse progress made under local, national, and EU biodiversity strategies.
As such, it is inconsistent with the policy and legislative framework governing land use, water quality, and biodiversity in Ireland.

# Protected Birds and Cumulative Ecological Importance

The  site supports an exceptionally diverse assemblage of bird species, including both Annex I species under the EU Birds Directive (2009/147/EC) and red- and amber-listed species under the *Birds of Conservation Concern in Ireland (BoCCI, 2021)* classification.
The area's hydrological regime, soil type, and vegetation structure create a dynamic mosaic of feeding, roosting, and breeding habitats that hold importance locally, nationally, and internationally.

## Ecological Significance

The site's alluvial soils, seasonally inundated grasslands, and riparian vegetation support extensive invertebrate communities forming the prey base for Lapwing (*Vanellus vanellus*), Snipe (*Gallinago gallinago*), Curlew (*Numenius arquata*), Wigeon (*Mareca penelope*), and Teal (*Anas crecca*), amongst others.
The shallow groundwater table and periodic flooding maintain soft soils ideal for probing waders and dabbling ducks, while hedgerows and treelines provide nesting and roosting sites for passerines, raptors, and corvids.

Whooper Swan (*Cygnus cygnus*), a migratory Annex I species of international importance, is a frequent winter visitor to the Morningstar–Maigue corridor. Reference should be made to the additional chapter discussing the whooper swan and the management programme proposed by the applicant.
This area forms part of the Shannon–Fergus–Maigue complex, recognised under the Irish Wetland Bird Survey (I-WeBS) as a key roosting and feeding system.
Although Whooper Swan records are concentrated in the northern portion of the site, its use of the wider floodplain indicates functional dependence on the entire landscape for foraging and movement between waterbodies.
Therefore, mitigation confined to turbine relocation in the north would simply displace impacts elsewhere within the same connected system.

## National and International Importance

At a local level, the site supports a stable population of farmland and wetland birds in decline elsewhere due to intensification.
At a national level, it contributes to the ecological connectivity between designated sites such as Lough Gur Wildlife sanctuary and pNHA.
At an international level, it provides critical wintering and migratory habitat for Whooper Swan and other species listed on the African–Eurasian Waterbird Agreement (AEWA).
Under both the Birds Directive and AEWA, Ireland is legally required to protect these migratory corridors and feeding grounds, whether designated or not.

## Cumulative and Synchronic Effects

The EIAR isolates impacts on each species but fails to consider cumulative and synchronistic relationships among species and habitat functions.
Changes to soil hydrology, for example, reduce invertebrate abundance, which in turn affects foraging success for waders and waterfowl, leading to displacement and reduced fitness.
Noise and lighting disturbance exacerbate this by interrupting nocturnal feeding and roosting cycles.

The Morningstar–Maigue floodplain functions as a synchronistic ecological system: soil structure, water levels, and vegetation are interdependent.
One disturbance cascades into multiple effects, creating cumulative habitat degradation even where individual impacts are classified as "moderate."
This interdependence elevates the site's importance beyond the sum of its component habitats.

## Policy and Legal Context

Under Article 4(4) of the Birds Directive, Member States must prevent the deterioration of habitats used by Annex I species outside designated SPAs.
The project's footprint, including turbines, access roads, and drainage works, falls directly within such habitats.
In addition, Limerick CDP Objective NH05 requires the preservation of floodplain habitats, while NH03 emphasises maintaining connectivity between wetland areas and the wider ecological network.

## Summary

Given its role as part of an international migratory network and a local biodiversity hotspot, the site has **high ornithological importance** at multiple scales.
Any alteration of soil moisture, hydrology, or disturbance regime would constitute a **significant cumulative impact** on birds protected under Irish and EU law.
Mitigation confined to one portion of the site cannot protect the integrity of the broader ecological system.

# Protected Mammals and Fauna – Noise, Disturbance, and Habitat Dependency

## Overview

The Ballinlee site supports several Annex II and IV species protected under the EU Habitats Directive and Irish Wildlife Acts, including:

- Otter (*Lutra lutra*),
- All Irish bat species (*Leisler's*, *Daubenton's*, *Soprano pipistrelle*, *Natterer's*(

- Pine marten (*Martes martes*),
- White-clawed crayfish (*Austropotamobius pallipes*), and
- Various amphibians and small mammals.

These species depend on the quiet, hydrologically stable, and structurally connected habitats of the Morningstar–Maigue corridor.
Noise, vibration, lighting, and hydrological disturbance are therefore critical impact pathways for their survival and reproduction.

## Noise as Ecological Disturbance

The developer's Appendix 13G predicts operational noise levels up to 40–41 dB LA90 at multiple receptors.
While below human nuisance thresholds, this exceeds known disturbance levels for key species groups:

| Species/Group | Typical Disturbance Threshold | Ecological Effect |
|---|---|---|
| Otter | >35 dB (NPWS Otter Conservation Strategy, 2023) | Avoidance of foraging areas and reduced use of holts near turbines. |
| Bats | >35–38 dB (Bat Conservation Ireland, 2022) | Abandonment of commuting routes and foraging corridors near turbines and illuminated tracks. |
| Pine marten | >40 dB | Increased stress and reduced denning success. |
| Amphibians | Continuous low-frequency vibration >30 dB | Disruption of breeding calls and aquatic behaviour. |

Given that foraging areas, hedgerows, and riparian corridors fall within this noise footprint, turbine operation would **cause functional habitat loss** even without direct destruction.

## Combined Noise, Vibration, and Lighting Effects

Construction-phase impacts would be intensified by:

- Ground vibration from piling and vehicle movement disturbing subterranean crayfish burrows and amphibian hibernacula,
- Continuous low-frequency turbine hum masking prey sounds for otters and reducing foraging efficiency,
- Lighting along access tracks disorienting bats and nocturnal mammals, and
- Echo amplification across open floodplain topography extending disturbance well beyond turbine bases.

These combined impacts overlap with key ecological corridors identified in the baseline surveys—especially the Morningstar riverbanks, field drains, and hedgerow networks—confirming that disturbance will be site-wide.

## Hydrology, Soil, and Foraging Dependency

All protected mammals and amphibians here are tied to the site's alluvial hydrology and soil conditions.
Shallow groundwater and saturated soils sustain abundant earthworms, aquatic larvae, and small fish, forming the prey base for otters, herons, and waders.
Noise and vibration can reduce prey abundance by altering invertebrate behaviour and sediment chemistry, compounding disturbance effects.
Thus, turbine construction and operation would have indirect trophic impacts, not just behavioural ones.

## Policy and Legal Context

Under:

- Article 12 of the Habitats Directive, deliberate disturbance or deterioration of breeding or resting sites of Annex IV species is prohibited;
- Regulations 50–54 of S.I. 477/2011, these prohibitions apply nationally, including outside designated sites;
- Limerick CDP Objectives NH01–NH05, ecological corridors such as rivers and hedgerows must be maintained; and
- Objective EH O7, both residential and ecological receptors must be protected from excessive noise.

The predicted disturbance therefore contravenes both EU and local obligations and cannot be mitigated simply by relocating turbines within the same continuous landscape.

## Summary

Noise, vibration, and lighting from the Ballinlee Wind Farm would:

- Exceed disturbance thresholds for otters, bats, pine marten, and amphibians,
- Cause functional habitat loss along the Morningstar River and adjacent floodplain,
- Undermine the Maigue Rivers Trust's restoration of quiet riparian corridors, and
- Breach Articles 6 and 12 of the Habitats Directive and Limerick CDP Objectives NH01–NH05.

Given the integrated nature of the site, these effects cannot be contained or compensated.
The project would result in permanent ecological degradation of a protected species network that extends across the entire Ballinlee landscape.

# Hydrology, Floodplain Function, and Water uality and Ecological Impact

## Overview

The site occupies a functioning floodplain and wetland system within the Morningstar–Maigue catchment, confirmed by both Limerick County Development Plan (CDP) flood-zone mapping and EPA Wetland Map 2025 classifications.
The developer's Flood Risk Assessment (Appendix 9B) and Water Framework Directive (WFD) Assessment (Appendix 9A) claim "no significant impact" on flooding or water quality, yet omit the hydrological and ecological interactions that make this area a living alluvial system.
Independent review indicates that the project would alter hydrology, reduce flood-storage capacity, and degrade ecological function, breaching the WFD non-deterioration principle and CDP Objective NH05.

## Key Findings of Developer's Assessments

- Turbines and several access roads lie within Flood Zones A and B (high to medium flood probability).
- The design proposes elevated turbine platforms (0.3–0.5 m) and 5.5 m-wide raised access tracks with culverts to "maintain flow conveyance."
- Hydraulic modelling assumes uniform over-land flow and concludes no increase in off-site flooding once culverts are installed.
- The WFD report (Appendix 9A) asserts "no deterioration in waterbody status" and "negligible residual risk," based solely on surface-water chemistry rather than hydromorphology.

These conclusions are not supported by quantitative field data and fail to consider the ecological services of the floodplain.

## Hydrological and Ecological Contradictions

### Loss of Natural Flood-Storage and Inundation Patterns

Raising turbine bases and compacting access tracks will displace floodwater, reducing the floodplain's ability to absorb and release flows gradually.
This interrupts the seasonal inundation regime that sustains wet grassland, marsh, and riparian habitats mapped as GS4, GM1, and WN5 on the EPA Wetland Map 2025.
Such alteration violates the Planning System and Flood Risk Management Guidelines (2009), which

restrict "less-vulnerable development" within Flood Zones A/B unless a rigorous Justification Test proves necessity — none is presented.

### Hydro morphological Deterioration

The WFD focuses on water chemistry but ignores hydro morphology — the physical character and flow regime of the waterbody.
By infilling depressions and installing culverts, the scheme would truncate natural meanders and micro-topography, essential for invertebrate and amphibian communities.
This constitutes deterioration under Article 4 of the WFD and S.I. 272/2009 (Surface Water Objectives Regulations) even if chemical quality remains "Good."

### Connectivity and Groundwater Exchange

Trial-pit evidence (Appendix 8B) revealed **shallow seepage and saturated alluvial soils**, showing that **surface and groundwater are hydraulically linked**.
Excavation and soil compaction will alter these exchanges, drying surface layers and increasing runoff [1] — contrary to **CDP Objective NH05**, which requires maintaining wetland hydrology and floodplain function.

## Ecological Implications

Changes to hydrology and soil moisture would cascade through the food web:

- Reduced invertebrate abundance in drying soils would remove prey for Snipe, Lapwing, and feeding Whooper Swan;
- Loss of shallow pools would eliminate breeding habitat for frogs, newts, and aquatic insects;
- Increased runoff and sediment load would smother crayfish burrows and otter foraging areas downstream; and
- Altered hydroperiods would favour invasive species such as Himalayan balsam and Japanese knotweed, undermining years of invasive-control work by the Maigue Rivers Trust.

These knock-on effects confirm that floodplain modification is not merely a hydraulic issue but an ecological impact of high significance.

These outcomes breach the WFD non-deterioration principle, the EU Nature Restoration Regulation (2024), and Limerick CDP Objectives NH05 and NH03.
Given the site's role as part of a continuous alluvial corridor linking the Ballyhoura uplands to the Maigue–Shannon lowlands, such alterations would have catchment-scale consequences.

Avoidance—rather than mitigation—remains the only legally compliant and ecologically defensible option.

## Invasive-Species and Biosecurity Implications

### Context and Current Management Framework

The Maigue Rivers Trust (MRT), working with LAWPRO, Ballyhoura Development CLG, and other partners, has been implementing a catchment-wide invasive-species eradication and biosecurity programme along the Morningstar, Camoge, and Maigue Rivers since 2018.
This programme targets species including Japanese knotweed (Reynoutria japonica), Himalayan balsam (Impatiens glandulifera), and Giant hogweed (Heracleum mantegazzianum) using non-chemical, manual control methods and community engagement.

The MRT strategy emphasises:

- Mechanical removal and root excavation rather than herbicides;
- Restricting soil disturbance along riverbanks;
- Decontaminating machinery and footwear between sites; and
- Re-establishing native riparian vegetation to suppress recolonisation.

This approach forms a core element of the Maigue Catchment Biodiversity Plan (2020–2025) and contributes directly to Limerick CDP Objectives NH03 (Connectivity) and EH O11 (Invasive Species Control).

### Contradictions within the BGE Proposal

The developer's Construction Environmental Management Plan (CEMP) and Habitat Management Plan (Appendix 6I) propose invasive-species control through:

- Glyphosate-based chemical treatment,
- Soil excavation and burial on-site, and
- Movement of topsoil and stone between turbine bases and access roads.

These measures directly contradict the MRT's non-chemical strategy, which prohibits herbicide use within 25 metres of watercourses and discourages soil transfer between catchments.
Repeated soil movement and excavation across the site would increase the likelihood of spreading Himalayan balsam seeds, knotweed rhizomes, and aquatic invasive propagules downstream via runoff into the Morningstar.

## Ecological Risks from Construction Practices

| Risk Type | Ecological Consequence |
|---|---|
| Soil and machinery transfer | Dispersal of invasive plant rhizomes and seeds; introduction of new alien species. |
| Glyphosate and herbicide use | Lethal and sublethal effects on aquatic invertebrates and amphibians; contamination of surface water. |
| Bare-soil exposure | Rapid colonisation by opportunistic invasive weeds; increased sediment runoff. |
| Hydrological alteration | Disturbance of riparian seedbanks, promoting invasives in newly drained or compacted zones. |

These risks would undermine both MRT's ongoing eradication work and national policy under the National Biodiversity Action Plan (2023–2030), which commits to reducing pesticide dependence in sensitive habitats.

### Legislative and Policy Framework

- Limerick CDP Objective EH O11 requires developments to *"prevent the introduction or spread of invasive species and to favour non-chemical management approaches."*
- EU Regulation 1143/2014 on Invasive Alien Species obliges Member States to avoid intentional release and prevent unintentional spread.
- Wildlife Acts (as amended) prohibit the introduction or dispersal of scheduled invasive species.
- EPA (2022) Construction Guidelines specify that chemical herbicides must not be used near aquatic zones or wetlands, and that biosecurity wash-down areas be established on-site.

The  proposal breaches all these provisions by reintroducing chemical disturbance into a catchment under non-chemical restoration management.

## Interaction with Biodiversity and Water Objectives

Chemical and mechanical disturbance within this floodplain will have secondary ecological consequences:

- Reduction of invertebrate biomass, impacting waders, ducks, and amphibians;
- Increased phosphorus and nitrate loads from disturbed soils, breaching WFD Article 4 standards;

- Potential contamination of Rathcannon Pond and Lake, degrading downstream wetlands;
- Disruption of riparian vegetative recovery central to the Maigue Rivers Trust's climate-resilient flood-management approach.

These effects compound those identified for noise, hydrology, and habitat fragmentation, contributing to cumulative biodiversity loss contrary to the EU Nature Restoration Regulation (2024) and Limerick CDP Objective NH05.

### Summary

The BGE Wind Farm's construction and maintenance methods conflict directly with:

- The Maigue Rivers Trust's invasive-species eradication and biosecurity strategy,
- EU Regulation 1143/2014,
- The National Biodiversity Action Plan (2023–2030), and
- Limerick CDP Objectives NH03 and EH O11.

Rather than supporting restoration, the project would reintroduce chemical disturbance, spread invasive propagules, and reverse years of community-led habitat recovery.
Given these contradictions, the proposed development cannot be considered compatible with existing catchment-scale conservation or policy obligations.

## EIAR Contradictions, Omissions, and Conclusion

### Overview

A comprehensive review of the BGE Wind Farm Environmental Impact Assessment Report (EIAR) and associated appendices reveals multiple and material contradictions, omissions, and methodological deficiencies.
The overall conclusion — that "no significant residual impact" will arise — is unsustainable when assessed against the data, site characteristics, and the statutory framework governing biodiversity, flood management, and environmental protection.

### Principal Contradictions and Omissions

| Theme | EIAR Claim | Contradiction / Omission |
|---|---|---|

| | | |
|---|---|---|
| Ecological Baseline | Surveys "representative of site conditions" | Bird, bat, and mammal surveys were limited temporally; no multi-seasonal floodplain coverage; omitted Rathcannon Lake and Morningstar corridor linkages. |
| Protected Species | "No significant disturbance anticipated" | EIAR omits acoustic and lighting disturbance effects for otter, bats, and pine marten; fails to apply Article 12 Habitats Directive obligations. |
| Birds & Cumulative Effects | "Minimal disturbance to overwintering birds" | Contradicts Whooper Swan and I-WeBS data; fails to assess displacement from cumulative turbine operations within the Maigue tributary system corridor. |
| Invasive-Species Management | "Appropriate mitigation via herbicide control" | Conflicts with Maigue Rivers Trust's non-chemical biosecurity programme and CDP Objective EH O11. |
| Noise and Vibration | "No ecological sensitivity within noise footprint" | Contradicts field data showing otter holts, bat commuting routes, and bird foraging zones within the predicted 40 dB contour. |
| Mitigation Hierarchy | "Residual effects can be mitigated" | Fails to demonstrate avoidance hierarchy; relies solely on mitigation and monitoring without avoidance or compensation measures. |

These inconsistencies undermine the EIAR's reliability and its claim that the project will not significantly affect ecological receptors.

## Clarification on EPA vs. CIEEM Methodologies

The EIAR evaluates impacts using the EPA (2017) "Guidelines on the Information to be Contained in Environmental Impact Assessment Reports" which employ generic terminology — *imperceptible, slight, moderate, significant, very significant, and profound* — developed for cross-disciplinary use. While this approach is acceptable for general environmental topics, it is not an ecological significance test.
It measures only magnitude and duration, not whether an effect changes the integrity or conservation status of a population, habitat, or ecosystem.

Although the EIAR references CIEEM (2018, updated 2023) Ecological Impact Assessment (EcIA) guidance for survey methodology, it fails to apply CIEEM's central principle:

significance is determined by the effect on the ecological integrity of a receptor, not by arbitrary magnitude categories.

By using the EPA scale without CIEEM's integrity assessment, the EIAR underrepresents ecological risk, particularly in a site where small hydrological or noise changes can have large ecological

consequences.
This methodological flaw runs contrary to best professional practice in Ireland and the UK, and contravenes the requirement under the Habitats Directive (92/43/EEC) and Birds Directive (2009/147/EC) to assess effects on site integrity.

## Misuse of "Moderate" and "Not Significant" Impact Ratings

The EIAR repeatedly labels impacts as *"moderate," "slight," or "not significant."*
However, within a synchronous ecosystem , where soils, hydrology, vegetation, and species are dynamically interconnected, these categorical judgments are scientifically meaningless in isolation. A change deemed "moderate" to one component can trigger substantial, cumulative consequences across the system.

## Cumulative and Synchronistic Ecological Effects

The  site functions as an integrated floodplain ecosystem.
Impacts do not occur independently but as a web of cause and effect:

| Primary Impact | Secondary / Cascading Effect | Resulting Ecological Consequence |
|---|---|---|
| Soil compaction and drainage | Reduced groundwater retention and invertebrate density | Loss of feeding habitat for Snipe, Lapwing, and Whooper Swan; reduced amphibian spawning success. |
| Increased noise and vibration | Disturbance to otters, bats, and pine marten | Functional habitat loss; altered prey movement patterns. |
| Lighting of access routes | Insect disorientation and reduced nocturnal bat foraging | Knock-on decline in pollination and food availability for other species. |
| Herbicide-based invasive control | Reduction in aquatic invertebrate and amphibian populations | Decreased prey availability for waders and otters. |
| Loss of hedgerows and treelines | Fragmented commuting and roosting corridors | Increased bat mortality and reduced genetic exchange. |

When these effects are considered cumulatively — both spatially and temporally — they represent significant degradation of the site's ecological function.
Under EPA (2017) and CIEEM (2018) guidance, cumulative and synergistic effects must be considered jointly, not in isolation.
The EIAR fails to do so, resulting in an incomplete and misleading impact assessment.

## Legal and Policy Non-Compliance

The proposed development contravenes several key legal and policy instruments:

1. EU Habitats Directive (92/43/EEC) — *Articles 6 & 12*:
   Disturbance and deterioration of Annex IV species habitats (otter, bats, pine marten, crayfish).
2. EU Birds Directive (2009/147/EC) — *Articles 4 & 5*:
   Disturbance and habitat degradation affecting Annex I and migratory species, including Whooper Swan.
3. EU Water Framework Directive (2000/60/EC) — *Article 4*:
   Deterioration of hydromorphology and water quality through altered drainage and sediment transport.
4. EU Nature Restoration Regulation (2024) —
   Contradicts binding targets to restore wetlands, rivers, and floodplains by 2030.
5. European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011) —
   Failure to obtain derogation for disturbance to protected species.
6. Irish Wildlife Acts 1976–2023
   Breach of Sections 23 and 40 concerning disturbance of breeding sites and vegetation clearance during sensitive periods.
7. Limerick County Development Plan 2022–2028 —
   Non-compliance with Objectives NH01–NH05, NH03, NH05, and EH O11 requiring the protection of ecological networks, floodplains, and invasive-species management.
8. Community and NGO Restoration Frameworks —
   Undermines Teagasc ACRES, LAWPRO, Maigue Rivers Trust,
   and Ballyhoura Development biodiversity programmes promoting floodplain restoration and non-chemical management.

## Cumulative and Catchment-Scale Effects

The  site is ecologically integrated with the Morningstar–Maigue catchment, including Rathcannon Pond and Lake, the Camoge River, and Lough Gur pNHA and wildlife sanctuary.

Disturbance and alteration within the site has the capacity to  propagate throughout this system. This interdependence directly conflicts with CDP Objective NH03 (maintaining ecological connectivity) and WFD Article 4 (catchment-scale integrity).

Moreover, cumulative effects extend beyond ecology:

- Noise, lighting, and vibration will disturb fauna across the entire corridor;
- Hydrological modification will affect downstream wetland performance; and
- Invasive species spread will undermine existing restoration projects.

Such cumulative degradation cannot be mitigated post-construction, as it arises from fundamental landscape alteration rather than discrete site impacts.

## Overall Conclusion and Recommendation

The Ballinlee Wind Farm proposal:

- Occupies an active alluvial floodplain of high ecological and hydrological value;
- Supports multiple Annex I, II, and IV species protected under EU and Irish law;
- Would cause irreversible alteration of soil structure, hydrology, and ecological connectivity;
- Conflicts directly with national and EU biodiversity and restoration policies; and
- Undermines community and NGO restoration initiatives operating under public funding.

The EIAR fails to:

- Demonstrate compliance with the Habitats, Birds, and Water Framework Directives;
- Apply CIEEM's integrity-based ecological significance methodology;
- Address cumulative and synchronistic impacts; and
- Comply with Limerick CDP Objectives protecting wetlands and connectivity
- The site functions as an integrated alluvial ecosystem — a living, synchronous network of soils, hydrology, vegetation, and species.
  The proposed wind farm would sever this ecological fabric, introducing cumulative stressors that exceed natural resilience.
  In light of the site's confirmed biodiversity value, its role in regional restoration programmes, and its contribution to EU and national environmental objectives, development is neither justified nor sustainable.
  In accordance with the precautionary principle, the project should not proceed.

# Critique of the Ballinlee Green Energy Ltd Natura Impact Statement (NIS) and Appropriate Assessment (AA) – Procedural and Scientific Observations

This submission concerns the proposed Wind Farm application development by Ballinlee Green Energy Ltd, currently under consideration by An Coimisiún Pleanála

It provides observations focused primarily on the *Natura Impact Statement (NIS)* and *Appropriate Assessment (AA)* as required under Article 6(3) of the EU Habitats Directive and Part XAB of the Planning and Development Act 2000 (as amended).

The NIS and AA are the legally binding tools through which the competent authority employ to determine whether a project is likely to adversely affect the integrity of any European site.
The Environmental Impact Assessment Report (EIAR), while a relevant planning document, serves a separate purpose and cannot substitute for or dictate the findings of the AA.
Under both European and Irish law, the NIS and AA must be *independent, scientifically complete, and capable of removing all reasonable scientific doubt* as to the project's potential effects.

This critique considers whether the NIS and AA meet those standards.

## Legal and Policy Framework

Under Article 6(3) of the Habitats Directive (92/43/EEC), any plan or project not directly connected with the management of a European site must be subject to *Appropriate Assessment* if it is likely, alone or in combination with other plans or projects, to have a significant effect on that site. The assessment must identify, describe, and evaluate the potential effects of the project on the conservation objectives and integrity of the site, based on *complete, precise, and definitive findings*. This standard has been clarified repeatedly in judgments of the Court of Justice of the European Union, including *Waddenzee (C-127/02)*, *Sweetman (C-258/11)*, *People Over Wind (C-323/17)*, and *Holohan (C-461/17)*.

Irish law transposes these requirements through Part XAB of the Planning and Development Act 2000, particularly Section 177V, which obliges the competent authority to undertake the AA separately and distinctly from the EIA process.
In practice, this means that while information from the EIAR may be referenced, the AA's conclusions must derive from a standalone scientific evaluation, not from reliance on or duplication of the developer's EIA content.

The *Kelly v An Bord Pleanála* (2023) judgment in the Irish High Court reaffirmed that this independence is not optional. The AA must demonstrate that it applied its own reasoning, scientific analysis, and evidence distinct from the EIAR, even where both are prepared by the same consultants.

## Relationship Between the EIAR and the NIS

The NIS and AA are heavily reliant on the EIAR and, in places, reproduce its content verbatim.
Sections describing the baseline environment, legislative context, and predicted impacts are effectively copied from the EIAR, including typographical and structural errors.
The mitigation measures presented in the NIS are identical to those listed in the EIAR's biodiversity and hydrology chapters.

This practice undermines the independence of the NIS.
The function of an NIS is not to restate the EIAR but to perform a scientifically rigorous evaluation of how the project may affect European site integrity, informed but not dictated by EIA findings.
By lifting large sections directly from the EIAR, the NIS ceases to be an independent document and becomes a derivative one.
This compromises the legal sufficiency of any subsequent AA.

The consequence of this overlap is twofold.
First, it creates a procedural weakness: the competent authority cannot demonstrate that it has carried out an independent AA as required under Article 6(3).
Second, it introduces a substantive deficiency: the NIS fails to provide the site-specific, scientific detail needed to assess potential pathways to European sites.

## Absence of Hydrological and Floodplain Assessment

The site lies partly within the Morningstar River floodplain, which is hydrologically connected, through surface and sub-surface pathways, to the wider Maigue–Shannon system.
Sections of the site fall within Flood Zones A and B as defined in the Limerick County Development Plan 2022–2028.
Despite this, neither the NIS nor the AA includes any hydrological modelling, watercourse mapping, or floodplain characterisation. Of note, over the course of 13th November, the morning star river breached its banks at several points, much of the proposed development site is presently under water – the flood plain is fulfilling its purpose and present observational data affirms its zoning as Flood zones A and B.



*Morning Star Floodplain as of 13/11/2025*

The NIS states that "there is no hydrological connection" to any designated site.
This assertion is not supported by evidence.
There is no topographic mapping, catchment boundary analysis, or hydrological modelling included in the report.
Given that the Morningstar floodplain drains westwards toward the Maigue and ultimately the Shannon Estuary—where multiple European sites are designated—this omission is significant.

The *Holohan* ruling established that an AA must consider *any element* of a project that could affect a European site's conservation objectives, directly or indirectly, and including supporting ecological processes such as hydrology.
By failing to examine the site's hydrological function, the NIS omits one of the primary mechanisms by which impacts could occur.
This omission alone renders the NIS scientifically incomplete and, therefore, legally inadequate.

## Floodplain Function and Ecological Connectivity

The Morningstar floodplain performs an important ecological role.
During wet periods, it provides shallow inundation and moist grassland habitats used by migratory and overwintering waterfowl.
Species such as Whooper Swan, Wigeon, and Lapwing were recorded using or foraging within the area during site surveys.
These species depend on seasonal waterlogging and the abundance of invertebrates supported by wet soils.

The NIS acknowledges the presence of "wet grassland and wetland mosaics" but does not assess how the proposed works—particularly access roads, turbine foundations, and hardstands—might alter the hydrological regime of these areas.
There is no evaluation of soil compaction, drainage interference, or changes in flood storage capacity.
Reduced drainage or alteration of natural water flow could have substantial effects on the suitability of the floodplain for these species.

Hydrology is therefore not a peripheral issue but a defining ecological one.
The failure to connect hydrology and ecology means that the NIS does not adequately describe the *functional linkage* between the development site and nearby European sites, or the role of supporting habitats in sustaining bird populations protected under the Birds and Habitats Directives.
This is directly inconsistent with the *Holohan* judgment, which requires that AAs consider the ecological roles of non-designated habitats where they contribute to the integrity of designated sites.

## Mitigation and Screening Methodology

The AA Screening Report concludes that the project will not have a likely significant effect on any European site, largely on the basis of "standard construction and drainage controls."

Such controls include the use of silt fences, settlement ponds, and oil interceptors.
However, these measures are considered at the screening stage, before a full Stage 2 AA was undertaken.
Under *People Over Wind (C-323/17)*, mitigation measures cannot be relied upon at screening to exclude the possibility of significant effects.
This is a clear procedural error in the screening process.

The NIS then carries forward the same mitigation measures as evidence that no adverse effects will occur, but it provides no site-specific design information or performance data.
The repetition of generic mitigation measures across all documents—EIAR, NIS, and AA—suggests template reuse rather than site-based assessment.
This approach does not meet the "complete, precise and definitive" standard required by *Sweetman* and *Holohan*.

## Cumulative Effects

The NIS and AA contain no analysis of cumulative effects, either within the Morningstar catchment or the wider Shannon Basin.
The assessment lists other projects but does not examine hydrological or ecological interactions between them.
Wind farms, agricultural drainage schemes, and flood relief works are present in the region and may influence hydrological dynamics.
The cumulative increase in impermeable surfaces, access tracks, and drainage modification could collectively alter surface water flow, sediment load, and flood storage capacity. The Garrane Wind farm (Case reference: PAX91.323635) application was lodged on 10.09.2025 by the same parent company Greensource, Garrane Green Energy Ltd. It comprises of 9 wind turbines, associated site works and two bridge crossings – one over the Charleville Stream, one over the Loobagh. The NIS on this application identifies an ecological and hydrological connection to the Shannon Estuary SAC.

Under *Holohan v Ireland*, the competent authority must assess whether a project, *in combination with other plans or projects*, could affect site integrity.
This requirement applies even if individual projects are small or distant.
By omitting this cumulative consideration, the Ballinlee AA fails to comply with Article 6(3).
It also conflicts with EPA and NPWS guidance, which both require cumulative evaluation as a standard component of NIS preparation.

The absence of cumulative assessment is particularly problematic given the hydrological sensitivity of the site.
Floodplain and wetland systems are integrative by nature; impacts at one point in the catchment can propagate downstream.
Without modelling or at least conceptual analysis of this connectivity, the conclusion of no cumulative effect lacks a scientific foundation.

## Integration of Disciplines

The BGE documentation demonstrates limited integration between ecological, hydrological, and construction-related aspects.
The NIS defers to the EIAR for water-related data, and the EIAR in turn refers to the NIS for ecological context.
This circular referencing creates gaps where neither document provides substantive analysis.
For example, the NIS asserts that surface water will be managed by "standard drainage design," while the EIAR states that potential ecological effects are addressed in the NIS.
As a result, neither document fully addresses the actual hydrological–ecological linkage.

Environmental assessments under the EIA and Habitats Directives are intended to be *complementary but distinct*.
The EIAR should inform the AA, but the AA must stand independently in its conclusions.
When both are interdependent and repetitive, neither can be regarded as complete.
This issue is not merely procedural—it undermines the reliability of the assessment's outcomes.

## Scientific Integrity and Transparency

A recurring concern is the lack of primary data and transparency in the NIS.
No flow measurements, drainage pathways, or floodplain mapping are included.
There are no baseline hydrological data, sediment analysis, or modelling of post-construction runoff.
Without this information, the AA cannot credibly assess risk to water quality or hydrological regimes supporting downstream European sites.

Scientific transparency is fundamental to compliance with Article 6(3).
The *Sweetman* decision made clear that the AA must rest on scientific evidence sufficient to eliminate all reasonable doubt.
Assertions without data cannot meet this test.
In this case, the NIS relies heavily on generalised statements that the project will have "no effect" because "standard measures" will be applied.
This does not constitute scientific evidence.

## Policy Context and Flood Risk

The Limerick County Development Plan (Policies INF 32–35) and the OPW's *Planning System and Flood Risk Management Guidelines* both prohibit or tightly control development in floodplain zones unless a detailed flood risk assessment demonstrates no adverse hydrological or ecological effects.
No such assessment has been provided for the proposed site.
The absence of flood modelling or Justification Testing means the proposal is inconsistent with these policy requirements.

Because hydrology forms the primary connection between the project area and the designated European sites, the lack of floodplain assessment also undermines the AA.

If the project alters local drainage or flood storage, even marginally, this could influence the timing, extent, or quality of downstream wetland habitats within the River Shannon and River Fergus SPA and SAC systems.
Without hydrological data, these potential linkages cannot be excluded.

### Summary of Key Deficiencies

| Category | Observation | Implication |
|---|---|---|
| Independence | NIS and AA reproduce EIAR content; same authorship and structure. | Fails requirement for independent and objective AA under Article 6(3). |
| Hydrology | No modelling or mapping of Morningstar floodplain; unsupported claim of no hydrological link. | Fails completeness and precision test from *Sweetman* and *Holohan*. |
| Mitigation | Generic measures relied on at screening and AA stages. | Contrary to *People Over Wind*; undermines screening conclusion. |
| Cumulative Effects | No hydrological or ecological cumulative analysis provided. | Non-compliance with Article 6(3) and *Holohan* requirement. |
| Transparency | Lack of data on flows, drainage, and soil hydrology. | Scientific uncertainty not eliminated; AA cannot lawfully support consent. |

### Concluding Observations

The Appropriate Assessment and supporting NIS for the Ballinlee Wind Farm do not meet the legal and scientific standards required by Article 6(3) of the Habitats Directive.
They rely excessively on material drawn from the EIAR, lack hydrological and floodplain analysis, omit cumulative impact assessment, and depend on unquantified generic mitigation.
Together, these deficiencies prevent the AA from being a "complete, precise and definitive" evaluation capable of removing reasonable scientific doubt, as required under EU law.

While the EIAR may provide useful background, it cannot substitute for the independent reasoning and scientific assessment that the AA demands.
The current approach effectively merges the two processes, contrary to both European and Irish requirements for separation and independence.

Given the identified limitations, we consider that the competent authority does not yet possess the scientific evidence necessary to lawfully conclude that the proposed development will not adversely

affect the integrity of downstream European sites.

## Footnotes

1. Council Directive 92/43/EEC (Habitats Directive), Article 6(3).
2. Planning and Development Act 2000 (as amended), Part XAB, Section 177V.
3. *Holohan v Ireland (C-461/17)*.
4. *People Over Wind (C-323/17)*.
5. *Sweetman v An Bord Pleanála (C-258/11)*.
6. *Kelly v An Bord Pleanála* [2023] IEHC 512.
7. EPA (2022) *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*.
8. OPW & DEHLG (2009) *The Planning System and Flood Risk Management Guidelines*.

# Biodiversity - Badger (Meles meles).

## Executive Summary

The following chapters outline key considerations in relation to the impact the Ballinlee Windfarm Proposal will have on the Badger population within the scope of the project site.

These considerations include but not limited to:

- Legislative protection frameworks.
- Applicant surveying methodologies.
- Application mitigation proposals.
- Admission of species destruction.

## Legislative and Policy Context

Badgers and their setts are afforded strict protection under:
The Wildlife Act 1976 (as amended), Bern Convention Appendix III, which makes it an offence to intentionally kill, injure, or disturb badgers, or to damage or destroy their breeding and resting places.
Badgers And The Law

CETS 104 - Annex III - Convention on the Conservation of European Wildlife and Natural Habitats

Best practice guidance as set out in the TII/NRA (2006) Guidelines for the Treatment of Badgers Prior to the Construction of National Road Schemes.
The planning authority is legally obliged to ensure compliance with these provisions.

## Applicant Survey Methodology

The ecological surveys submitted by the developer are deficient and fail to demonstrate compliance with best practice. Specifically:
Baseline sett surveys were conducted in August–September 2023 and July 2025. These are outside the November–April period identified in the TII/NRA Guidelines as optimal for detecting badger activity and setts. This raises a serious risk of under-detection.

### Appendix 6D section 2.4 Limitations states:

Monitoring at some setts was conducted within the breeding badger season (December to June), however at other setts it occurred outside the badger breeding season. As such, a precautionary approach was taken and active setts were assessed as potential breeding setts in the absence of evidential confirmation.

## Chapter 6 section 6.2.9 States:

Locations along the proposed TDR and the GCR were assessed for the habitats they supported in March 2024. This involved driving along the entirety of these proposed routes and employing best practice, look-see methodology to assess the habitats present and areas where habitats may be affected.
This methodology on transport routes (TDR/GCR) we suggest is insufficient to detect badger crossing points or setts and therefore could inadvertently lead to sett destruction/abandonment.
This chapter referred to compliance with:

In summary, the survey methodology is not robust and does not provide the planning authority with reliable baseline data.

# Survey Results and Predicted Impacts

The Biodiversity chapter acknowledges:
A total of eight setts recorded (three active, five inactive).
Direct destruction of two setts, including one active outlier (sett 2, six entrances, three meters from an access track).
Risk of collapse and disturbance to two further setts within 150 m of turbines requiring blasting/pile-driving.

## Chapter 6 section 6.7.1.4.1.1 states:

Two badger setts were recorded within 150 m of a turbine hardstand where blasting/piling may occur, i.e. sett 4, an active sett is 84 m from T7 hardstand and sett 7, an inactive sett is 100m from T17 hardstand. Both were classified as outlier setts with one entrance each. If blasting or piling is required at these turbine locations during the construction phase, there is potential for disturbance at these sett locations.
Loss of approximately 34 ha of grassland, 2.1 km of hedgerow/tree line and 2.9 ha of woodland – all foraging habitats.
In the absence of mitigation, the risk of badger deaths, including cubs, due to entrapment in excavations or disturbance in the breeding season.

These admissions clearly show that the project will directly destroy badger setts and habitat, and may lead to casualties.

# Mitigation Proposals

The developer proposes:
Pre-construction surveys within 50–150 m of works, with trail-camera checks.
Closure and destruction of the active sett (sett 2) between July–November using one-way gates and fencing.
Construction of up to two artificial setts, to be sited 'within relatively close proximity to the affected

group's territory, and outside the ZoI of the Development'.
Buffer zones of 50 m for breeding setts, 30 m for others, extended to 150 m if blasting.
Entrapment avoidance measures (ramps/egress boards), timing works outside breeding season where possible.
One year of post-construction monitoring of artificial setts.

While superficially aligned with guidance, these measures are inadequate and in parts contradictory to statutory and best practice requirements.

## Comparison with the TII/NRA Badger Guidelines reveals several serious inconsistencies:

1. Survey Timing – Surveys were outside the November–April optimal period; risks under-recording.
2. Artificial Sett Siting – Guidance requires artificial setts within the same social group's territory, but the application states 'outside the ZoI of the Development', risking displacement of badgers into alien territories.
3. Habitat Loss Assessment – Impacts quantified only as percentages of site/Study Area; no analysis of loss relative to the affected social group's territory (>25% is significant).
4. Blasting Near Setts – Two setts lie within 150 m of proposed blasting/piling, contrary to guidance prohibiting such activity in the December–June breeding period.
5. Sett Classification – The 'largest active sett' is classified as subsidiary without territorial studies; this could mask its true significance.
6. Road Collision Risk – No mitigation (underpasses/fencing) proposed on delivery/connection routes despite drive-by survey methods missing crossings.
7. Verification of Inactive Setts – Destruction of inactive setts based on surveys from July 2025 risks being outdated at time of works; guidelines require fresh verification immediately before destruction.
8. Monitoring Duration – Only one year of monitoring proposed; guidelines and good practice support two years with adaptive management.

Each of these points raises the risk of unlawful disturbance or destruction of badgers or their setts.

## Biosecurity

When we consider point no.2 Artificial Sett Siting and the potential for displacement, what then is the mitigation for TB & biosecurity concerns to adjacent livestock?

It would be prudent for the board to seek clarity from the applicant on this point given the intention to destroy setts and potentially displace current badgers beyond their social inclusion zone.

While not a mandatory requirement, good practice would suggest consultation with DAFM (Department of Agriculture, Food and the Marine).

## Grounds for Refusal

- Non-compliance risk with the Wildlife Acts due to potential unlawful disturbance/destruction of setts and possible future mortality.
- Failure to demonstrate robust baseline (survey season; completeness) and failure to quantify impacts at the social-group territory scale (>25% test).
- Proposed artificial sett siting and blasting activities directly contradict TII/NRA guidelines, creating foreseeable risk of unlawful impacts.
- Lack of binding seasonal constraints for blasting/piling within 150 m of active setts (Dec–Jun).
- Inadequate mitigation/monitoring for TDR/GCR crossing risks.
- Inadequate assessment of territory-level habitat loss.

Accordingly, permission should be refused based on the impacts outlined above.

## References

Badgers And The Law

CETS 104 - Annex III - Convention on the Conservation of European Wildlife and Natural Habitats

Guidelines for the Treatment of Badgers prior to the Construction of National Road Schemes

https://cieem.net/wp-content/uploads/2019/02/CSS-BADGER-April-2013.pdf

https://www.gov.ie/en/department-of-agriculture-food-and-the-marine/publications/wildlife-and-tb/#badgers-and-tb

# Biodiversity: Salmon (Salmo salar).

## Executive summary

Based on the developer's Aquatic Ecology (Appendix 6F), Chapter 6 Biodiversity (EIAR), and the Baseline GCR Aquatic Ecology Report (Appendix 6G), juvenile Atlantic salmon were confirmed only at the Morningstar River (Site 3). The Morningstar reach functions as a nursery area and as such adult holding habitat was not recorded in the surveyed reaches. Construction-phase risks to salmon are dominated by sediment pulses from near-stream works (culverts and a bank-based single-span bridge) and any hydrocarbon/concrete incidents. With mitigation implemented, residual risk is presented as low; however, several enforceability gaps and ambiguities could undermine compliance with the Habitats Directive/Irish transposition, WFD/Surface Waters Regulations, Salmonid Waters Regulations, Fisheries Acts, and Water Pollution Acts. These gaps form material planning objections and recommended conditions.

## Survey methodology (as reported)

Electrofishing followed CFB (2008) 'Methods for the WFD – Electric Fishing in Wadable Reaches'; 10-minute continuous fishing per site; fish were anesthetized with clove oil, measured, recovered, and released. Lamprey checks used 1 $m^2$, six × 20-second pulses where suitable fines were present. (Aquatic Ecology Appendix 6F).

Site coordinates, reach lengths and areas were documented; CPUE indices were calculated by site; habitat metrics and salmonid habitat ratings were compiled (EIAR Chapter 6 & Appendix 6F).

## Key results (salmon presence, abundance, habitat)

Salmon presence: Recorded only at Site 3 (Morningstar River): 34 juveniles (6.1–13.9 cm; mean 9.7 cm). Brown trout also present at Site 3. Other sites recorded zero salmon.

Effort–standardized abundance: Site 3 area 110 $m^2$, 10 min fishing; CPUE for salmon = 0.31 fish/$m^2$ (3.4 fish/min). Other surveyed sites: salmon CPUE = 0.

Habitat interpretation: Morningstar reach is a functional juvenile nursery; adult holding habitat limited/absent in surveyed reaches. Tributaries within the development footprint are poor for salmonids; the Morningstar reach is rated sub-optimal for spawning/early life stages.

## Mitigation proposed (as stated by the applicant)

Governance: Construction Environmental Management Plan (CEMP); Ecological Clerk of Works (ECoW) with 'stop-works' authority; water-quality monitoring upstream/downstream; reporting to LCCC; biosecurity per IFI (2010).

Near-water works: Single-span bridge at Morningstar – no in-stream works; work from banks only; drainage not discharging to river. Multiple minor watercourse/drain crossings via staged culvert installations in consultation with IFI; commitment that fish passage will be 'taken into consideration'.

Silt and pollution control: Interception drains, level spreaders, swales with check dams, silt traps/fencing, penstock control on settlement ponds, rapid revegetation; no vehicle entry to channels; buffers to open water; weather gating; daily turbidity/pH/EC checks; baseline and monthly laboratory suites.

## SPA linkage and risk statement

Hydrological pathway: Morningstar → River Maigue → Lower River Shannon SAC (~24.2 rkm) and River Shannon & River Fergus Estuaries SPA (~36.9 rkm). The EIAR describes this connection as weak but evaluates potential indirect effects under a precautionary approach.

Mechanism of impact to SPA birds is indirect (water-quality mediated effects on estuarine prey/habitats). Applicant concludes significant effects are unlikely with mitigation.

The EIAR repeatedly brands the hydrological link to the Lower River Shannon SAC (~24.2 rkm) and SPA (~36.9 rkm) as "weak," yet also concedes that an extreme pollution/suspended-solids event could cause significant effects to qualifying interests. Given cumulative works and already degraded tributaries, "weak" does not equate to "insignificant," and the precautionary principle should apply. Given both historical and recently recorded flooding events in the area immediately surrounding the morning star, we find the "weak" hydrological link assessment as insufficient. See supporting images below.

### Image 1



Source: Flood Maps - Floodinfo.ie

Image 1.1

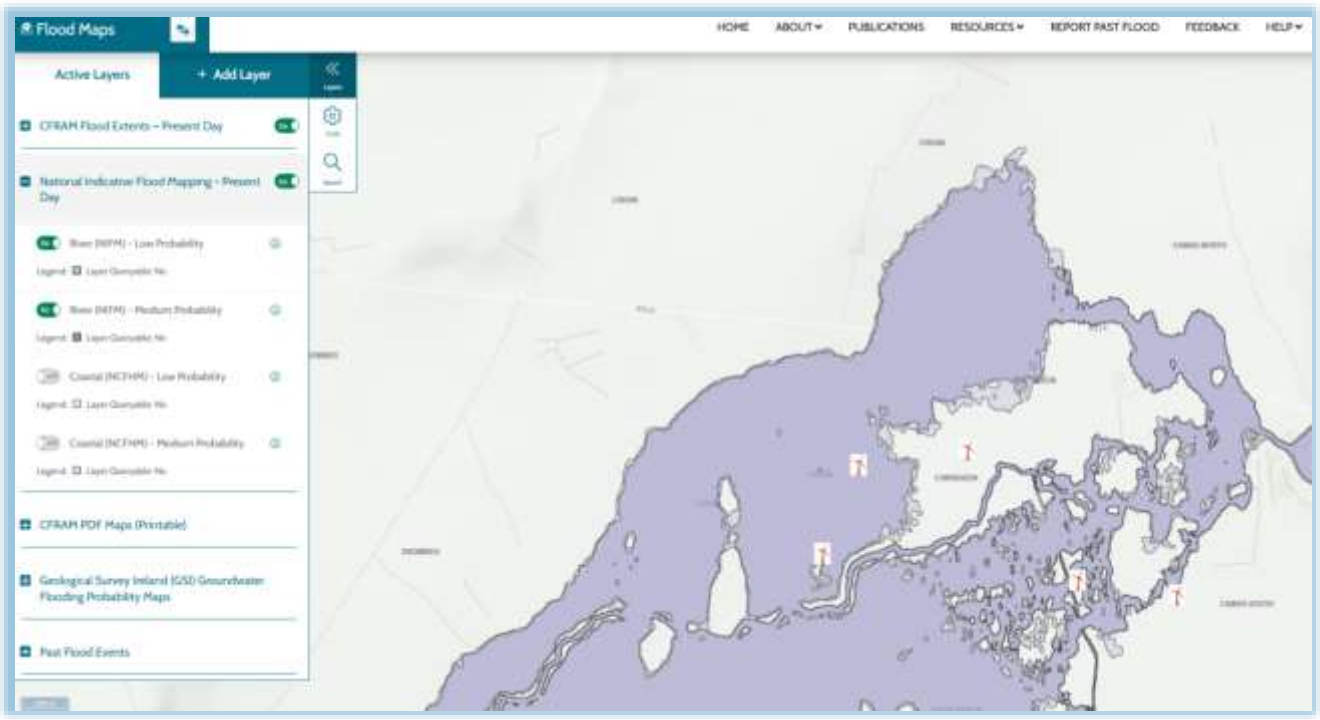



Image 1.2




Source: LCC County Development Plan (Overlaid with local photographic evidence of regular flooding events).

I



L1414 Flooding – Thursday 13th Nov 2025

## Compliance cross-check against key instruments

Habitats Directive / Birds & Natural Habitats Regulations: Salmon (Annex II & V) and nursery habitats must not be adversely affected. The 'no in-stream works' bridge design and biosecurity commitments are consistent with avoidance; however, culvert fish-passage criteria are unspecified.

Water Framework Directive & Irish Surface Waters Regulations: Monitoring/mitigation are framed to prevent deterioration (settlement control, penstocks, baseline/operational monitoring). Numeric action thresholds (e.g., NTU/SS) that trigger stand-down are not explicitly stated.

Quality of Salmonid Waters Regulations (S.I. 293/1988): Used where WFD lacks parameters; consistency claimed in Appendix 6G; again, lack of explicit trigger values is a gap.

Fisheries (Consolidation) Act 1959 & Water Pollution Acts: The EIAR acknowledges offences relating to deleterious/polluting matter and commits to IFI consultation and staging; method statements should explicitly define closed seasons/timing windows and permissions for any works with nursery/spawning interaction risk.

## Contradictions, inconsistencies, or non-compliances – objection points

1) No numeric action levels for turbidity/suspended solids. The EIAR/ECoW framework references monitoring and 'trigger' limits but does not publish the actual numbers or background-relative deltas that will automatically halt works/close penstocks. Without numeric thresholds, enforcement and WFD/Salmonid Waters compliance are unverifiable.

2) Fish passage at culverts is undefined. The text says fish passage will be 'taken into consideration', but does not fix gradients, embedment, natural bed reinstatement, water depth/velocity criteria, or

baffle use. Closed-conduit culverts (total culverted length ~51.4 m across 1st/2nd-order streams) without defined criteria risk non-compliance with IFI/TII guidance for salmonids.

3) Simultaneous culvert works acknowledged as a significant risk. The EIAR itself states that heavy rainfall during culvert works—especially if simultaneous—could cause significant adverse effects to the Morningstar. While 'staging' is mentioned, there is no hard cap (e.g., maximum number of concurrent watercourse/drain works) written as a binding limit in the EIAR text.

4) Seasonal timing windows are not fixed. 'Working period restrictions are referenced, but there are no explicit closed-season dates for salmon spawning/incubation/emergence. This weakens compliance with the Fisheries Act/IFI practice where seasonal avoidance is a primary control for juvenile survival.

5) Monitoring design lacks statistical power detail. Daily handheld checks and monthly suites are proposed, but there is no commitment to independent, auditable continuous turbidity logging at high-risk nodes, nor to real-time alarms tied to penstock isolation—leaving a gap between stated intent and demonstrable prevention of WFD/Salmonid Waters deterioration.

6) Survey effort is minimalistic for population characterization. A single 10-minute electrofishing effort per site provides presence/CPUE snapshot but is a weak basis for concluding limited adult presence/absence or for calibrating risk to nursery cohorts under variable flows. Additional passes/seasonal repeats would strengthen the baseline for decision-making.

## Grounds for Refusal

We object to the application on the grounds that, while juvenile Atlantic salmon are confirmed in the Morningstar River nursery reach, the EIAR and appendices contain material gaps that render salmon protection unenforceable and risk non-compliance with the Habitats Directive and Irish transposition, the Water Framework Directive and Surface Waters Regulations, the Quality of Salmonid Waters Regulations, and the Fisheries and Water Pollution Acts. These gaps are described below.

1) Numeric action thresholds are absent. The documents reference monitoring and 'trigger' limits but do not publish numeric turbidity/suspended solids/DO triggers tied to automatic stand-down and penstock isolation. Without numbers, compliance cannot be verified.

2) Fish passage at culverts is undefined. Statements that fish passage will be 'taken into consideration' are insufficient: no gradients, embedment, roughness/natural bed reinstatement or velocity criteria are specified for the ~51.4 m of culverted 1st/2nd-order streams. This risks hindering salmonid movement contra IFI/TII guidance.

3) Simultaneous culvert works risk is admitted but unconstrained. The EIAR states heavy rain during culvert works—particularly if simultaneous—could significantly affect the Morningstar; yet it sets no binding cap on concurrent works – refer to images 1-1.2 as above.

4) Seasonal timing windows are not fixed. No explicit closed-season dates for salmon spawning/incubation/emergence are committed, undermining Fisheries Act safeguards.

5) Monitoring lacks enforceable design. Daily handheld checks/monthly suites lack continuous logging with telemetry alarms; this reduces the capacity to prevent/verify compliance with WFD/Salmonid Waters objectives in real time.

6) Survey effort is limited. A single 10-minute electrofishing pass per site provides only a presence/CPUE snapshot, insufficient to fully characterize adult usage or inter-annual nursery strength for risk calibration.

On this basis, the application as currently drafted does not provide sufficient certainty that the Morningstar juvenile salmon nursery will be protected, nor that indirect effects on downstream designated sites will be prevented.

## References

Article 17 Reports | National Parks & Wildlife Service

Surface water - Environment - European Commission

Register of Protected Areas - Salmonid Water Regs Table - Dataset - data.gov.ie

Inland Fisheries Act 2010

Local Government (Water Pollution) Act, 1977

https://www.fisheriesireland.ie/sites/default/files/migrated/docman/The%20WFD%20Using%20Fish%20as%20a%20management%20Tool_RIA%20Paper_Champ%20et%20al..pdf

research_biosecurity_biosecurity_for_fieldsurveys_2010.pdf

https://faolex.fao.org/docs/pdf/ire27714.pdf

Fisheries (Consolidation) Act, 1959

Guidelines Report 2016.pdf

# Biodiversity: White-Clawed Crayfish (*Austropotamobius pallipes).*

## Executive Summary

It is submitted that the Biodiversity Chapter of the Environmental Impact Assessment (EIA) fails to adequately assess, mitigate, or legally safeguard the conservation of the White-clawed Crayfish (Austropotamobius pallipes) within the Maigue River catchment. The omission of site-specific surveys, inadequate plague mitigation, and absence of licensing references constitute breaches of national and EU environmental obligations.

## A summary of issues are:

## Insufficient Surveying and Baseline Evidence

The EIA relies solely on desktop data (NBDC and NCPSP records) with no in-field verification at or near the development site. This approach directly contradicts NPWS (2017) survey protocols and the CIEEM (2013) competency framework, both of which require field verification of presence/absence prior to determining ecological significance.

## Omission of Mandatory Biosecurity Measures

No detailed biosecurity or decontamination protocols are provided for personnel, vehicles, or machinery operating near a confirmed Aphanomyces astaci-positive watercourse. This contravenes both NPWS technical guidance and national Biosecurity for Field Surveys (2010) standards.

## Contradiction with NPWS Conservation Data

The Morningstar River and the wider Maigue catchment were confirmed plague-positive (2020–2021), with recorded mass mortality events. Despite this, the EIA concludes that no significant impacts are expected — an unsubstantiated assertion inconsistent with NPWS findings that plague events result in near 100% population loss.

**Appendix I**

Results of the CFP and WCC tests at all sites in all catchments 2020-2021.

| Catchment | Site Name | Sample Ref | Date | Lat | Long | River/Lake | CFP[#] | Mean Ct | WCC[#] | Mean Ct |
|---|---|---|---|---|---|---|---|---|---|---|
| Shannon Estuary South | Castlemahon Bridge | E_3_20_S1 | 30/06/2020 | 52.4304 | -9.0103 | Deel | negative | | negative | |
| Shannon Estuary South | Grange Bridge | E_3_20_S2 | 30/06/2020 | 52.4628 | -9.0188 | Deel | negative | | positive | 37.59 |
| Shannon Estuary South | Rathkeale | E_3_20_S3 | 30/06/2020 | 52.5195 | -8.9503 | Deel | negative | | positive | 40.10 |
| Shannon Estuary South | Kilcool Bridge | E_3_20_S4 | 30/06/2020 | 52.5399 | -8.9784 | Deel | negative | | negative | |
| Shannon Estuary South | Askeaton Main Street | E_3_20_S5 | 30/06/2020 | 52.6008 | -8.9739 | Deel | positive | 36.06 | positive | 40.38 |
| Shannon Estuary South | River Loobagh | E_3_20_S6 | 01/07/2020 | 52.3938 | -8.6439 | Loobagh | negative | | positive | 29.80 |
| Shannon Estuary South | Bruree | E_3_20_S7 | 01/07/2020 | 52.4236 | -8.6613 | Maigue | negative | | positive | 29.00 |
| Shannon Estuary South | Athlacca (Howardstown) | E_3_20_S8 | 01/07/2020 | 52.4518 | -8.6721 | Morning Star | positive | 26.73 | positive | 26.75 |
| Shannon Estuary South | River Camogue, Manister | E_3_20_S9 | 01/07/2020 | 52.5179 | -8.6658 | Camogue | positive | 27.06 | positive | 27.48 |
| Shannon Estuary South | Croom | E_3_20_S10 | 01/07/2020 | 52.5189 | -8.7183 | Maigue | positive | 33.80 | positive | 34.98 |
| Shannon Estuary South | Castleroberts Bridge | E_3_20_S11 | 01/07/2020 | 52.5433 | -8.7673 | Maigue | positive | 35.08 | positive | 37.78 |
| Shannon Estuary South | Adare | E_3_20_S12 | 01/07/2020 | 52.5687 | -8.7839 | Maigue | negative | 35.81 | negative | 39.59 |
| Shannon Estuary South | Castlemahon Bridge | E_18_20_S1 | 11/11/2020 | 52.43024 | -9.01055 | Deel | negative | | negative | |
| Shannon Estuary South | Grange Bridge | E_18_20_S2 | 11/11/2020 | 52.46271 | -9.01882 | Deel | negative | | positive | 39.45 |
| Shannon Estuary South | Rathkeale | E_18_20_S3 | 11/11/2020 | 52.51966 | -8.95020 | Deel | negative | | positive | 37.82 |
| Shannon Estuary South | Kilcool Bridge | E_18_20_S4 | 11/11/2020 | 52.54112 | -8.97672 | Deel | negative | 39.51 | negative | |
| Shannon Estuary South | Askeaton Main Street | E_18_20_S5 | 13/11/2020 | 52.60083 | -8.97398 | Deel | positive | 37.27 | negative | 38.01 |
| Shannon Estuary South | River Loobagh | E_18_20_S6 | 12/11/2020 | 52.39724 | -8.66161 | Loobagh | positive | 37.38 | positive | 33.11 |
| Shannon Estuary South | Bruree | E_18_20_S7 | 12/11/2020 | 52.42356 | -8.66107 | Maigue | positive | 35.17 | positive | 35.75 |
| Shannon Estuary South | Athlacca (Howardstown) | E_18_20_S8 | 12/11/2020 | 52.45174 | -8.67200 | Morning Star | positive | 32.63 | positive | 36.26 |
| Shannon Estuary South | River Camogue, Manister | E_18_20_S9 | 12/11/2020 | 52.51785 | -8.66588 | Camogue | positive | 29.71 | positive | 35.58 |
| Shannon Estuary South | Croom | E_18_20_S10 | 13/11/2020 | 52.51892 | -8.71830 | Maigue | positive | 31.38 | positive | 35.56 |
| Shannon Estuary South | Castleroberts Bridge | E_18_20_S11 | 13/11/2020 | 52.54331 | -8.76760 | Maigue | positive | 31.39 | positive | 36.94 |
| Shannon Estuary South | Adare | E_18_20_S12 | 13/11/2020 | 52.56870 | -8.78390 | Maigue | positive | 32.83 | positive | 37.38 |
| Shannon Estuary South | Castlemahon Bridge | E_1_21_S1 | 29/06/2021 | 52.4304 | -9.0103 | Deel | negative | | negative | |
| Shannon Estuary South | Grange Bridge | E_1_21_S2 | 29/06/2021 | 52.4628 | -9.0188 | Deel | negative | | negative | |



Source: The National Crayfish Plague Surveillance Programme, Ireland – 2020-2021

## Non-Compliance with Licensing and Legal Requirements

The EIA fails to reference the need for an NPWS licence where potential disturbance to crayfish habitat is possible (e.g., bridge crossings, watercourse works). Proceeding without this constitutes a breach of the Wildlife Acts (1976–2023) and Habitats Directive (92/43/EEC) obligations.

## Risk of Further Disease Transmission

Without explicit mitigation, construction runoff, machinery movement, and water transfers risk amplifying plague spread throughout the catchment. This risk is recognized as severe and uncontrollable once introduced, necessitating strict "zero-transfer" biosecurity practices not addressed in the EIA. Refer to images 1-1.2 of the SPA linkage and risk statement.

## Failure to Apply the Precautionary Principle

The EIA asserts "no significant effect" despite contradictory evidence. Article 6(3) of the Habitats Directive requires the proponent to prove the absence of adverse effect — not to presume it. In a known plague-positive catchment, the only legally defensible conclusion is that significant risk cannot be excluded and as such planning permission is denied.

## Conclusion

Given the legal protection status of the White-clawed Crayfish (Annex II species) and the confirmed plague presence in the receiving waterbody, the current EIA fails to comply with the Habitats Directive, Irish Wildlife Acts, and professional ecological standards. Approval of the project in its current form would present an unacceptable risk to a species of national conservation priority and could be open to legal challenge on procedural and substantive grounds.

## References

https://www.npws.ie/sites/default/files/publications/pdf/IWM131.pdf

CSS-WHITE-CLAWED-CRAYFISH-April-2013.pdf

research_biosecurity_biosecurity_for_fieldsurveys_2010.pdf

https://revisedacts.lawreform.ie/eli/1976/act/39/front/revised/en/html

Directive - 92/43 - EN - Habitats Directive - EUR-Lex

# Biodiversity: Otters (Lutra lutra).

This report was put together after reviewing the following:

Chapter 6 – Biodiversity (EIAR

Appendix 6D – Baseline Report on Habitat & Mammal Surveys

Appendix 6I – Habitat & Species Management Plan (HSMP)

Chapter 19 – Schedule of Mitigation

## Legal Protection for Otters

Otters are one of the most protected wild animals in Ireland. The main laws are the Wildlife Acts, the EU Habitats Directive, and the 2011 European Communities (Birds and Natural Habitats) Regulations. Together these laws make it illegal to kill, injure, or disturb otters, or to damage or destroy their holts or resting places. The Habitats Directive also means that areas used by otters must be properly assessed before development, not after. If any works could harm otters or their sites, a special derogation licence from the National Parks and Wildlife Service (NPWS) is normally required.

## What the Developer's Reports Says

The reports confirm otter activity along the Morningstar River inside the site – including spraints and footprints. There were no confirmed breeding holts, but some potential resting spots were seen. There's also mention of sightings near the Grid Connection Route (GCR). The documents accept that the Morningstar River links downstream into the Lower River Shannon SAC, which is protected for otters. The developers conclude that, if all mitigation is followed, there will be no significant impact on otters.

## Main Weaknesses and Concerns

Even though the right phrases are used, a lot of the real protection is pushed off to the future. The main gaps and flaws include:

· Relying on 'pre-construction surveys' to find holts later, rather than proving now that otters won't be affected. That doesn't meet the strict protection rules that apply to Annex IV species like otter.

These measures fall short of the Article 12 obligations of the EU Habitats Directive (92/43/EEC) and Regulations 50 and 51 of S.I. No. 477/2011, which prohibit any disturbance or deterioration of resting or breeding sites for Annex II and IV species.

· There's no clear plan for what happens if they do find a holt within the works area – no reference to applying for a derogation licence.

· They accept the site connects to the Lower River Shannon SAC but treat the risk mostly as a water quality issue, not looking properly at how noise, light, and disturbance could affect foraging otters or the wider SAC population.

· Surveys were only done in February and March, which is limited for a nocturnal species that uses different sites at different times of year.

· Some stretches of rivers and ditches couldn't be accessed, but the report still claims confidently that no holts exist.

· The Grid Connection and access routes were only lightly checked even though there's a local sighting. Assuming otter presence but not providing crossing designs or follow-up checks doesn't sit right.

· They treat otter impacts as minor after mitigation, but that rests completely on everything going perfectly on site. There's no post-construction monitoring promised to prove that's true.

## Risks to Otters on the Ground

From what's written, the real risks are disturbance during works near the Morningstar River, possible pollution events, and night lighting or noise near foraging areas. Open excavations could trap animals. The project team say they'll use ramps and lighting shields, but these are general construction measures, not otter-specific. Without proper monitoring, it's hard to be confident they'll be enough.

## Why This Matters

Under Irish and EU law, otters and their resting places are protected everywhere, not just in SACs. Developers **have** to prove in advance that no breeding or resting sites will be harmed. Saying 'we'll check later' isn't sufficient enough. Because this site sits on a river that connects directly to an SAC, the standard of proof **has** to be high. The assessment, as written, doesn't reach that bar.

The EIAR further claims that "no significant residual impacts on otter are anticipated provided mitigation is implemented." This assertion lacks evidential basis: no seasonal exclusion zones, riparian buffer commitments, or long-term post-construction monitoring are presented. The omission of a detailed Otter Protection and Habitat Management Plan contradicts the NPWS Otter Conservation Guidelines (2009), which require specific measures within 150 m of active holts or core foraging routes. Given the Morningstar River's role as a key ecological corridor, the mitigation strategy described is neither enforceable nor compliant with the conservation objectives of the Habitats Directive.

## Summary

The reports show there are otters using the area, and they admit the river system connects to a European site protected for otters. While the mitigation sounds sensible, most of it depends on later checks and best intentions. There are missing details about how any discoveries would be handled legally, and the surveys themselves were limited. Altogether, it doesn't feel like a fully precautionary approach, and there's still a realistic risk of disturbance or damage to otter habitat if the works go ahead as planned.

## References

European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011) | National Parks & Wildlife Service

Directive - 92/43 - EN - Habitats Directive - EUR-Lex

S.I. No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011.

https://www.npws.ie/sites/default/files/publications/pdf/2009_Otter_TRP.pdf

# Biodiversity: Whooper Swan (Cygnus Cygnus)

## Whooper Swan

This submission sets out a formal objection to the proposed Wind Farm development on the basis of its likely significant adverse impacts on Whooper Swan (*Cygnus cygnus*), a species protected under Annex I of the EU Birds Directive (2009/147/EC), and the inadequacy of the Environmental Impact Assessment Report (EIAR),the Whooper Swan Management plan (WSMP) and associated mitigation proposals.

Granting permission would risk significant disturbance, displacement, barrier effects and non-trivial collision mortality to a functionally linked Annex I whooper swan population associated with Lough Gur (Wildfowl Sanctuary/pNHA). The applicant's *own EIAR* acknowledges (i) moderate adverse effects without mitigation at construction and operation, (ii) collision rates above the "low-risk" threshold in precautionary CRM runs, and (iii) reliance on future, discretionary curtailment to keep risk "not significant." This fails the precautionary test for a strictly protected species and pushes unacceptable uncertainty onto post-consent management.

The main impacts of wind energy developments on birds are generally via four main categories; collision (Barrios & Rodríguez 2004; Drewitt & Langston 2006; Douglas et al. 2011; Pearce-Higgins et al. 2009), disturbance displacement (Madders & Whitfield 2006; Pearce-Higgins et al. 2009), habitat loss or damage and barrier effects.

The site lies across the Morning Star River floodplain, incorporating areas of wetland sediment and seasonal inundation. Although described by the applicant as "agricultural grassland," mapping by the EPA (Wetlands Map 2023) and OPW CFRAM (2019) clearly identify Flood Zones A and B covering substantial portions of the site.

This floodplain supports ecological connectivity with Lough Gur, a proposed Natural Heritage Area (pNHA) and designated Wildfowl Sanctuary, approximately 4 km northeast of the turbine array. Lough Gur is an established Whooper Swan (Cygnus cygnus) roost and forms part of the migratory network for this Annex I species. This whooper swan flock is considered of county importance (NPWS, DAU,2025).

The EIAR and whooper swan contents within, including the whooper swan management plan (WSMP) collectively fail to meet the requirements of the EU Birds Directive (2009/147/EC), the Habitats Directive (92/43/EEC), and the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011).

They also fall short of the EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022) and the TII Guidelines for Bird Impact Assessment (2023), which require scientifically robust, independent, and verifiable data for protected species.

## Site Context and Ecological Significance

Local newspaper records documenting the arrival and presence of the whooper swans to the site date as far back as the 1930s, illustrating a well-established long-standing site for the migratory birds. The site forms part of the Morningstar–Maigue River catchment, a connected network of floodplain, wet grassland, riparian woodland, and hedgerow corridors supporting high biodiversity and natural flood storage. This catchment forms part of the Lower River Shannon SAC. Additionally, Fedamore pNHA lies approx. 7km north of the site and Tory Hill SAC is approx. 10km.
Hydrological, soil, and ecological evidence (Ballinlee Green Energy Planning Application, Appendices 8B, 9A & 9B) confirm that the land is a functioning alluvial floodplain with shallow groundwater and active wetland processes. This hydrological network supports a mosaic of semi-natural wet grasslands and drained pastures regularly used by overwintering Whooper Swan populations associated with Lough Gur, located ~5 km from the site.

Lough Gur is designated as a Wildfowl Sanctuary, a proposed Natural Heritage Area (pNHA), and an Important Bird Area (IBA). Its whooper swan population is recorded as part of the I-WeBs data. Lough Gur provides critical roosting habitat for Whooper Swans, while surrounding wet fields — including those within the project footprint — provide essential foraging areas.

Data from the Lough Gur Bird Survey (2023) confirms the well-established commuting corridor between the Lough Gur roost and the foraging fields at the proposed wind turbine site.

## Failure of Independence Between the EIAR, NIS, and AA

Under EU law, the Appropriate Assessment (AA) must be a discrete, standalone process that relies on the best available scientific evidence and tests the conclusions of the EIAR independently. However, in this case, all three documents were prepared by the same consultancy using identical datasets, identical maps, and near-verbatim language. The three documents were compiled by the same parent ecology group.

This approach contravenes the principle outlined in People Over Wind and Sweetman (C-323/17) and Kelly v An Bord Pleanála [2019] IEHC 84, where the Court held that screening and assessment processes must be independent and free from circular reasoning.

Here, the NIS repeatedly cites the EIAR as the source of its conclusions. For example, the NIS "relies upon the findings of the EIAR Ornithology Chapter (Ch.7)" rather than undertaking its own evaluation.
This self-referential structure means the AA is not an independent scientific check but merely a restatement of the developer's position.

Such structural dependency breaches Article 6(3) of the Habitats Directive and Regulation 42(11) of S.I. 477/2011, which require the competent authority to base its decision on an independent assessment of likely significant effects.

# Whooper Swan Behaviour and Sensitivity

The Whooper Swan population use of the site is long standing. The return of the Whooper Swan to area each winter is well documented in local newspapers dating as far back to 1930 and reflects, not alone, the consistent use of the site and its favourable environment as a foraging ground but such reporting illustrates the local community's affinity with the birds return each winter.

This lengthy history supports the bird's predilection for high fidelity to sites (Black and Rees, 1984), with few major shifts in distribution. Flocks repeatedly use the same winter foraging fields for decades (Fox et al 2015). Loss or disturbance of a known site can therefore displace entire family lineages. NPWS (Irish Wetland Bird Survey) report that movements between roost and fields (morning/evening) create predictable flightlines that are sensitive to disturbance and collision risks (lines, turbines, glint/glare, etc.).

Use of foraging fields within the feeding site can change during early, middle and late winter months, this is supported by observational data documented by Birdwatch Ireland and also by local observations, through which different fields within the area are accessed at different intervals throughout the overwintering period. Research supports this change throughout the winter period, Rees, Kirby and Gilburn (1997) found that the swans showed strong habitat preference in different wintering periods.

Tracking studies show birds returning annually within the same 5–10 km radius (Boland & Crowe 2012). Disturbance or hydrological change can cause multi-year abandonment before recolonisation (Fox et al 2015). Wind-farm studies report 30–50 % avoidance within 500 m of turbines (Wilson et al 2019; SNH 2021).

The landscape lends itself to limited human or internal vehicular interaction and as such, the flock would typically not be habituated to disturbance. Furthermore, the area has seen limited change over the generations of flock foraging, with no barriers and unrestricted access within the site. Additionally, their known roosting ground at Lough Gur is largely silent during dusk and nighttime hours with no vehicular access within the wildfowl sanctuary itself. In such environments, flock are more likely to respond to human presence at a greater distance (Botsch et al, 2018; Samre et al, 2017), they are a species known to be sensitive to human presence and "demand immunity from disturbance" (Snow and Perrins, 1998). NatureScot (NHS, 2013) identifies the whooper as medium sensitivity.

The EIAR itself admits turbines are positioned within 400–600 m of the current feeding fields, yet concludes that disturbance effects will be "moderate" and "not significant." This conclusion contradicts both the scientific literature and the applicant's own field data showing regular swan activity within that range.

Furthermore, the area proposed as a Whooper Swan Management Area (WSMA) lies only 340 m from turbine bases and within direct line of sight of construction access routes and borrow pits. Placing mitigation habitat inside the predicted disturbance radius violates the "avoidance first" principle established under Article 5 of the Birds Directive and Regulation 4(2)(a) of S.I. 477/2011.

## Data Deficiencies – Surveys, Nocturnal Coverage, and Bio-acoustics

The ornithological baseline underpinning all three documents is incomplete and non-compliant with best-practice survey standards.

| Survey Year | Method Used | Nocturnal Coverage | Adequacy |
|---|---|---|---|
| 2020–21 | Daylight vantage points | None | ❌ Incomplete |
| 2021–22 | Daylight vantage points | None | ❌ Incomplete |
| 2022–23 | Bio-acoustic monitoring (6 nights, ~24 hours total) | Partial only | ⚠️ Limited |
| 2023–24 | No field data reported | None | ❌ Absent |

Best-practice guidance (NatureScot 2021, TII 2023) requires three full winters of dawn, dusk, and nocturnal observation for high-sensitivity migratory species.

No thermal or infrared visual surveys were undertaken, meaning night-time flight height and direction—critical for collision modelling—remain unknown. Despite this, the EIAR applies a Band Model collision risk formula using "inferred flight data," producing estimates of 0.22–0.55 Whooper Swan collisions per year without presenting confidence intervals.

## Flight Data and Collision-Risk Modelling (CRM)

### EIAR approach:

- 12 observed Whooper flights plus 8 "inferred" flights used for CRM.
- Avoidance rate: 99.5 %.
- Predicted collisions: 0.22–0.55 birds per year (≈ 19 over 35 years).
- No confidence intervals or sensitivity tests provided.

### Best practice expectation:

- *Band et al. 2012* and *NatureScot 2021* – Use empirical flight data only, include 95 % confidence limits and sensitivity runs for avoidance (95–99.5 %).
- *CIEEM 2018* – All uncertainty must be explicitly presented; significant conclusions require "reasonable scientific certainty". CRM standards fail to take account of site fidelity and predictable long standing flight path behaviour.

### Assessment:

- Dataset is extremely small; reliance on "inferred flights" introduces model instability.
- No error analysis or confidence intervals; uncertainty is unquantified.
- Results are treated as definitive despite high variability.

## Conclusion:

CRM does not meet Band/NatureScot standards; collision risk for Whooper Swan is likely underestimated and statistically unreliable

Such extrapolation violates the standard set by CIEEM (2018), which requires "reasonable scientific certainty" based on empirical evidence, not assumptions.

# Noise and Disturbance Impacts

The EIAR fails to include quantitative noise modelling for waterbirds.
The reports treat construction and operational noise as "non-significant" based on generic turbine specifications rather than measured propagation over wetland terrain.

Wind-farm construction noise typically ranges from 45–70 dB LAeq at 300 m—levels known to cause vigilance and foraging disruption in large waterfowl (Pearce-Higgins et al. 2012).
The BirdWatch Ireland (2019) survey documented disturbance and flushing at 40 dB levels around Lough Gur. Peak construction noise levels are estimated at up to 75 dB LAeq, prolonged exposure to construction noise above 60–65 dB can lead to foraging avoidance or site abandonment in swan species, particularly within 500 m of active works.

The WSMA and core foraging fields lie within 400–500 m of turbines and haul roads — meaning both construction and operational noise could exceed tolerance thresholds for swans.

Given the open floodplain topography, sound attenuation is minimal, meaning turbine and traffic noise will travel freely across feeding fields.
This risk is compounded by the placement of access roads and borrow pits directly within the main foraging zone.

The EIAR's statement that "no significant auditory effects are predicted" is unsubstantiated. No modelled contours, frequency ranges, or cumulative noise maps are provided.
Moreover, the WSMA's proximity to turbines means it will be subject to the same disturbance levels as the impact area—rendering it an ineffective form of mitigation.

In short, the project has no enforceable or measurable noise mitigation strategy.
The absence of noise modelling or behavioural thresholds breaches Article 3(1) of the EIA Directive, which requires assessment of "significant effects on population dynamics likely to arise from noise or disturbance."

# Deficiencies in Proposed Mitigation and Construction Timing Measures

The mitigation measures presented within the EIAR and the accompanying Whooper Swan Management Plan (WSMP) are neither scientifically credible nor legally sufficient to remove reasonable doubt of significant adverse effects on Whooper Swan populations functionally linked to Lough Gur.

## Temporary Curtailment of Turbines (T1–T4)

The applicant proposes to fully curtail turbines T1–T4 during the first operational winter only, from 15 October to 31 March. Thereafter, these turbines would operate normally, with "adaptive" curtailment introduced only if Whooper Swan mortality or activity exceeds a trigger of 0.05 collisions per year.

This proposal is fundamentally flawed for three reasons:

1. It is temporary and discretionary. Curtailment applies for a single winter, with no commitment for subsequent years. Once turbines resume full operation, the same disturbance and collision risks re-emerge.
2. It relies on unproven monitoring. No detection technology, response time, or verification process is specified. "Adaptive curtailment" is left to future discretion.
3. It conflicts with the project's own data. The applicant's collision model predicts 0.22–0.55 Whooper Swan collisions per year—four to ten times higher than the mitigation trigger threshold.

Mitigation that depends on post-consent monitoring cannot satisfy the precautionary principle under Article 6(3) of the Habitats Directive. The CJEU (People Over Wind and Sweetman, C-323/17) established that mitigation cannot be used to avoid assessment unless its effectiveness is proven *in advance*. Here, the measure's effectiveness is purely speculative.

## Construction Timing Restrictions (15 October–31 March)

The WSMP claims construction will be "minimised" between 15 October and 31 March to reduce disturbance during the Whooper Swan overwintering period. However, the restriction is not a full moratorium. The EIAR expressly allows:

"Cable laying, component delivery without lifting, and other minor civil works during this period, subject to monitoring by the Ecological Clerk of Works."

This language introduces significant ambiguity and offers no measurable standard of compliance. Under TII (2023) Guidelines, §6.4.7, all heavy construction and vehicular movement within 600 m of known feeding areas should be prohibited between October and March.

By contrast, the proposal allows construction traffic and borrow-pit excavation in the same fields where swans feed daily. The WSMA—the supposed "safe foraging area"—lies directly adjacent to the main haul route and within 350 m of active turbines.

This means the site will experience continuous visual and acoustic disturbance precisely during the months when Whooper Swans are most present and most sensitive. The applicant's suggestion that noise will be "minimised" without quantification is therefore meaningless.

## Lack of Enforceable Conditions

The EIAR places all implementation responsibility on the developer's own ecological consultants, acting as "Ecological Clerk of Works." No independent oversight, funding security, or long-term compliance mechanism is proposed.
Such arrangements are inconsistent with the EIA Directive Article 8a(1), which requires mitigation and monitoring measures to be incorporated into the consent decision and to be *specific, enforceable, and verifiable*.

Without a binding planning condition requiring permanent curtailment or full seasonal exclusion, these measures amount to voluntary commitments, not mitigation.

## Incompatibility with Statutory Guidance

Both the NPWS/DAU consultation response and BirdWatch Ireland (2019) data emphasised the need for at least 600 m separation between turbines and feeding fields, and the exclusion of construction works during the entire wintering period.

The applicant explicitly declined to implement these recommendations.
During the second pre-application meeting (20 March 2025), Ballinlee Green Energy Ltd confirmed that "design flexibility" was no longer being considered. As a result, the layout fixes turbines within 340–600 m of active feeding areas and ignores the precautionary advice of the competent statutory body.

Under Regulation 27(5) of S.I. 477/2011, public authorities are required to "strive to avoid pollution and deterioration of bird habitats even outside European Sites." Failure to heed NPWS/DAU's expert advice represents a clear procedural and substantive breach of that obligation.

## Summary Table – Mitigation Failures

| Measure | Duration / Mechanism | Scientific Basis | Legally Robust? | Assessment |
|---|---|---|---|---|
| Curtailment of T1–T4 (first winter only) | Temporary (1 year) | None | ❌ No – discretionary, unproven | Ineffective |
| Adaptive Curtailment | Post-consent discretionary | Undefined | ❌ No – uncertain future action | Non-compliant |
| Construction Minimisation | 15 Oct–31 Mar (partial restriction) | None | ❌ No – not enforceable | Inadequate |
| Monitoring / Governance | Developer's consultant | None, independent | ⚠️ Weak – conflict of interest | Unreliable |

## Implications for the Appropriate Assessment

Because the project's core mitigation depends on discretionary, time-limited, or post-consent measures, it fails to meet the legal threshold of "no reasonable scientific doubt" required by Article 6(3).

The lack of enforceability and the contradiction between the applicant's predicted collision rate and its mitigation trigger mean that the competent authority cannot reasonably conclude that significant effects on Whooper Swans will be avoided.

In practical terms, this invalidates the conclusions of both the NIS and AA, which are predicated on the assumption that these mitigation measures will succeed.

## Habitat Composition and Forage Quality

**Proposal:**
The proposed foraging field will be reseeded to a **uniform perennial ryegrass sward** maintained at 5–10 cm height, closed to grazing from mid-October to end-March.

### Ecological context — what Whooper Swans need

Peer-reviewed studies and long-term monitoring in Ireland and Britain (e.g., Rees et al. 2019; Crowe et al. 2021; Robinson et al. 2022) show that:

- Whooper swans are opportunistic herbivores, feeding on a mosaic of improved and semi-improved grassland, rough pasture, stubbles, and aquatic macrophytes.

- They rely on diversity of sward types and vegetation structure to balance carbohydrate and protein intake and to maintain fat reserves for migration.
- Their feeding efficiency and site fidelity depend on variety of crop and soil conditions, not monocultures.

Repeated use of single-species, intensively managed grass swards (especially perennial ryegrass monocultures) leads to nutritional monotony, soil compaction, and reduced palatability as sward ages or becomes waterlogged.

Issue:

The monoculture grass sward significantly reduces the quality, diversity, and nutritional range of available forage, creating a degraded feeding habitat relative to the baseline mosaic. As per the applicants map illustrating preferred foraging sites, a range of areas are consistently used indicating access to a range of varied sward being the norm for this whooper swan population. Best-practice guidance (e.g., SNH 2016 *Bird Sensitivity Mapping and Wind Energy Guidance*; TII 2023 *Guidelines for the Assessment of Bird Impacts from Road and Bridge Projects*; Irish Whooper Swan Management Framework 2015) recommends:

- Multi-sward feeding plots: combine perennial ryegrass, timothy, meadow fescue, red clover, and occasionally winter cereals for energy diversity.
- Rotational plots with different mowing and grazing regimes to create heterogeneous structure (short grazed patches, medium swards, wetter pockets).
- Wet-feature zones with shallow flooding (5–15 cm) and soft sedge/rush transition for loafing and preen areas.
- Adaptive reseeding every 3–5 years with mixed species to maintain palatability.

The Ballinlee WSMP delivers none of these, offering a static, ryegrass-only field block, fixed sward height, and no rotation or wet–dry heterogeneity.

Ecological trap intensification — Because only a narrow zone of apparently lush ryegrass is offered within 350 m of turbines, it may attract birds repeatedly into high-risk space without providing the energetic return they would get from broader habitat diversity elsewhere.

Evidence & reasoning:

- Whooper swans require varied swards to meet carbohydrate and protein needs. Ryegrass-only swards lose sugar content in wet winters and provide low energy return; long-term use leads to compaction and poor regrowth. Accessing alternating fields to forage is typical of whooper swan behaviour (Jia et al, 2019).
- The EIAR contains no soil fertility or forage diversity plan; therefore, the WSMA's carrying capacity for the local flock is unproven.
- By converting mixed pasture to monoculture, the plan deteriorates habitat quality, violating Article 5(b) of the Birds Directive (deterioration of resting/feeding sites).

- The current preferred feeding sites particularly those located in proximity of T3 lie within the Morning star floodplain, with alluvial rich wetland sediment.
- Whooper swans will have different feeding requirements throughout the overwintering season, with different preferences and needs during early, late and middle winter.
- Additionally, the age range of the population will dictate feeding needs
- The present preferred sites are subject to seasonal hydrological changes resulting in corresponding changes in diet composition. Such hydrological changes are more pronounced in current preferred foraging site relative to the
- proposed site which sits aside the floodplain and wetland sediment. Their dynamic movement is a hallmark of their **adaptive foraging strategy** in landscapes where water, sediment, and plant cycles constantly change.
- Habitat homogeneity — Uniform sward discourages other waterfowl species and may reduce the area's attractiveness overall, undermining the plan's goal to "draw" whoopers away from turbines.

Planning Legal Implications

A habitat change that reduces functional feeding value constitutes ecological deterioration, not mitigation. The plan thus fails both the Birds and Habitats Regulations and the EIA requirement for like-for-like mitigation. This approach is inconsistent with established ecological research on whooper swan diet and habitat selection and risks creating a nutritional bottleneck and ecological trap.

The proposal therefore constitutes **functional habitat deterioration** contrary to Article 5 of the Birds Directive and Regulation 4 of the 2011 Regulations, failing to ensure the species' local population remains at ecologically sound levels.

The WSMP's single-species sward offers neither the nutritional nor structural diversity required by whooper swans and would likely reduce overall site suitability. Nor does it offer the swans a choice of sites, relative to their current access. This represents a considerable reduction in variation and will alter foraging behaviour accordingly. There is nothing favourable within this to establish it as an "enhancement measure".

# Hydrology, Drainage, and Floodplain Impacts

## Context and Importance of the Morning Star Floodplain

The site lies within the Morning Star River floodplain, an area characterised by wet alluvial soils, intermittent groundwater flooding, and shallow seasonal pools. These hydrological features create highly productive foraging habitat for Whooper Swans, Lapwing, and other wintering waterbirds.

Although the EIAR refers to the site as "primarily agricultural grassland," EPA Wetlands Mapping (2023) and OPW CFRAM Flood Zones (2019) identify extensive areas within Flood Zones A and B, confirming frequent inundation and wetland function.
The site's proximity to the Lough Gur Wildfowl Sanctuary/pNHA establishes it as part of a wider ecological system that sustains overwintering Whooper Swans.

These hydrological dynamics are not incidental; they define the area's value to migratory species. Rees et al. (2019) and Crowe et al. (2021) show that Whooper Swans prefer shallow-flooded, nutrient-rich pastures for grazing and roosting. Altering drainage or flood storage capacity fundamentally changes their habitat suitability.

## Absence of Hydrological Assessment

- No hydrological contour mapping or groundwater flow analysis was undertaken.
- No reference is made to EPA GSI Subsoil Permeability Data or CFRAM flood maps, which clearly show surface-water continuity between the floodplain and the Morning Star channel network flowing toward the Maigue and Shannon catchments.
- The EIAR contains no quantitative assessment of surface runoff changes, wetland drainage effects, or sediment transport resulting from turbine foundations, access roads, or cut-fill areas.

The omission is critical. Construction on alluvial floodplain soils inevitably alters infiltration rates and storage volume, leading to reduced surface wetness and shallower winter flooding.
This undermines the wet-grassland mosaic that provides feeding habitat for Whooper Swans.

## Proposed Drainage and "Reduced Waterlogging"

The EIAR explicitly states that new access tracks and turbine bases will "improve site accessibility and reduce surface waterlogging."
While such drainage might benefit engineering stability, it directly conflicts with the ecological function of the habitat.

Reducing waterlogging in an area used by waterbirds is effectively a form of habitat degradation. Under Article 5(d) of the Birds Directive and Regulation 4(2)(a) of S.I. 477/2011, deterioration or destruction of resting or feeding sites of wild birds is prohibited.

In this case, the so-called "improvement" represents ecological deterioration — converting a naturally wet, food-rich floodplain into drier pasture.
This alteration will reduce the invertebrate and sward diversity that swans depend on, a pattern observed in comparable Irish wetland conversions (Boland & Crowe 2012).

## Overlap with Borrow Pits and Access Infrastructure

Two borrow pits and several haul routes are proposed within the floodplain section, adjacent to turbine locations T1–T3.
These areas are within close proximity to the proposed whooper swan foraging field, identified by the applicant's own field surveys (Appendix 7D, Map A3). Indeed, an access road separates the proposed foraging field. It is essentially the busiest part of the entire site, in terms of vehicle traffic, associated noise and human disturbance. Excavation and infill in these zones will permanently alter local hydrology by:

- lowering the local water table;
- compacting subsoil through haulage;
- disrupting natural flood-retention capacity; and
- introducing suspended sediment into floodplain drains.

The EIAR provides no sediment or runoff modelling, no water-quality monitoring plan, and no assessment of how altered flooding patterns will affect vegetation or feeding availability.
This constitutes a breach of EPA (2022) EIAR Guidelines §3.3.2, which require that hydrological effects on biodiversity be quantified and mapped.

## Wetland Function Loss and Foraging Implications

Reducing drainage and soil saturation, combined with construction noise and movement, will render existing foraging fields unsuitable for Whooper Swans.
Research by Fox et al. (2006) and Keskpaik et al. (2020) confirms that large waterfowl abandon feeding fields within 400–600 m of turbines, particularly where hydrological or vegetation changes occur simultaneously.

At the proposed site these effects overlap:

- physical loss of wetland hydrology.
- disturbance during construction.
- post-construction displacement.
- functional loss of adjacent foraging habitat.

Such cumulative disturbance constitutes functional habitat loss, even if the area remains superficially green or vegetated.

The Birds Directive prohibits not only direct destruction but also *deterioration* of feeding or resting sites (Article 5(d)).

## Summary Table – Hydrological and Habitat Effects

| Impact | EIAR Position | Observed / Likely Outcome |
|---|---|---|
| Drainage improvement | "Improved site accessibility and reduced waterlogging." | Loss of wet-grassland structure; reduced invertebrate |
| Hydrological connection | "None with designated sites." | Surface and groundwater continuity with Morning Star |
| Borrow pits and haulage | "Temporary localised disturbance." | Permanent soil compaction, reduced flood storage. |
| Noise during construction | "Short-term, not significant." | Continuous disturbance in winter months. |
| Floodplain function | "Not a designated feature." | Key feeding habitat for Annex I species. |

## Legal and Policy Context

The Limerick County Development Plan (2022–2028) recognises the Morning Star floodplain as a sensitive ecological corridor, with policies BIO O1 and EH O19 requiring the protection of wetlands and ecological connectivity.
The Limerick Biodiversity Action Plan (2025–2030) explicitly lists Lough Gur wet-grasslands as priority habitats for wildfowl conservation.

By promoting drainage and ground modification within this corridor, the project contravenes both the local development plan and the State's statutory obligation under Regulation 27(5) of S.I. 477/2011 to avoid habitat deterioration for bird species outside European sites.

## Conclusion – Hydrology and Floodplain Integrity

The Ballinlee EIAR, NIS, and AA collectively ignore the fundamental hydrological processes that sustain Whooper Swan foraging habitat within the Morning Star floodplain.

By dismissing floodplain wetlands as "agricultural grasslands," and by promoting drainage and access infrastructure that reduce soil wetness, the applicant underestimates both direct and indirect impacts on protected species.

Without a hydrological model, drainage plan, or mitigation for flood storage loss, the competent authority cannot be satisfied that the project will avoid significant habitat deterioration.

# Cumulative Impacts and Population-Level Effects

## Overview

The EIAR and NIS each limit their assessment to the immediate site boundary and project envelope, asserting that "no other wind farms lie within the functional range of the subject species."

At least nine wind farm developments are currently operating, permitted, or at application stage within the Irish midlands–southwest migratory corridor used by Whooper Swans, including Garrane, Annagh, Ballinla, Derrynadarragh, Drehid, and Derryadd. Each of these developments supports turbine layouts within or adjacent to key wintering habitats identified by BirdWatch Ireland (Crowe et al., 2021).

Failure to evaluate the cumulative impact of these projects—both in terms of collision mortality and displacement—represents a fundamental breach of NatureScot (2021) and TII (2023) requirements, which mandate a cumulative collision risk analysis (CCRA) wherever developments overlap within the same migratory range.

## Cumulative Mortality and Displacement

### EIAR approach:

- Compares project mortality to 1% of the national Whooper Swan population; concludes "not significant".
- No explicit cumulative table combining other nearby projects with whooper swan populations (e.g., Garrane, Annagh).

### Best practice expectation:

- *NatureScot 2021 §9* – Cumulative Collision Risk Analysis required for all projects within the same migratory range.
- *TII 2023 §6.5.1* – Assess cumulative displacement and collision jointly with existing or pending developments.

### Assessment:

- Omitting nearby wind projects underestimates cumulative loss.
- Using a 1% population rule is not precautionary for a long-lived species with high adult survival elasticity.

## Conclusion:

Cumulative assessment is absent and population-level risk understated

Whooper Swans are a long-lived species with low reproductive output. Their population dynamics are particularly sensitive to adult survival rates. Even small additive losses—below 1% of the annual population—can cause measurable long-term decline (Fox et al. 2006).

The EIAR predicts 0.22–0.55 collisions per year for its site alone. Using a mid-range figure of 0.35 and combining it with comparable predictions from other live wind farm cases in the region, cumulative mortality across the species' Irish range may exceed 2–3 birds per year.

While this may appear minor in absolute terms, when distributed across a single national wintering population of roughly 15,000–16,000 individuals, it equates to sustained additive mortality far beyond the species' population growth margin.
Displacement effects—estimated at 30–50% avoidance within 400–600 m of turbines—further compound the problem by reducing the available foraging area, forcing birds into suboptimal sites, and increasing energy expenditure.

Under Holohan (C-461/17), such cumulative and off-site impacts must be fully quantified and integrated into both the EIA and the AA.
Their absence renders both assessments scientifically incomplete and procedurally unlawful.

## Cumulative Planning Effects on Whooper Swan Population Nationwide

Cumulative Effects from multiple projects acting on the same national wintering population must be assessed beyond site-level "functional link" tests. This is consistent with best-practice CIA guidance for wind–bird interactions.

There are currently 9 planning applications nationwide. The whole island population is of importance in its entirety and the cumulative effect on *numerous habitats* cannot be underestimated in the context of whole island population.

Key live/pending cases (each has Whooper-specific reports/figures in the file set):

- Ballinlee Wind Farm (Limerick) — Case 323780. Includes Appendix 7D: Whooper Swan Management Plan and CRM. An Coimisiún Pleanála+3An Coimisiún Pleanála+3An Coimisiún Pleanála+3
- Ballinla Wind Farm (Offaly) — Case 323579. Includes Appendix 07-7: Whooper Swan Report and Appendix 07-8: Collision Risk Model. An Coimisiún Pleanála+1
- Garrane Green Energy (Limerick) — Case 323448. EIAR Chapter 08 Ornithology + CRM appendices (wintering waterbirds assessment). An Coimisiún Pleanála+1
- Derryadd Wind Farm (Longford) — Case 322485. Collision Risk Modelling Report (Gittings, 2025) includes Whooper flightlines/estimates. An Coimisiún Pleanála
- Drehid / North Kildare Wind Farm — Case 322845. Ornithology figs include "Whooper Swan – cumulative" and related mapping. consult.fingal.ie

- Derrynadarragh Wind Farm (Kildare/Offaly/Laois) — Case 323728. s Whooper flights and collision. An Coimisiún Pleanála+1
- Laurclavagh Renewable Energy (Galway) — Case 319307. Revised NIS Appendix 5a — Revised Collision Risk Assessment (FI Sept 2025). An Coimisiún Pleanála+1
- Annagh Wind Farm (Cork) — Case 322439 (reconsideration post-High Court). Live appeal; Whooper is central to the case history and EIAR/NIS set. An Coimisiún Pleanála+2

## Cumulative Hydrological and Habitat Pressures

In addition to direct collision risks, the hydrological and drainage alterations proposed mirror those of several other local projects. Each contributes to incremental wetland loss across a wider landscape.

The Limerick–Cork border region, once dominated by seasonally flooded pasture and alluvial meadow, is experiencing a steady conversion toward drained, turbine-accessible land. This incremental transformation erodes the ecological network upon which the Lough Gur and Morning Star Whooper Swan flocks depend.

The NIS fails to address this network-level deterioration, despite clear direction in EPA (2022) Guidelines 4.4.1, which state that cumulative effects on ecological connectivity must be "explicitly assessed."

## Table — Omitted Cumulative Interactions

| Nearby Project | Distance / Connection | Whooper Swan Data |
|---|---|---|
| Garrane Wind Farm | ~13 km SW | Recorded flights to Lough Gur pNHA |
| Annagh Wind Farm | ~17 km SE | EIAR cites Whooper Swan presence |
| Ballinla Wind Farm | ~25 km NE | Collision model for Whooper Swan |
| Derrynadarragh Wind Farm | ~28 km N | Migratory corridor overlap |
| Derryadd Wind Farm | ~40 km NE | National collision dataset |

The omission of these interrelated projects is incompatible with the precautionary approach demanded under Article 6(3).

## Key guidance for turbine placement in relation to Whooper Swan

| Source | Guidance summary |
|---|---|
| TII (2023) — *Guidelines for the Assessment of Ecological Impacts of National Road Schemes on Birds*, §6.4.7 | ≥ 400 m buffer from feeding areas; avoid turbine or road construction inside this zone. |
| NatureScot (2021) — *Bird Survey Methods and Collision Risk Guidance* | ≥ 600 m buffer from key foraging areas; keep clear "corridors" between roosts and feeding sites. |

| Source | Guidance summary |
|---|---|
| BirdLife International (2022) — *Bird Sensitivity Mapping for Renewable Energy in Europe* | Maintain turbine-free zones along regular commuting routes of Annex I species. |
| Rees et al. (2019) — *Wildfowl Biology 59: 243-255* | Foraging displacement of Whooper Swans occurs up to 500 m from turbine or human disturbance. |

# Identified siting flaws and conflicts

## T1–T4 — too close to Camas South feeding grounds

Swans feed within 400–600 m of T1–T4【Ballinlee EIAR App 7D, Table 4.3】, breaching TII (2023) and NatureScot (2021) buffer guidance.

Field studies show Whoopers avoid areas < 500 m from turbine bases【Fox et al., 2006 — Ibis 148: 129-144】, leading to functional habitat loss.

## T5–T7 — positioned across Lough Gur → Camas South flight corridor

Observed flightlines align NE-SW through the central array【EIAR Fig 7.14】.
Guidelines advise keeping turbines off regular roost-forage corridors【NatureScot 2021, s. 3.4.2】.
Barrier effects of similar arrays have reduced Swan commuting efficiency and increased collision risk elsewhere【Desholm & Kahlert 2005 — *Biological Conservation 122: 391-401*】.

## T8–T10 — overlap with secondary foraging plots (Ballinlee)

Feeding recorded within 300 m of T8–T10 fields【EIAR App 7D Map A3】.
Large-swans require several alternative fields for rotation and sward recovery【Rees 2006 — *The Whooper Swan*, Cambridge University Press】; disturbance to these reduces foraging range and increases energy expenditure.

## No defined "flight-corridor clearance zone"

Best practice recommends ≥ 1 km turbine-free airspace between roost and feeding zones【NatureScot 2021, s. 5.3】.
The proposed plan provides no such corridor. Barrier effects of similar configurations have been documented in Finland and Scotland【Keskpaik et al. 2020 — *Ornis Fennica 97: 15-28*】.

## Whooper Swan Management Area (WSMA) proximity to turbines

The WSMP does not consider the buffer distance suggested by NPWS/DAU (App 7D Map 4), contrary to the ≥ 600 m distance advised by NatureScot 2021 s. 4.2.
Feeding enhancement near turbines risks an ecological trap, attracting birds to unsafe areas【Carrete et al. 2010 — Biological Conservation 143: 355-362.

## Summary Table

| Issue | Supporting research / guidance |
|---|---|
| Feeding-field buffer (< 400–600 m) | TII 2023 §6.4.7; NatureScot 2021; Fox et al. 2006 |
| Flight-corridor obstruction | NatureScot 2021 §3.4.2; Desholm & Kahlert 2005 |
| Secondary foraging overlap | Rees 2006; Rees et al. 2019 |
| No corridor clearance zone | NatureScot 2021 §5.3; Keskpaik et al. 2020 |
| Construction disturbance | TII 2023 §6.4.7; Hötker et al. 2006 |
| WSMA proximity (ecological trap) | NatureScot 2021 §4.2; Carrete et al. 2010 |
| Cumulative landscape pressure | TII 2023 §6.5.1; Wright et al. 2012 |

## Conclusion

Placement of turbines T1–T4 within 600 m of Camas South feeding fields, T5–T7 across the principal roost-forage corridor, and absence of a turbine-free route contravene TII (2023), NatureScot (2021), and published research showing Whooper Swan displacement within 400–600 m and sensitivity to turbine-line barriers【Fox et al. 2006; Desholm & Kahlert 2005】. Consequently, the layout fails to minimise collision and displacement risk as required by Article 4(4) Birds Directive and Regulation 27(5) S.I. 477 of 2011.

### Discussion of NPWS/DAU and Applicants Response

DAU Recommendations: recommend applying a more precautionary upper buffer distance for displacement (typically up to 600 m from turbines): "unless lower values have been shown not to result in disturbance.

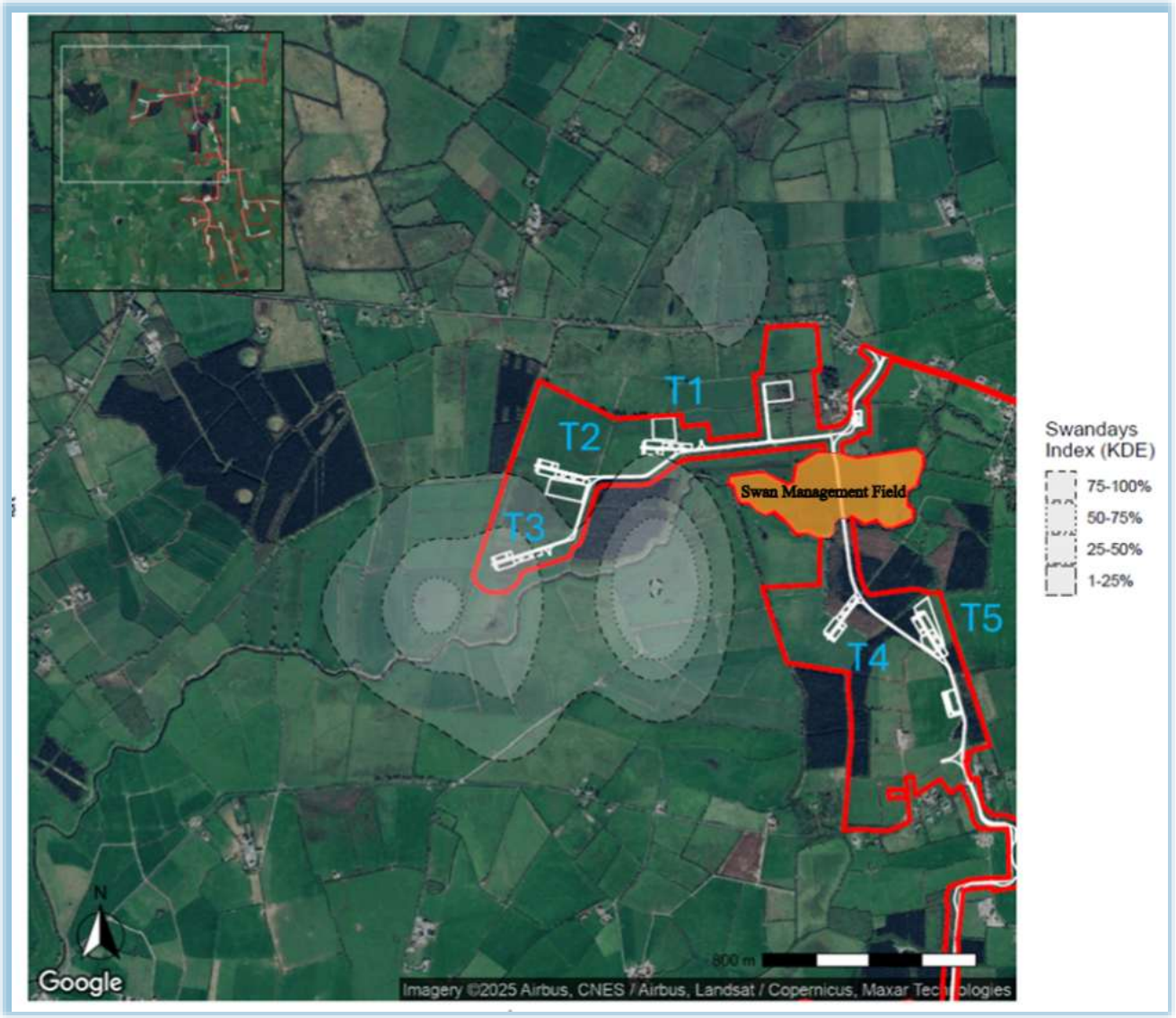
Applicants Response: (cited verbatim) Several empirical studies suggest that whooper swans may tolerate infrastructure at closer distances, particularly when foraging in favoured habitats or where visual/noise disturbance is reduced by landscape features (e.g. Rees et al. 2005b; Colhoun et al. 2013; Liley et al. 2010). Chapt 7, pg 17

This fails to address DAUs rationale for applying such upper buffer distances: "alert behaviour of Whooper Swans in response to visual disturbance or sudden changes in their field of view, and the scale and high visibility (due to the flat topography) of a constantly rotating wind turbine in the vicinity, would indicate strongly that the upper end of the distance range is appropriate in this case", NPWS, DAU, 2025.

The swans in this scenario are no longer in their favoured habitat, having been corralled into one area where visual and noise disturbance will be at its height throughout the construction period, given the proposed foraging grounds proximity to T1-5, together with borrow pits and main access road. Additionally, an access road runs through the foraging field separating it. There are no identifiable features which will reduce the visual impact of the turbines nor reduce the auditory disturbance.

DAU Observations: Applying a 600m buffer for the three closest turbines to the proposed alternative feeding site, it would appear that only 30 – 40% of the proposed site would be a sufficient distance from the turbines and therefore suitable for use by the swans

The proposed Whooper Swan Management Plan is therefore likely to result in a decrease in feeding habitat area for the swans. In addition, the range of feeding sites that they currently use (indicated on the map provided below) is proposed to be narrowed down to a single site, with limited options for switching to an alternative site in response to, for example, a change in weather conditions or temporary local disturbance, for example, vehicles travelling along the access road which divides the proposed foraging field.




Note the highlighted management field relative to current fields preferred by the Whooper Swans and the accompanying reduction in foraging area.

Irregularities noted in issues discussed at Inspectors Meetings with An Coimsuin Pleanala

1st meeting: 25/10/2024

- Of note, the prospective applicant confirmed that at this stage they wished to proceed without design flexibility.

2nd meeting: 20/03/2025

- The ecological survey findings were outlined with a Whooper Swan Management Plan to be prepared which will include mitigation measures to provide strategic habitat enhancement.

This statement infers that the Whooper Swan Management Plan, which includes siting the proposed foraging field after the sitings of the turbines, access roads and borrow pits. In doing so, it infers that the development of the WSMP plan was secondary to the overall plan.

- The prospective applicant was asked if consultations with the National Parks & Wildlife Services (NPWS) in relation to whooper swans had been undertaken. Consultation to date had resulted in a generic response but further engagement would be sought.

One would anticipate that more detailed contact with NPWS at such a late stage of development, would have occurred beyond a "generic response" given the well-established status of the site as a foraging ground for Lough Gur pNHA Whooper Swan population and their protected status.

- In response to queries about nocturnal whooper swan surveys, the prospective applicant stated that 4 years of surveys have been conducted, including nocturnal surveys and potential impacts on the whooper swan population at Lough Gur would be considered.

Whooper swan presence and behaviour was surveyed within the core study area over three non-breeding seasons (2021-22, 2022-23, and 2023-24). (Chapter 7, pg37)

"Initial baseline bird surveys were undertaken during the 2020/21 winter season, focused on wintering waterfowl including Whooper Swan.
These were daylight vantage surveys; nocturnal survey methods were not employed during this season."
*(Chapter 7, §7.4.2, p. 7-23)*

No dedicated nocturnal observations were completed during 2021-2022 ."
*(Chapter 7, Table 7-5 and text around §7.5.2)*

During the 2022/23 winter, nocturnal monitoring was expanded using bio-acoustic detectors deployed near Camas South and Ballycullane to record calling Whooper Swans during hours of darkness. Six nights were recorded in total.

"No infra-red or thermal-imaging observations were carried out." Appendix 7D – Whooper Swan Management Plan, Section 2.3.2 "Additional Monitoring Year 3")

Conclusion: No night-time visual surveys (thermal/IR) were ever done.

Bio-acoustic monitoring totalled ~24 hours, over six nights across one winter and did not quantify flight height or turbine-level exposure.

The prospective applicant highlighted that the area for whooper swan habitat enhancement extends beyond the current redline boundary of the site with the Board's representatives advising that enhancement areas proposed as mitigation should be included within the site redline boundary and accompanied by landowner consent.

- In relation to the location of the proposed borrow pits, the prospective applicant was advised to consider the reasons for the locations chosen, including context relative to the nearest residential receptors and any intended processes to be undertaken/mitigation proposed as part of this element of the project

The borrow pits close proximity to the intended foraging site for whooper Swans was not relayed on this occasion

"The Whooper Swan Management Plan (Appendix 7D) has been developed based on the results of the final winter season (2022/23) and provides for adaptive management during construction and operation."

*(Source: Chapter 7, page 7-24 and 7-25.)*

## Conclusions

The assessment fails to demonstrate compliance with the precautionary principle and with Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011, which demands that any potential significant effect on a protected species or its habitat be rigorously evaluated. In planning terms, this represents a fundamental flaw in the integrity of the environmental information before the competent authority and undermines any conclusion that the project will not adversely affect the conservation objectives of whooper swan populations using the Morning Star floodplain. The Wind Farm proposal, as currently assessed, presents a clear risk of disturbance, displacement, and potential mortality to a functionally linked Annex I population of Whooper Swans associated with Lough Gur Wildfowl Sanctuary/pNHA.

The unsuitable placement of the proposed foraging field together with its proximity to what is essentially the busiest part of the site and eventual turbines sited directly under the whooper swan flightpath, in addition to several turbines sited directly at the preferred foraging field, a well-established preferred site, increases the likelihood of site abandonment entirely. This of course impacts Lough Gur status as wildfowl sanctuary and pNHA, given that whooper swans are a qualifying interest in its sanctuary status. The documentation provided fails to meet EU, national, and scientific standards for environmental assessment and mitigation.

The deficiencies identified—particularly the disregard of statutory advice, lack of cumulative analysis, and absence of enforceable mitigation—constitute substantial non-compliance with the Birds Directive, the Habitats Directive, and the EIA Directive.

# Key Findings

After reviewing the EIAR, NIS, AA, and associated Whooper Swan Management Plan, the following key deficiencies are evident:

1. **Lack of Independence:** All assessments were completed by the same consultancy, resulting in circular reasoning and no independent verification.
2. **Deficient Baseline Data:** No full nocturnal coverage; bioacoustic data limited to six nights; absence of dawn/dusk flight monitoring.
3. **Noise and Disturbance Unquantified:** No propagation modelling, decibel mapping, or sensitivity analysis for waterbirds.
4. **Flawed Mitigation:** Temporary, discretionary turbine curtailment and vague construction restrictions that are neither enforceable nor scientifically substantiated.
5. **Hydrological Oversight:** No modelling or assessment of drainage, floodplain alteration, or habitat degradation in the Morning Star system.
6. **Disregard of Statutory Advice:** NPWS/DAU recommendations (600 m buffer, cumulative assessment, hydrological consideration) were ignored without explanation.
7. **Cumulative Impacts Ignored:** No attempt to evaluate additive effects with other wind energy projects in the regional Whooper Swan migratory corridor.

Each of these omissions and deficiencies individually undermines the validity of the conclusions presented. Collectively, they demonstrate that the assessment cannot provide "reasonable scientific certainty" that significant adverse effects on a protected Annex I species will be avoided.

# Legal and Procedural Implications

Under the Birds Directive (2009/147/EC) and Habitats Directive (92/43/EEC), projects likely to have a significant effect on protected species or their functionally linked habitats cannot proceed unless the competent authority is certain no adverse effect will occur.

- Mitigation that is post-consent, discretionary, or temporary cannot be relied upon.
- Absence of cumulative and hydrological assessment breaches Article 6(3) and the corresponding national transposition under S.I. 477/2011.
- Failure to consider NPWS/DAU advice contravenes Regulation 27(5), which obliges public authorities to avoid habitat deterioration outside designated sites.
- The lack of independent assessment invalidates the Appropriate Assessment under Kelly v An Bord Pleanála [2019] IEHC 84.

## Closing Summary

The Wind Farm proposal, as currently assessed, presents a clear risk of disturbance, displacement, and potential mortality to a functionally linked Annex I population of Whooper Swans associated with Lough Gur Wildfowl Sanctuary/pNHA. The unsuitable placement of the proposed foraging site together with its proximity to what is essentially the busiest part of the site and eventual turbines sited directly under the whooper swan flightpath and several turbines sited directly at the preferred foraging field, a well-established preferred site, increases the likelihood of site abandonment entirely. This of course impacts Lough Gur status as wildfowl sanctuary and pNHA, given that whooper swans are a qualifying interest in sanctuary status. The documentation provided fails to meet EU, national, and scientific standards for environmental assessment and mitigation.

The deficiencies identified—particularly the disregard of statutory advice, lack of cumulative analysis, and absence of enforceable mitigation—constitute substantial non-compliance with the Birds Directive, the Habitats Directive, and the EIA Directive.

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# Appendix - Correspondence to the Development Applications Unit

An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreachta
Department of Housing,
Local Government and Heritage

Your Ref: **22635**
Our Ref: **G Pre00295/2024** (Please quote in all related correspondence)

25 June 2025

Malachy Walsh & Partners
Engineering & Environmental Consultants
Reen Point
Blennerville,
Tralee
Co. Kerry
V92 X2TK

Via email: M.Maher-McWilliams@woodrow.ie aileen.o'connor@mwp.ie

**Proposed Pre Planning Development: Consultation in relation to a Strategic Infrastructure Development (SID) for a proposed Wind Farm: Ballincurra, Ballinlee South, Ballingayrour, Ballinbea, Knockuregare, Ballinlee North, Carrigeen and Camas South approximately 18km southeast of Limerick City and 4km west of Bruff, Co. Limerick**

A chara

I refer to correspondence received in connection with the above requesting further consultation. Outlined below are heritage-related observations/recommendations co-ordinated by the Development Applications Unit under the stated headings.

**Nature Conservation**

Further consultation in relation to the identified usage of the proposed development site by Whooper Swans (Annex I), an Amber listed species[1]. It is noted that the Whooper flock feeding at the proposed development site is part of the Whooper population at Lough Gur, which is a Wildfowl Sanctuary and a proposed Natural Heritage Area for, *inter alia*, its waterfowl population including Whooper Swans.

***Visual disturbance***

A disturbance buffer of between 200m and 600m has been recommended for Whooper Swans (NatureScot, 2022)[2], and the guidelines recommend the use of the upper limit of the range unless a lower value can be shown not to result in disturbance. The inherent wariness

[1] Gilbert, G; Stanbury, A and Lewis, L (2021) Birds of Conservation Concern in Ireland 4: 2020 – 2026. *Irish Birds 43*: 1 – 22

[2] NatureScot (2022) *Disturbance Distances in selected Scottish bird species*. NatureScot Guidance

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and "alert" behaviour of Whooper Swans in response to visual disturbance or sudden changes in their field of view, and the scale and high visibility (due to the flat topography) of a constantly rotating wind turbine in the vicinity, would indicate strongly that the upper end of the distance range is appropriate in this case.

Applying a 600m buffer for the three closest turbines to the proposed alternative feeding site, it would appear that only 30 – 40% of the proposed site would be a sufficient distance from the turbines and therefore suitable for use by the swans. Even allowing for the forestry to the south of the site which may provide some buffering from visual disturbance from $T_5$, it seems likely that most of the western half of the site would have clear sightlines to $T_1$ or $T_4$ and therefore could potentially be unavailable as a feeding area due to disturbance. The proposed Whooper Management Plan is therefore likely to result in a decrease in feeding habitat area for the swans. In addition, the range of feeding sites that they currently use (indicated on the map provided) is proposed to be narrowed down to a single site, with limited options for switching to an alternative site in response to, for example, a change in weather conditions or temporary local disturbance (for example, vehicles travelling along the access road which bisects the proposed new feeding grounds).

***Collision risk***

Whooper Swans are considered to be particularly vulnerable to collision with wind turbines, and Birdwatch Ireland have assigned a "zone of sensitivity" of 600m radius around IWeBS (Irish Wetland Bird Survey) sites occupied by Whoopers[3] , which would include the IWeBS site at Lough Gur. There is an increased likelihood of collision in poor light conditions, including, for example, flights at dusk or dawn to and from roosting sites. Therefore, it would seem that allocating an alternative feeding site which is located between three turbines, much of which is at a distance (from the turbines) of considerably less than the zone of sensitivity, and improving its foraging quality to encourage the swans to use it, would introduce the risk of collision and in a sense could create an ecological trap, which would not be advisable.

It is noted from the map of flight paths provided that, while the majority of flights are to and from the northeast (presumably Lough Gur), there appears to be some through movement to the south/southwest. Depending on the ultimate destination(s) and timing of flights in this direction, this could potentially introduce the risk of collision with additional turbines, particularly $T_6$ and $T_7$ (and $T_2$ and $T_3$, if the swans tried to veer around the eastern side of the wind farm, rather than flying via the proposed alternative feeding area).

***Integrity of Lough Gur population***

The Whooper flock feeding on the proposed development site forms part of the Lough Gur population, and of the overall wetland bird community of Lough Gur. The 2021 – 2022 peak numbers using the proposed development site made up approximately 10% of the Co Limerick Whooper population as determined by the National Whooper Census carried out in

[3] Mc Guinness, S., Muldoon, C., Tierney, N., Cummins, S., Murray, A., Egan, S. & Crowe, O. (2015). *Bird Sensitivity Mapping for Wind Energy Developments and Associated*

2020[4], and peak counts at Lough Gur itself[5] (which may not take into account birds feeding away from the lake) suggest that the entire Lough Gur population may contribute significantly more than this to the county total. Any negative impacts of the proposed development, through disturbance, displacement or collision, on the local flock, have the potential to affect the Lough Gur Whooper population as a whole.

The current proposed turbine layout and proposed new feeding site location does not seem to have taken into account the particular sensitivity of Whoopers to negative impacts from wind energy developments, or the importance of the current feeding habitat of this Annex I species along the flood plain of the Morningstar River.

Before adequate and appropriate mitigation proposals can be put forward, it will be necessary to obtain a detailed knowledge of the Lough Gur population in its entirety; including sub-flock interrelationships, habitat use within the wider area and the timing of movements between sites. The scope of mitigation may include (but not necessarily be limited to) development design and layout, scheduling of operation, and habitat management (but noting that any change in habitat structure that is likely to result in an increase in passerine or bat activity in the vicinity of the turbines, and consequent collision risks, is not recommended). The final development proposal should include a comprehensive assessment of the effectiveness of the specific mitigation measures in avoiding any negative impacts on Whooper Swans, taking into account overall flock dynamics as outlined above, and including, where relevant, examples from other developments where similar mitigation has been successfully applied.

You are requested to send further communications to the Development Applications Unit (DAU) at **manager.dau@housing.gov.ie**.

Is mise le meas,

**Diarmuid Buttimer**
**Development Applications Unit**
**Administration**

[4] Brides, K, Wood, K A, Hall, C, Burke, B, McElwaine, G, Einarsson, Ó, Calbrade, N, Hill, O and Rees, E C (2021) The Icelandic Whooper Swan *Cygnus cygnus* population: current status and long-term (1986-2020) trends in its numbers and distribution. *Wildfowl 71*: 29 – 57
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# Biodiversity: Red Squirrel (Sciurus vulgaris)

## Introduction

The red squirrel (Sciurus vulgaris) is an iconic species in Ireland, but its population has faced significant decline over the past century due to habitat loss, competition with the invasive grey squirrel, and disease. Current population estimates in Ireland are a critical focus for conservation efforts, as these numbers guide strategies to protect and restore this native species. According to recent studies and reports from organizations like the National Parks and Wildlife Service (NPWS) and the Irish Red Squirrel Group, the red squirrel population in Ireland is estimated to be between 40,000 and 60,000 individuals. These figures, while seemingly modest, represent a fragile population that is concentrated in specific regions, primarily in the western and northern parts of the country.

## Legislative Protection

The Red Squirrel is protected in the Republic of Ireland under the Wildlife Act (1976) and Wildlife (Amendment) Acts (2000 & 2010), and in Northern Ireland under the Wildlife (N.I.) Order of 1985.

## Applicant Survey Results

A review of the following applicant documents suggests there is no evidence of the Red Squirrel in the project study area.

### Chapter 6 Biodiversity section 6.3.3.3.1.4 Other Small Mammals

*"No evidence of red squirrel presence, such as dreys or feeding signs, were observed within the Study Area and suitable woodland habitat for this species is limited."*

### Chapter 6 Biodiversity section 6.5.3 Species

*"Surveys found no red squirrels, likely due to the Study Area's fragmented and limited woodland, which is unsuitable for this arboreal species that needs extensive, connected forest."*

## Appendix 6B: Details of Protected Species

Appendix 6B: Details of protected species recorded within the last 10 years and 10 km of the site
Ballinlee Green Energy Ltd. | September 2025

| Common name (Species name) | Grid location | Total no. of records | Last record date | Source | EU Habitats Directive | | | Wildlife (Amendment) Act 2000 | Flora Protection Order | Threatened with no formal protection |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Annex II | Annex IV | Annex V | | | |
| Soprano Pipistrelle (*Pipistrellus pygmaeus*) | R54 | 5 | 18/08/2021 | National Bat Database of Ireland | | x | | x | | |
| Terrestrial (non-volant) mammals | | | | | | | | | | |
| Eurasian Badger (*Meles meles*) | R64 | 62 | 07/11/2022 | Mammals of Ireland 2016-2025 | | | | x | | |
| Eurasian Red Squirrel (*Sciurus vulgaris*) | R54 | 8 | 15/04/2017 | Mammals of Ireland 2016-2025 | | | | x | | |
| European Otter (*Lutra lutra*) | R53 | 1 | 12/12/2022 | Hare Survey of Ireland 2006 & 2007, Atlas of Mammals in Ireland 2010-2015 | x | x | | x | | |
| Irish Hare (*Lepus timidus subsp. hibernicus*) | R53 | 12 | 10/05/2022 | Mammals of Ireland 2016-2025 | | | x | x | | |
| Irish Stoat (*Mustela erminea subsp. hibernica*) | R54 | 2 | 25/07/2024 | Irish Stoats of Ireland | | | | x | | |
| Pine Marten (*Martes martes*) | R64 | 2 | 01/08/2021 | Mammals of Ireland 2016-2025 | | | x | x | | |
| West European Hedgehog (*Erinaceus europaeus*) | R64 | 8 | 27/08/2023 | Hedgehogs of Ireland | | | | x | | |

Appendix 6B suggests no recordings in the area since 2007.

## Appendix 6D: Baseline Report on Habitat & Mammal Surveys

### Section 3.4.4.5

*"There were no sightings of red squirrel during field surveys in 2023 and 2024 nor were any field signs recorded. The Study Area was considered to have limited suitable habitat for this species which requires areas of extensive, connected woodland."*

### *Section 4.2*

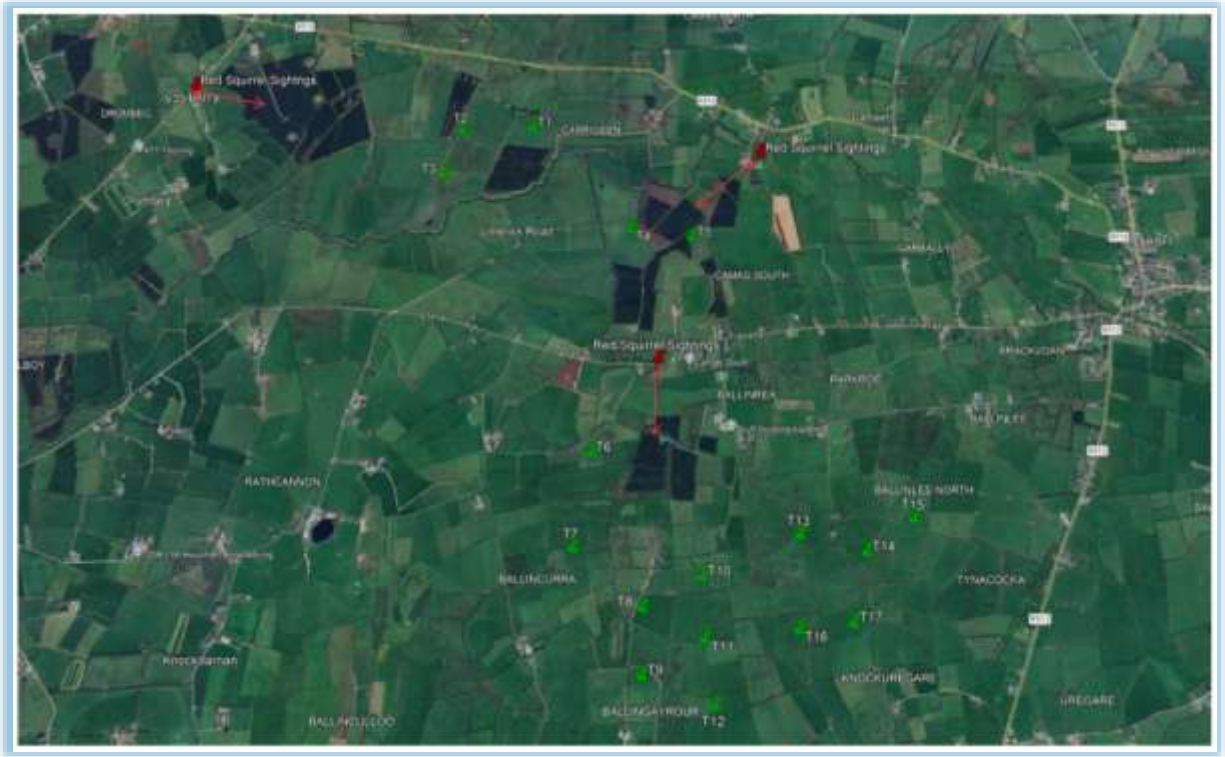
| | | | |
|---|---|---|---|
| Red squirrel | No evidence of red squirrel recorded during field surveys.<br>On basis of limited habitat suitability, the Study Area is not considered to contribute to the local red squirrel population. | Local (Lower) | No |

# Community Response.

All statements provided above by the applicant are factually incorrect.

The Red Squirrel is frequently sighted in specific locations both North and South of the proposed project area which suggests not a species in transit across the area but one who resides in the neighbouring forested areas. The map below indicates regular sighting locations by local residents.

The red arrows indicate direction of travel as witnessed by local observers.




These squirrels clearly inhabit the wooded areas north and south of the L1414 and are clearly residents within the proposed project area.

# Biodiversity: Riparian Corridors, Flooding and Erosion Risks, and Associated Habitat Integrity

## Introduction

We have serious reservations about the ecological and hydrological suitability of this particular site.

Our primary concerns relate to:

- Degradation and fragmentation of the riparian corridor associated with the Morningstar River and its tributaries.
- Insufficient assessment and mitigation of flooding, erosion, and sedimentation risks during both construction and operational phases.
- Relevant case precedents and well documented case examples, whereby riparian corridors and habitats were harmed following wind farm works.
- Incomplete demonstration that the proposed development will not cause significant hydromorphological alteration or downstream water quality impacts.

## Riparian Corridor and Habitat Integrity

The Morning Star River catchment forms part of the Maigue system and contains riparian wetlands, floodplain meadows, and salmonid-supporting habitats. These features are sensitive to sedimentation and hydrological disruption. This submission addresses the risk of construction-phase impacts associated with the proposed wind farm.

The Morningstar River and its adjoining drainage network form a key ecological corridor through this landscape, linking semi-natural grasslands, hedgerows, and wetland habitats. National and EU policy (including the Water Framework Directive and Habitats Directive) which recognises riparian corridors as essential for maintaining water quality, bank stability, and biodiversity connectivity.

The Environmental Impact Assessment Report (EIAR) accompanying the application does not, in our view, demonstrate that these riparian habitats will be adequately protected. Several turbine sites, crane hard-standing areas, and access roads appear to be positioned within or immediately adjacent to the natural riparian zone, where disturbance of vegetation and soils will occur.

## Flooding and Erosion Hazards

The proposed site lies on a moderate-to-steep gradient descending from approximately 90 m OD in the upland portion to around 50 m OD along the Morningstar River floodplain. This area is frequently prone to flooding, as evidenced this month, with the entire North Camas/South Camas area becoming covered/submerged in water after heavy rainfall. The developer and application attempt to minimise this fact and fail to apply rigorous flood assessment data. The existing slope,

combined with the extensive groundworks proposed (access roads, crane pads, drainage channels, turbine foundations), significantly increases the risk of surface-water run-off, erosion, and sediment mobilisation.

The site drains via general agricultural field drains into the Morning Star River. These drains provide direct hydrological linkage during rainfall events, meaning that fine sediment or forestry soil material mobilised during construction is likely to reach the river. There is no intermediate settlement or attenuation system to intercept sediment movement.

Downstream sections of the Morning Star contain slow-flowing reaches and wet meadow floodplain zones where sediment naturally deposits. If additional suspended solids enter the system, deposition can smother fish spawning gravels, reduce invertebrate habitat quality, and alter wetland vegetation composition.

Riparian zones in this region provide natural flood attenuation, bank stability, and ecological refuge for aquatic species, including salmonids. The development poses a risk of long-term degradation of these functions, with consequences for fisheries and water-dependent biodiversity.

## Construction Phase Risks

Without strict controls, heavy rainfall events could mobilise fine sediments and construction materials into local watercourses. Sedimentation can smother fish spawning beds, reduce dissolved oxygen, and alter channel morphology. In addition, vehicle traffic on unsealed haul routes may compact soils, decreasing infiltration and accelerating overland flow.

## Operational Phase Risks

Permanent infrastructure (roads and hard-standing) will reduce natural infiltration capacity and increase peak flow discharge rates into nearby tributaries. This can exacerbate downstream flooding, particularly in low-lying sections of the Morningstar catchment already subject to periodic inundation.

## Relevant Case Precedents

Derrybrien (Co. Galway): Construction disturbance in peat resulted in a major peat slide and downstream fish kills. The EU Court of Justice found inadequate environmental assessment and oversight. This catastrophic incident in October 2003 led to serious environmental impacts including polluted watercourses; fish habitats were damaged, particularly spawning beds; there were huge fish kills and loss of aquatic invertebrates; altered hydrology and soil structure. Key lessons noted there was failure to provide rigorous and proper EIA assessments.

Meenbog (Co. Donegal, 2020): Forestry soil disturbance and drainage modification contributed to peat/soil failure and sediment release into a salmonid catchment, resulting in enforcement and legal proceedings. This incident occurred as a direct consequence of turbine foundations and access

road works; extensive drainage issues and ground disturbance. This incident led to severe water quality deterioration, risk to salmon and mussel habitats in the River Finn.

## Local Risk Factors Present

- Recently cleared or existing forestry increases exposure to soil disturbance.
- Downstream floodplain areas act as sediment traps, meaning effects accumulate and persist.
- General farmland drains allow direct movement of runoff without filtration.

These conditions replicate known risk triggers demonstrated in Meenbog and Derrybrien.

## Conclusion

The Morning Star River and associated wetlands are ecologically sensitive to increases in suspended sediment. Given forestry disturbance, floodplain deposition zones, and unattenuated drainage pathways, construction-phase impacts represent a credible and preventable risk.

Recommendations

The application in its current form fails to comprehensively provide:

- A Hydrological and Hydraulic Impact Assessment, using local rainfall and soil data, to quantify expected changes in run-off volumes and flood risk;
- A comprehensive Erosion and Sediment Control Plan (ESCP) embedded within the Construction Environmental Management Plan (CEMP), including:
    - Temporary settlement ponds, silt fences, and cut-off drains.
    - Designation of "no-go" zones within 30 m of watercourses.
    - Real-time turbidity monitoring during groundworks.
    - Defined contingency actions if threshold exceedances occur.
    - Independent oversight of compliance by a suitably qualified Ecological Clerk of Works (ECoW).

## Hydromorphological and Cumulative Effects

The Morningstar River forms part of a wider hydrological network draining into the Maigue catchment. Incremental degradation from multiple windfarm and infrastructure projects in the region could lead to cumulative loss of natural channel form, riparian vegetation, and floodplain connectivity.

## Impacts of the Proposed Development on the River Shannon and Connected Watercourses

The proposed Ballinlee wind energy development lies within the catchment of watercourses that ultimately discharge to the River Shannon, Ireland's largest river system and a designated high-value

ecological network supporting a range of legally protected habitats and species. The river and its tributaries are integral components of multiple European Sites, including Special Areas of Conservation (SAC) and Special Protection Areas (SPA), designated under the EU Birds and Habitats Directives. These protected sites rely on the maintenance of high-water quality, intact riparian habitat, uninterrupted ecological connectivity, and stable hydrological regimes.

## Hydrological Connectivity and Downstream Sensitivity

Although some of the watercourses near the development site may appear minor in scale, they represent headwater and feeder tributaries that link directly and indirectly with the River Shannon system. Headwater streams are particularly vulnerable to disturbance, as even small increases in sediment, nutrient load, or hydrological alteration at source can accumulate and produce amplified effects downstream.

The application documentation does not sufficiently demonstrate:

- The baseline hydrological function of receiving watercourses.
- The pathways by which site runoff may move through the sub-catchment.
- The implications of development-phase and operational-phase disturbance on downstream designated habitats.

## Water Quality and Pollution Risk

Construction and maintenance activities carry the potential for the release of:

- Suspended solids,
- Hydrocarbons,
- Cement washout water,
- Nutrient-enriched runoff.

These pollutants can reduce oxygen availability in water, alter pH balance, and impair fish gill function and aquatic vegetation. Given that sections of the Shannon system are already classified as At Risk under the River Basin Management Plan, any further deterioration would be contrary to the EU Water Framework Directive, which places a legal obligation on the State and all relevant authorities to protect and restore water bodies.

## Cumulative and In-Combination Effects

The Shannon catchment has experienced progressive land use intensification, including forestry, agriculture, and previous renewable energy developments. When considered in combination, the Ballinlee project will likely contribute to greater catchment erosion pressure, reduced water quality resilience, and further loss of ecological connectivity. The application fails to robustly assess these cumulative impacts as required under the Habitats Directive and EIA Directive.

# Policy Context

The proposal must be considered in light of:

## European Union Water Framework Directive (2000/60/EC)

Establishes the requirement for Member States to achieve good ecological status for all water bodies and to prevent deterioration.

Transposed into Irish law by the European Communities (Water Policy) Regulations 2003 (S.I. No. 722 of 2003).

Forms the legal basis for Ireland's River Basin Management Plans (RBMPs).

## River Basin Management Plan (2022–2027)

National plan implementing the Water Framework Directive in Ireland.

Emphasises restoration of riparian functions, natural hydromorphology, and water-dependent habitats.

Identifies riparian buffer zones and restoration as key measures to meet water quality objectives.

## EU Habitats Directive (92/43/EEC) & Birds Directive

Require protection and conservation of habitats and species.

Transposed through the European Communities (Natural Habitats) Regulations (S.I. No. 94/1997) and consolidated under the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011).

Development proposals that may affect habitats or species are subject to Appropriate Assessment.

## Wildlife Acts

Provide national protection for wild flora, fauna, and habitats.

Complement European directives and support the conservation of riparian habitats through species and habitat protection.

## Agricultural Riparian Buffer Initiatives

Teagasc and ASSAP guidance promote riparian buffer zones to protect water quality and biodiversity.

ACRES and NPI schemes (Department of Agriculture, Food and the Marine) fund fencing, planting, and riparian margin establishment.

Typical buffer widths range from 3m to 10–15m depending on site and watercourse type.

## Planning and Development Policy

Limerick County Development Plan 2022–2028, Policies EN 04, EN 06 and EN 09, which emphasise preservation of ecological networks, watercourses, and floodplains.

Typical policies include maintaining a 10–15m development-free buffer from the top of the riverbank.

Objectives often include protection of floodplains, habitat connectivity, and enhancement of green infrastructure.

## Supporting Guidance and Research

EPA and Teagasc research identifies the ecological benefits of riparian buffers.

Riparian management is recognised as an essential element of achieving WFD and biodiversity targets.

Measures include native planting, livestock exclusion, bank stabilisation, and re-naturalisation.

In Ireland, riparian corridor and habitat protection is underpinned by a combination of EU directives, national legislation, river basin management planning, agri-environmental schemes, and local planning policies. These instruments collectively ensure that development and land management activities avoid deterioration of aquatic ecosystems and maintain riparian ecological functions. The application, as currently presented is wholly inconsistent with these objectives and will destroy the Morning Star, associated wetlands and other connected tributaries and lead to fragmentation and degradation.

# Conclusion

Based on the above, there is a credible risk that the Ballinlee development will negatively affect the River Shannon system and associated tributaries through hydrological alteration, riparian corridor disturbance, increased sediment load, and cumulative ecological pressure.

In the absence of comprehensive hydrological modelling, clear demonstration of no-deterioration under the Water Framework Directive, and a precautionary ecological protection strategy, the application does not provide sufficient evidence that the integrity of the River Shannon and its dependent habitats will be safeguarded and therefore does not meet the legal tests required under European and national environmental law.

The EIAR should therefore have included:

- A hydromorphological assessment following EPA and Inland Fisheries Ireland guidance, addressing potential alteration of channel form, substrate, and flow regime.
- An evaluation of cumulative impacts with other existing or permitted wind-farm developments in the catchment.
- The proposed layout fails to provide sufficient protection for riparian corridors.

- The risk of increased flooding, erosion, and sedimentation is inadequately addressed in the application and is inevitable given the poor mitigation proposed.
- The cumulative and hydromorphological impacts on the Morningstar River and its catchment, including the River Shannon system, and associated tributaries are insufficiently assessed.
- The proposal does not demonstrate compliance with relevant EU and national water and habitat protection policies.

We therefore respectfully request that An Commisiun Pleanála refuse permission for the development in its current form.

## References

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# Biodiversity: Inconsistencies in Hedgerow, Treeline and Forestry Removal Figures

This document provides a clear, structured and consolidated summary of some of the inconsistencies, omissions and contradictions within the Ballinlee Wind Farm planning application regarding hedgerow, tree line and forestry/woodland removal.

## Overview of Identified Issues

Significant discrepancies exist throughout the planning application regarding:

- Total lengths of hedgerow and tree line removal.
- Total areas of woodland/forestry removal.
- Significant levels of forestry felling omitted from chapter 6, Biodiversity.
- Planned forestry removal is not assessed for species and removal impacts.
- Conflicting totals within tables and between chapters.
- Inconsistent figures for hedgerow height reduction.

Table 6-42 'Summary of habitat loss as a result of the Development', chapter 6, Biodiversity claims to contain totals of hedgerow, treeline, mixed broad leaved/conifer woodland and immature woodland losses. These are contradicted throughout the planning application. Planned forestry removal of 14.4 ha is omitted.

These inconsistencies undermine the reliability of the environmental impact assessment and constitute non-compliance with EU and Irish environmental legislation.

Chapter 8 (section 8.4.1.6) details the removal of 14.4ha of conifer forestry.

"Felling of approximately 1,900m hedgerows, 922m of tree lines and 14.4hectares of overall forestry removal is required within and around wind farm infrastructure to accommodate the construction of the turbine foundations and associated hardstands, access tracks, turbine assembly and deposition areas. Forestry and trees in a radius of between 73.9m to 97.1m around each turbine will be felled as part of the project…Additional tree line and hedge removal will be needed in some areas for the new access tracks and construction areas."

This 14.4 ha of forestry removal is omitted entirely from Chapter 6, Biodiversity. It is briefly referenced in Appendix 6E, 1.3, Project description summary, "felling of 14.4 ha of conifer forestry is also included." This 14.4 ha of forestry removal is not included in any species or impact assessments.

This is a grave omission. These inconsistencies severely affect the overall accuracy of the predicted environmental impacts on habitats and legally protected species within the proposed development. No assessment of impacts on Annex-listed species despite forestry being subject to the same legal requirements.

# Chapter 8 — Land and Soils (Section 8.4.1.6)

Stated removals: - Hedgerow removal: 1,900 m - Treeline removal: 922 m - Total hedgerow + treeline removal: 2,822 m - Conifer forestry removal: 14.4 ha

Key issues: - The 14.4 ha forestry removal does not appear in Chapter 6 (Biodiversity). - No assessment of impacts on Annex-listed species despite forestry being subject to the same legal protections.

# Chapter 6 — Biodiversity

## Table 6-42: Summary of Habitat Loss

Stated losses: - Hedgerow (WL1): 1.9 km - Treeline (WL2): 922.3 m - Mixed broad leaved/conifer woodland (WD2): 1.1 ha - Immature woodland (WS2): 1.8 ha

Key issues: - Hedgerow + treeline total: 2,822.3 m — matches Chapter 8, but contradicts other sections in Chapter 6.

## Hedgerows, Tree lines and Earth Banks (Section 6.7.1.2.1.2)

Stated losses: - Hedgerow removal: 1.5 km - Treeline removal: 8.8 km - Combined total: 10.3 km (severe contradiction with the 2,822 m stated elsewhere) - Additional hedgerow trimming (to 0.89 m height): 1,280 m - Permanent combined hedgerow + treeline loss (another figure): 2.4 km - Earth bank removal: 9.7 m (may imply additional hedgerow impacts)

## Immature Woodland (WS2) (Section 6.7.1.2.1.4)

Stated losses: - Total immature woodland lost: 1.8 ha - Additional breakdown includes: - Substation impacts: 1.1 ha - Tracks and hard standings at Turbine 4: 0.7 ha

## Mixed Broad leaved/Conifer Woodland (WD2) (Section 6.7.1.2.1.3)

Stated losses: - Woodland to be removed: 1.1 ha

# Contradictions in Tree Felling at Turbine Locations (Table 6-43)

The table provides conflicting figures for turbines T3, T12 and T15. The values in this table do not align with the summary totals elsewhere.

# Impacts on Protected Species

## Bats (Section 6.7.1.3.1.1)

**Stated losses:** - Hedgerow removal: 1,537.1 m - Treeline removal: 922 m - Combined total: 2,459.1 m - Hedgerow trimmed (to 0.8 m): 230 m

(These figures differ from all previously stated totals.)

# Mammals (Other Species)

## Badger (Section 6.7.1.4.1.1)

**Stated losses:** - Hedgerow + treeline removal: 2.1 km - Woodland loss: 2.9 ha - Grassland loss: 34 ha

## Pine Marten (Section 6.7.1.4.1.3)

**Stated losses:** - Woodland/forestry habitat loss: 2.6 ha

# Mitigation Sections

## Hedgerow, Treeline and Woodland Mitigation (Section 6.8.1.4.1.1)

**Stated total:** - Combined hedgerow + treeline loss: 2,822 m

## Bat Habitat Mitigation (Section 6.8.1.5.1.1)

**Stated losses:** - Hedgerow removal: 1.9 km - Treeline removal: 922 m - Hedgerow trimmed to 0.8 m: 230 m

# Summary of Key Inconsistencies

## Hedgerow Removal Figures Appear as:

- 1,900 m (Chapter 8)
- 1.9 km (Table 6-42)
- 1.5 km
- 1,537.1 m
- 2.4 km (combined hedgerow + tree line)
- 2.1 km (Badger section)

### Treeline Removal Figures Appear as:

- 922 m
- 922.3 m
- 8.8 km
- Included in 2.1 km combined figure

### Woodland/Forestry Removal Figures Appear as:

- 14.4 ha conifer forestry (Chapter 8) – absent from Chapter 6
- 1.1 ha WD2
- 1.8 ha WS2
- 2.9 ha (Badger section)
- 2.6 ha (Pine marten section)

### Bat Buffer features Hedgerow Trimming Figures Appear as:

- 1,280 m reduced to 0.89 m
- 230 m reduced to 0.8 m

### Internal Contradictions

- Several tables contradict each other.
- Removal figures differ by several kilometres.
- Species impact sections use different totals to those used in habitat loss sections.
- Forestry removal not assessed despite being legally required.

## Side-by-Side Comparison Table of Conflicting Figures

#### Hedgerow Removal Figures

| Source | Hedgerow Removal |
|---|---|
| Chapter 8 | 1,900 m |
| Table 6-42 | 1.9 km |
| Section 6.7.1.2.1.2 | 1.5 km |
| Section 6.7.1.3.1.1 | 1,537.1 m |
| Badger Section | Included in 2.1 km combined |
| Mitigation Section | 1.9 km |

#### Treeline Removal Figures

| Source | Treeline Removal |
|---|---|
| Chapter 8 | 922 m |
| Table 6-42 | 922.3 m |

| Source | Treeline Removal |
|---|---|
| Section 6.7.1.2.1.2 | 8.8 km |
| Section 6.7.1.3.1.1 | 922 m |
| Badger Section | Included in 2.1 km combined |
| Mitigation Section | 922 m |

### Woodland / Forestry Removal Figures

| Source | Woodland/Forestry Removal |
|---|---|
| Chapter 8, Appendix 6E | 14.4 ha (forestry) |
| Table 6-42 | 1.1 ha (WD2), 1.8 ha (WS2) |
| Badger Section | 2.9 ha |
| Pine Marten Section | 2.6 ha |
| Section 6.7.1.2.1.3 | 1.1 ha |

### Hedgerow Trimming Figures

| Source | Trimming Length |
|---|---|
| Section 6.7.1.2.1.2 | 1,280 m (reduced to 0.89 m) |
| Section 6.7.1.3.1.1 | 230 m (reduced to 0.8 m) |
| Bat Mitigation | 230 m |

## Highlighted Serious Contradictions

### Contradiction 1: Treeline Removal (922 m vs. 8.8 km)

This is the most significant inconsistency. One section claims 922 m of treeline removal, while another claims 8.8 km — a difference of over 850%.

### Contradiction 2: Hedgerow Removal (1.5 km vs. 1.9 km vs. 2.4 km)

Figures appear in different forms throughout the application, with no explanation for the variations.

### Contradiction 3: Forestry Loss (14.4 ha missing entirely from Biodiversity Chapter)

The largest single habitat removal quantity (forestry felling) is omitted entirely from Chapter 6, is only briefly referenced in Appendix 6E, 1.3 and Chapter 8, 8.4.1.6. This breaches ecological assessment requirements.

### Contradiction 4: Species Assessments Use Different Habitat Loss Totals

Bat, badger and pine marten sections all reference different totals for hedgerow, treeline and woodland removal, none of which match habitat tables.

## Key Findings

- Habitat removal figures vary significantly between chapters and tables.
- Forestry removal totalling **14.4 ha** is not assessed in the Biodiversity Chapter 6.
- Conflicting totals hinder accurate assessment of impacts on Annex-listed species.
- Species impact assessments rely on habitat loss figures that differ from those presented in habitat sections.

## Conclusion

The level of inconsistency within the application is incompatible with the requirements of the EIA Directive and relevant species protection legislation. These inconsistencies undermine the reliability of the environmental impact assessment and constitute non-compliance with EU and Irish environmental legislation. Thus, this planning application requires refusal.

# Biodiversity: Hedgerow Habitat

## Executive Summary

Protection of our local hedgerows, wood lands. trees and ditches are a crucial part in maintaining our beautiful biodiverse landscape. This proposed development would significantly adversely affect the hedgerows, treelines, earth banks, and associated biodiversity within the study area of the planning application. The hedgerow appraisal system, drainage ditch condition assessment and habitat and species management plan have all been shown to have serious inconsistencies, inaccuracies and questionable findings which could contravene EU Habitat laws and national and local policies. Several potential inconsistencies in recorded species relating to drainage ditches are highlighted. The historical significance of these hedgerows and their density and impact from a carbon sequestration is outlined. The lack of impact of the removal of enormous quantities of the fungal disease-stricken Ash tree and failure to highlight the negative impact on biodiversity within the study area and biosecurity risk are highlighted as a huge concern.

### Hedgerows Appraisal System, Drainage Ditch Condition Assessment and Habitat Species Management Plan Deficiencies and Inconsistencies

As recorded in section 6.3 of the biodiversity chapter of this planning application the study area supports approximately 35.4km of species rich hedgerows and 12.8km of treelines .These are mature, well-established boundaries typically 3-5km in height and approximately 2m in width, dominated by native species such as hawthorn (*Craegus monogyna*), blackthorn (*Prunus spinosa*) willow (*Salix* spp) hazel (*Corylus aveliana*) and ash (*Fraxinus excelsior*) are located within the planning application boundary.

Deficiencies and inconsistencies were observed during review of the planning application:

When the planning application details "species rich" it is worth noting that in a study completed between 1987 and 2011 of the approximate number of vascular plant taxa (species, hybrids and subspecies) up to 345 different species were recorded in the planning application study area (1)

- The biodiversity chapter and habitat and species management plan list only about a tenth of this level of species diversity. Given the size and extent of the planning application we believe there is a failure to establish a comprehensive evaluation of the species present.

- Only roughly one quarter of the total hedgerows in the study area were assessed (9.1km listed as thirty-four hedgerows) using predominantly a 25-year-old habitat appraisal system.

- The *hedgerow* appraisal system is very much open to interpretation and significance level of a hedgerow assigned is only very loosely recorded with no evidence of photographic records.

- Hedgerows 28 and 29 which are designated as a habitat affected by the turbine construction are in remarkably close proximity (< approximately 100m) to an archaeological site, ringfort L1039-037. (14) We believe that this should be considered of much higher significance than "slight" under historical significance as per Table 12, Appendix 6i.

- In addition, there is also no impact of any effect of turbine construction recorded with regard the trees and bushes present on this ringfort.

- There is no evidence of independent verification of the appraisal of the hedgerows and given the deficiencies observed.

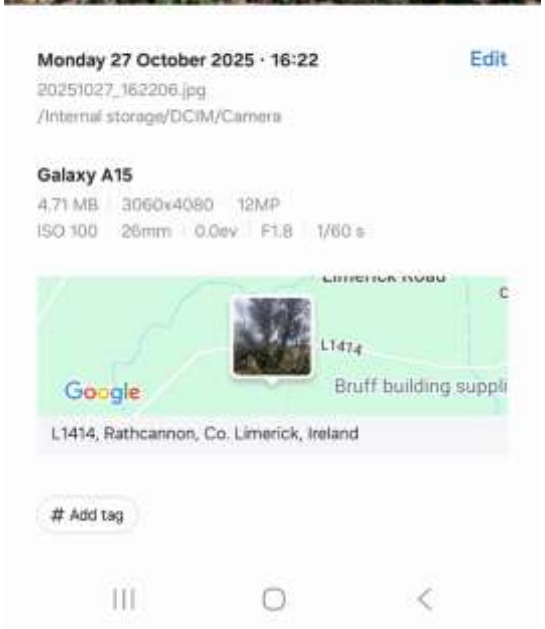
- These surveys were recorded as completed when vegetation was at its greatest however, we only get to review the impact of this application in late autumn/ winter when the majority of roadside hedgerows have been cut back which given the nature of the assessment is limiting for review purposes.

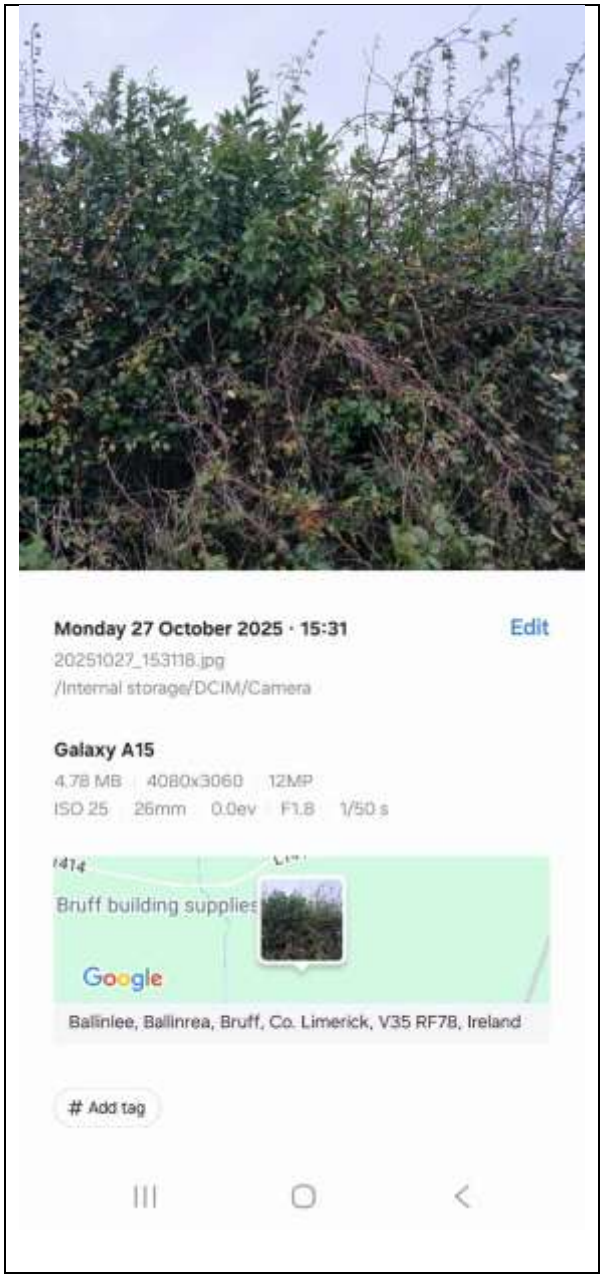
- The optimum time for habitat surveys as per the application reference is between April and September- For hedgerows this was completed in only July, August and September over a total of 9 days to survey with only 2 people surveying 9.1 km of hedgerows therefore there is no reference to surveys in April, May and June.

- A list of the thirty-four hedgerows assessed using the hedgerow appraisal system in Table 6-25 and their location in Figure 6-15 and Figures 6-16 was reviewed however we believe the species diversity recorded underrepresents the level of species diversity within even one hedgerow. It should be recognised that the hedgerows in Table 1 above are all taken by roadside-hedgerows however within farms and field would have a much greater established biodiversity and habitat value. (Table 3)

See examples of fine diverse hedgerows along the boundary of the study area with their location in Table 1 below.

Table 1. Hedgerows along the proposed development boundary

| | |
|---|---|
|  <br>  |  <br>  |




See attached photos of hedgerow no 6 in Table 2 below which was one of only 2 of 34 hedgerows deemed as highly significant as per the hedgerow appraisal.

Rating of highly significant is based on structure construction and associated features as a double ditch or near stream river, in this context the report highlights its main area of significance of this hedge is being near a stream. This stream is to the left of image 1 and 2 below in Table 2. This is an example of the connectedness of the different habitats including stream, ditches and forestry.

| Hedgerow 6 Image 1 | Hedgerow 6 Image 2 |
| --- | --- |
|  |  |

Table 3 Diverse species rich hedgerows and habitats within the study area.



It should be noted that it is unclear as to where the planning application deems a habitat affected as to whether the habitat was being removed.

With respect to the linear habitats a review was made of Figure 6. 15 and Figure 6-16 which highlights the hedgerow appraisal results for the application.

These hedgerows align with the linear habitats affected as per Habitat and Species Management Plan Figure 4: Fossitt (2000) linear habitat within the Planning Application Boundary, directly affected by the Development footprint (Northern section) and Figure 6 Figure 6: Fossitt (2000) linear habitats within the Planning Application Boundary, directly affected by the Development footprint (Southern section)

Figure 6-15, Figure 6-16 and Figure 4 and Figure 6 were compared against google earth search dated 3rd November 2025.

- Approximately 100m of hedgerow observed linking between southern and northern section of the development is not noted in in Figure 4 and 6 as a habitat affected by the development. This is an incredibly significant quantity of hedgerow and its failure to be noted and assessed for impact on its habitat is a huge concern.

## Drainage Ditches

The Habitat and Species Management Plan Table 2 states that drainage ditches of 1.3km will be permanently lost and 236m will be temporarily lost.

Section 6.3.3.1.1.4 of the planning application states that "drainage ditches are prevalent across the study area and border almost every field of improved grassland and goes on to say that this network of drainage ditches culminates in drainage to the Morning Star River"

The fact that these are a network infers how important these are as links to the ecological system of the area with these ditches draining into the Morning Star which feeds into the Maigue river only kilometres from the study area.

Sylvia CP Reynalds comprehensive account of drainage ditches in Co Limerick details the following:

"Drainage ditches are common in Limerick. Field drains are often necessary to maintain low-lying agricultural land, mainly pasture across the county" Reynalds elaborates further by documenting "because of their prevalence and despite periodic clearing, ditches are important refuges for aquatic, emergent and some marsh plants. A number of plants are common and widespread in shallow lowland Limerick ditches such as *Apium nodiflorum*, *Callitriche* spp., *Epilobrium hirsutum*, *Glyceria fluitans*, *Mentha aquatica*, *Nasturtium officinale* and *Veronica beccabunga*.

Given that only one species - Mentha aquatica is mentioned in the planning application description of species found during condition assessment of those species that should have been common to the area we believe this lack of critical species recording undermines the value in the assessment.

Additionally, Reynalds details "A feature of drainage ditches centred on Limerick city and extending mainly west and southwest towards the tidal River Maigue and Adare is the presence of the protected species *Groenlandia densa*.

Due to the lack of record of common species relating to drainage ditches it is very possible that the presence of a protected species such as *Groenlandia densa could have been overlooked during the condition assessment of the drainage ditches.*

## Contradiction to UN, local and national policies

Hedgerows and treelines network along with ditches and scrub area provide essential ecological connectivity, linking feeding, roosting and sheltering area for wildlife. Their loss, fragmentation and disturbance will directly undermine biodiversity and conflict with the objectives of the National Biodiversity Action plan (2023-2030) which priorities the maintenance of ecological corridors in agricultural landscapes.

Local Policies include Limerick Biodiversity Action Plan (2025-2030), and the Ballyhoura Local Development have hosted the Ballyhoura Corridors program as recently as August 2025 which includes training people in the art of hedge row laying.

"Ballyhoura Corridors is a hands-on project that responds directly to growing community interest in traditional hedgerow management and conservation. Through community engagement, it has become clear there's a real appetite for hedgerow laying - a traditional land management technique that not only protects the hedgerow's structure but also supports its ecological health" (3)

This local development training totally contradicts the removal of hedgerows and trees on a massive scale as per this development application.

From a farming perspective:

"With changing weather patterns, hedges are now seen as a key defence against flooding, soil erosion, water pollution, as well as accelerating biodiversity loss and CO2 Emissions" (4)

As we are in the famous Goldan Vale region and as stated in the planning application there is moderate agricultural activity, This scale of farming has leant itself to many farmers in the regions and including farmers/landowners within the study area are taking part in schemes such as ACRES and BISS (Basic Income Support for Sustainability Scheme).

The ACRES Agri-Climate Rural Environment Scheme) scheme offers over 30 actions for farmers to choose from, including habitat establishment, enhancement, and results-based payments for actions that improve environmental outcomes. Acres  €1.5 billion flagship Agri-environment scheme is a farmer-friendly scheme to help address biodiversity decline. (5)

Teagasc the national agriculture research and advisory group on agriculture list information on ACRES

"Approximately 5,000 farmers will plant 2,000km of new hedges under the Agri-Climate Rural Environment Scheme (ACRES) this winter, adding to Ireland's extensive network of hedgerows." (6)

The UN sustainable development goal is to "Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" (7)

All these schemes are proposed by EU, and national agriculture and global sustainability development goals are engaged with by local farmers and supported by government and local agencies in the name of sustainability are then negated by the removal of biodiverse habitats on a massive scale such as in this proposed development.

Age/ Structure and replacement of hedgerows and trees

These hedgerows and treelines are fundamental to the visual identity of the rural landscape. They delineate field systems that have existed for generations and are often associated with historic land boundaries. Most Irish hedgerows were planted during the 1700's and 1800's. Acts of Parliament were passed in 1697 and 1721, making it obligatory for landowners to erect proper permanent boundaries between their properties. The boundaries were 'ditches of six feet wide and five feet deep, quicked with whitethorn, crab or other quick-sets'. Where these would not grow, furz was recommended. Other options included a ditch with a dry-stone wall or mud wall and in wet ground the banks whereof to be planted with sallows, alder and others. Hedgerows along townland boundaries often date from medieval times or earlier. Older hedgerows are richer in plant and animal species. They are also of historical and cultural value (8).

There is no discussion in the application to include the loss root structures and underground ecology that would be destroyed and unable to be replaced in our lifetime.

The Irish Farmers Journal details sustainable hedgerow management

"To provide maximum benefits the hedgerows should be dense, wide-based and composed of native Irish trees and shrubs, among the least desirable hedgerow shapes is the " upside down toilet brush hedge." This shape forms when a newly planted hedge is allowed to crow unclipped and then is actually cut right back to a height of 1 to 1.5 meters. This regime results in a narrow base, bare stems, and a fringe of growth at the top. And goes on to say that "this offers few of the potential benefits provided by a thick tall and dense hedgerow." Farmers working under the footprints program are actively looking at hedgerow management, coppicing and laying with a view to enhancing the sustainability of their farm" and conclude the article saying " Importantly skilled hedgerow management also presents an opportunity of for farmers to showcase their stewardship of the Irish countryside" (9)

The carbon sequestration value of hedgerows has not been discussed in the planning application. As much as the renewable energy is key to the mitigation of climate change the ability of hedge rows and soil to sequester carbon have been widely studied and any removal from Irish landscape should be carefully controlled.

"Hedgerow management directly affects the amount of carbon that is sequestered or stored over time. Two main hedgerow types can be found. Intensively managed hedgerows that have limited

benefits for carbon or biodiversity and less intensively managed, wider, taller hedgerows that are managed on a cycle that contain significantly higher amount of carbon. An average across all hedgerows assessed indicated average above ground biomass stocks of ~58 tonnes carbon per hectare"

(10).

There is no discussion in the application to include the loss of carbon sequestration and the impact on climate policies.

The habitat and Species management plan proposes planting new trees and hedgerow as mitigation for their removal. Enhancement of diversity by replanting is an insufficient response to its destruction. Replanting of native sourced trees (is never going to be sufficient to replace what is lost. There is the possibility that the trees marked as native could in fact have been grown in Europe and shipped across to Ireland, spend a year in Ireland and be deemed as Irish/native trees.

The mitigation of replanting replacement areas of hedgerows and trees or relocation has not considered the species biodiversity of the existing hedgerows, or the carbon sequestration value of the affected habitats that could be removed.,

## Biosecurity

Refer to section 6.3 of the biodiversity chapter "Ash is present sporadically within c20% of hedgerows present and of these, ash with in two hedgerows showed signs of ash dieback" and "Where ash was present within treelines, ash dieback was noted in less than 50% of treelines".

20% of 34km of hedgerows is approximately 7km of hedgerows surveyed have ash present and 50% of treelines 12.8 km equates to 6.4km of treelines have ash present.

Ash dieback is a highly destructive fungal disease affecting ash trees, it causes leaf loss and canopy decline and, in some cases, causes some of the trees to die. (11)

Limerick City and County Council Tree Policy (for urban trees) states the following regarding ash die back

"While there are many pests and diseases that affect trees, at the current time, there is none that poses a more immediate or wide scale threat in Ireland than ash dieback. Ash dieback is a serious disease of ash trees caused by the invasive fungal pathogen Hymenoscyphus fraxineus (previously known as Chalara fraxinea), which originates in Asia and was brought to Europe in the early 90s. Today, the pathogen covers most of the natural range of ash in Europe causing high mortality rates of ash trees. Ash dieback was first detected in the Republic of Ireland in October 2012 on plants imported from continental Europe. The disease is now prevalent throughout most of the island of Ireland and is likely to cause the death of the majority of the ash trees over the next two decades. The disease can affect ash trees of any age and in any setting. The disease can be fatal, particularly among younger trees. Ash dieback is more severe in wet sites, where it is more likely to cause

collar infections in ash trees. It is important that landowners, both public and private, understand the risk posed by ash dieback and the actions that must be taken to minimise damage and loss from this devastating disease"

It goes on the highlight Policy 40 of the Tree policy

"Policy 40 It is the policy of the Council to identify, monitor and preserve potentially healthy ash trees and to liaise with Teagasc so that the genetic material may be used to create a healthy future population." (12)

Where the disease is already present in a locality, further local spread is likely to be caused by spores borne on the wind, each year travelling many kilometres from the original source. There is also a risk of introducing the disease into a locality where it is not yet present (and where that locality is at a considerable distance from an existing source of infection) by bringing already diseased ash seeds or plants into that area for the first time. (13)

The UK tree Council, Limerick City & County Council and the state agricultural advisory service Teagasc, all recognise the threat of ash die back spread.to the economy, farmland and the environment and have reported om the impact of biodiversity loss attributed to the ash tree loss yet the EIAR biodiversity chapter and habitat species and management plan make no reference to this in their planning application.

There is no mention of management of biosecurity relating to |Ash tree removal and or mitigation or loss of biodiversity or the maintenance of the ash trees to identify genetically resistant ash trees within the study of the proposed development.

## Conclusion

The quality and nature of the hedge row appraisal show many inadequacies, and we do not consider it comprehensive in its review given the substantial extent of habitats affected by this development. Based on our observations the removal and destruction of hedgerows, treelines, drainage ditches and scrub will seriously adversely affect biodiversity, pose a serious risk of disease spread, fragment and degrade ecological corridors, negatively impact protected species, contravene established environmental legislation and policy objectives and permanently adversely alter rural landscape character.

# References

(1) Reynolds, Sylvia C.P, Flora of county Limerick (2013), Figure 4 p111.

(2) National Biodiversity Action plan (2023-2030)

https://www.limerick.ie/council/services/environment-and-climate-action/limerick-biodiversity-action-plan/limerick accessed 5 November 3025

3) https://www.ballyhouradevelopment.com/event/ballyhoura-corridors-securing-our-future-hedgerow accessed 4 November 2025

4)Irish Farmers journal Saturday 1st November 2025, Pg 12

5) https://www.gov.ie/en/department-of-agriculture-food-and-the-marine/campaigns/agri-climate-rural-environment-scheme-acres/ accessed 4th November 2025

6) https://teagasc.ie/news–events/daily/successfully-establishing-your-acres-hedge/#:~:text=On%20the%20management%20of%20the,able%20to%20remove%20the%20fence.access 7th November 2025

7) https://irelandsdg.geohive.ie/pages/goal15 accessed 8th November 2025

8) https://teagasc.ie/environment/biodiversity-countryside/farmland-habitats/value-of-hedgerows/#:~:text=History,from%20medieval%20times%20or%20earlier. Accessed 9th November 2025

9) Irish Farmers Journal 14th October 2023

10) https://teagasc.ie/environment/climate-change-air-quality/signpost-programme/research-updates/hedgerow-sequestration/#:~:text=What%20did%20we%20find?,58%20tonnes%20carbon%20per%20hectare.accessed 1 November 2025

11) Ashdieback disease, a guide for tree owners (June 2020) The tree council. Pg 2.

12) Limerick City and County Council Tree Policy (2024)

(13) https://teagasc.ie/crops/forestry/advice/forest-protection/ash-dieback/lifecycle-of-hymenoscyphus-fraxineus/ accessed 31st October 2025

(14) www.heritage data.maps.arcgis.com accessed 2 November 2025

# Biodiversity Grounds for Objection

This project breaches/fails to comply with:

- Article 6(3) of the Habitats Directive - failure to rule out adverse effects on the integrity of European sites connected to the Shannon system.
- Articles 4 & 5 of the Birds Directive – failure to demonstrate avoidable collision and disturbance risks for Annex I and Special Conservation Interest bird species, including Whooper Swan, without demonstrating that such impacts will be avoided or reduced to non-significant levels.
- Water Framework Directive – Failure to demonstrate that borrow pits, access tracks, foundations and drainage works will not cause hydromorphological alteration and pollution of surface waters connected to the Shannon system and implicated water based dependents.
- The precautionary principle in biodiversity protection - Significant scientific uncertainty remains regarding impacts on protected habitats, bats, otter, badger and key bird species. In such circumstances, the precautionary principle requires refusal rather than reliance on optimistic predictions and post-consent adaptive management.
- Wildlife Acts 1976–2018 - Badger sett destruction & disturbance, potential otter holt disturbance and impacts on other protected fauna are not robustly avoided or mitigated. The proposals risk the destruction or disturbance of breeding and resting places contrary to the strict protections afforded by the Wildlife Acts.
- Bonn Convention and AEWA (Agreement on the Conservation of African-Eurasian Migratory Waterbirds) - collision and disturbance risks to migratory waterbirds using the Shannon system and its environs. It fails to demonstrate that favourable conservation status of these populations will be maintained, contrary to international commitments under the Bonn Convention and AEWA.

# Impact on Equine Industry

## Introduction

The author of this submission is a local Equine enthusiast, who has been involved in equestrian activities in the area over the last 20 years.

According to the 2025 Irish Field directory, County limerick is home to approximately 50 studs, 39 racehorse trainers, and a range of other equestrian establishments (equestrian centres, livery yards as well as hundreds of horses kept by families and individuals for leisure). It is not an exaggeration to say that Limerick is steeped in horses and the many facets of equestrian life. Within the area of Bruff, Dromin and Athlacca, there are eight active thoroughbred breeding operations as well as lands where thoroughbred and other horses are grazed. The erection of wind turbines with their persistent ambient noise and shadow flicker will adversely affect the equine industry, the horses and the people who make their living in the industry as well as those who keep horses for leisure. The proposed development is inimical to the interests of a well-established economic activity in the area.

The map below includes the stud farms (purple flags) from the Irish Field directory, land used twice a year for point-to-point racing (Rathcannon); as well as horses kept for leisure (blue flags). It also indicates roads on which horses are regularly ridden. The map understates the number of horses and ponies kept for leisure.




*Map Created by Committee – Visual Representation of Equines Proximate to Wind Turbines*

Map Accessible via Link: Equine Proximities to Turbines and Haul Routes ( Google Map)

## The Valley of Dreams

The Maigue Valley in County Limerick (in which it is proposed to site the Ballinlee wind farm) — celebrated throughout the racing world as the *"Valley of Dreams"* — is one of Ireland's foremost thoroughbred-breeding regions. Its limestone-rich pastures, mild temperate climate, and centuries-deep equestrian heritage have created a globally recognised cluster for elite bloodstock production.

The Maigue Valley's studs have produced numerous Group and Grade 1 winners, as well as consistently strong commercial results at Ireland and Britain's premier bloodstock auctions. Among those directly affected by the proposed turbine development — either through proximity, grazing-land impact, or disruption along key access routes — are:

- Croom House Stud – breeder of leading performers such as *Diego Velazquez* (Prix Jacques le Marois, Gr 1) and *Dynamic Pricing* (Gr 1), along with a long list of high-class graduates.
- Rathmore Stud – renowned for stars including *Honeysuckle* (multiple Gr 1 winner) and *Bob's Worth* (Cheltenham Gold Cup).
- Manister House Stud – a major consignor at Goffs and Tattersalls; in the last two years alone, it has sold more than 40 yearlings at Tattersalls with an average exceeding £100,000.
- Morning Star Stud – awarded the National Hunt Breeder of the Year for 2025 by *The Irish Field* for producing multiple top-class National Hunt performers, including Grade 1 winners from its consistently successful "Midnight" family.
- Islanmore Stud – demonstrated significant commercial quality when its filly by Starspangledbanner sold for 900,000 guineas at the 2025 Tattersalls October Yearling Sale — one of the highest-priced lots of the sale.

These studs represent a mixture of holdings whose grazing lands lie within 1 km of the turbine zone and operations that rely on primary access routes currently earmarked for heavy construction traffic.

## Risks to a Globally Significant Equine Cluster

Introducing industrial-scale wind turbines into this landscape — with their persistent low-frequency noise, shadow flicker, and substantial visual intrusion — poses clear risks to young stock and broodmares. This applies not only when mares have foals at foot, but also during the critical period when they are being prepared to visit a stallion. Because foaling dates are tightly regulated and the breeding season is narrowly defined, the window in which a mare can be safely and successfully covered is extremely limited. Any disturbance that affects her behaviour, stress levels, or transport — even for a few hours — can disrupt her cycle, delay conception, or result in a missed cover

altogether. Equally, disruptions to traffic could impede veterinary access to these studs which would have adverse animal welfare and economic consequences.

Beyond equine behaviour, there is a significant threat to local infrastructure. The proposed development would require creating a large industrial construction site within an area serviced only by narrow rural roads, some of which already operate near capacity.

The valley's stud farms operate as year-round hubs of activity, involving:

- horses travelling to stallions, sales, and training yards
- veterinary teams and farriers
- feed, bedding, tack suppliers
- consignment agents, bloodstock professionals, and owners
- local staff travelling to work

Routes such as the R516, which may be misunderstood as quiet rural roads, actually function as critical commercial arteries for these studs. Disrupting these routes with heavy machinery, road widening, turbine-component delivery, and prolonged construction phases would severely hinder stud operations and pose safety risks to horses in transit.

## Economic Significance

The Maigue Valley's reputation is reflected in its exceptional sales results at Europe's leading auction houses. One of the most notable examples is *Diego Velazquez*, bred by Croom House Stud, who sold for 2.4 million guineas as a yearling at Tattersalls — highlighting the calibre of horses produced in this region and the high economic value attached to its bloodstock.

The broader equine ecosystem — breeding, training, veterinary care, farriery, specialist transport, feed supply, sales preparation, leisure horses, and tourism — sustains a substantial portion of the local economy. The proposed industrial development is fundamentally incompatible with the scale, sensitivity, and economic importance of this established equine hub.

## Conclusion

The Maigue Valley is not only a place of exceptional natural beauty but a globally respected brand in the international bloodstock world. Safeguarding this "Valley of Dreams" is essential to preserving both the landscape and the high-value equine industry that relies on it — an industry whose success contributes locally, nationally, and internationally to the excellence of Irish horse racing and breeding.

We include below a position paper from the Irish Thoroughbred Breeders Association (ITBA) on the topic of major industrial developments and their implications for stud farmers. This was sent to our committee from ITBA on the 14.8.25 at 11:23:

# Irish Thoroughbred Breeders Association position paper

As shared by ITBA 14th August 2025 in an email to the author – the text in italics is the contents of the paper.

*There is a concern for the safety of Ireland's primary resource, the thoroughbred horse, due to the very real risk of thoroughbreds being adversely affected by turbines being directly located within their range of vision. This is grounded by the fact that horses utilise what is termed the "flight response "in response to stimuli. Thoroughbreds are bred to accentuate this flight response and are less able to acclimatise to such a stimulus. The startled reaction of flight response can lead to serious injury to horses and people working with them. Injuries to young horses impact on their physical development and subsequent athletic performance.*

*Foreign investment is attracted to Ireland because of the quality of our land and the green approach. Any turbine development could risk the financial viability of the industry in its current form, resulting in a flight of capital from Irish studs and stables. It may also be a deterrent to future funding and support by overseas investors, who are integral to the industry. The imposition of turbines on the community could seriously affect the value of bloodstock property in the area.*

*The health concerns raised focus on sleep disturbance as a result of noise and infrasound on the flicker of light reflecting off the rotating blades during periods of low sun and on the shadows of the blades during daylight hours are shared by many horse owners. Horses, in particular high value thoroughbreds are housed in order to prevent negative impact on thoroughbred operations.*

*Thoroughbred horses, horse racing and the industry itself are an integral part of "Irishness", not only for us as a country but also for millions of people the world over who place Ireland as industry leaders in our field. While the ITBA and indeed the bloodstock industry at large is supportive of all forms of renewable energy, including wind, for breeders in the locality there is the threat of disruption/annoyance to people and horses, the likelihood of lower property values and the long term transformation of our rural landscape.*

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*The targeted review of the Wind Energy Guidelines were introduced by the Department of Environment, Community and Local Government, in December 2013, to deal with limited aspects of wind farm developments. A consultation period was allowed – up to 21st February 2014 (which time has now passed). The revisions proposed are:*

- *A more stringent absolute outdoor noise limit (day and night) of 40 dB for future wind energy developments.*
- *A mandatory setback of 500m between a wind turbine and the curtilage of the nearest dwelling, for amenity considerations.*
- *A condition to be attached to all future planning permissions for wind farms to ensure that there will be no shadow flicker at any dwelling within 10 rotor diameters of a wind turbine. If*

*shadow flicker does occur, the wind energy developer/operator should be required to take necessary measures, such as turbine shutdown for the period necessary to eliminate the shadow flicker.*

*'The Irish bloodstock industry is under threat by new generation of massive wind turbines which are an incompatible land use with established bloodstock industry. Revisions to the 2006 Wind Energy Development Guidelines should not facilitate clear threats to the viability of the thoroughbred industry in Ireland.*

*(a) Targeted revisions to Wind Energy Guidelines should prevent the potential negative impact of wind farm proposals on the safety of thoroughbred horses and personnel, in particular ridden horses, because of the risk of thoroughbreds being spooked as a result of seeing or hearing the turbines (noting thoroughbred horses' highly evolved flight response and their particular sensitivity to perceived visual or auditory threats), and*

*(b) Targeted revisions to Wind Energy Guidelines should prevent the visible encroachment of wind turbine developments on the undisturbed rural landscape of stud farms and training yards which will result in a flight of investment from Irish studs and stables, particularly by overseas investors in our industry.*

*Therefore,*

- *thoroughbred breeding facilities, such as stud farms, stables, training yards and gallops, should be added to the Wind Energy Development Guidelines' definition of 'Noise Sensitive Property', at Section 5.6.6 of the amended text to acknowledge the specific vulnerability of the industry to incompatible land uses such as wind farms,*
- *Additionally, noise limits referenced in Section 5.6.8 should be amended to apply at the boundaries of these thoroughbred breeding facilities.*
- *Separately, the definition of 'other affected property (e.g. existing work places or schools)' in Section 5.12.1, relating to Shadow Flicker,*

*We would also highlight that the proposed series of windfarms is contrary to Policy EQ5 which seeks to recognise and support the development of the Irish sport horse industry, including breeding, competing and training. The proposed development will have a material impact on the ability of our members to continue to attract foreign direct investment to the country due to the potential impacts of shadow flicker and noise on the breeding and training of our members day to day activities. Thoroughbred horses are recognised as 'flighty' and more highly strung than most horses and are more sensitive to the environment. While the Wind Industry might consider that some horses might become accustomed to the potential impacts, it is the case that horses are brought in from abroad on a temporary basis for breeding.*

*As such they do not have time to become accustomed to such impacts as shadow flicker and noise. This places the breeding aspects of our members under threat as the costs involved are very high. If*

*it became the case that international breeders were of the view that a series of incompatible windfarms were impacting on the ability of horses to be 'covered' successfully then one of the pillars of the industry would be under serious threat.*

*Section 11.4.5 of the EIS prepared by the applicant provides views in respect of the potential impact of windfarms on the bloodstock/equine industry. It is noted the assessment was as a result of a request at pre-application stage by Kildare County Council on foot of concerns expressed. The EIS highlights that there is no reference to wind turbine effects on bloodstock activity in the Wind Farm Planning Guidelines. Indeed, the ITBA made a submission on the concerns of the bloodstock Industry to the Targeted Review of the Wind Energy Guidelines in December 2014. It is hoped that the recommendations made by the ITBA are taken on board by the Department when the updated Wind Energy Guidelines are published, which is expected sometime in 2015.*

*The EIS purports to include relevant examples by Marshall Day Acoustics in relation to the potential impacts to horses. In response however, while proponents of wind farms might argue that horses could gradually become accustomed to any visual or acoustic impacts from wind farms over time, this does not take into account the complexity of thoroughbred stud farm and thoroughbred training operations, especially those larger operations with international connections, as some stallions may be transported back and forth from the northern hemisphere to breeding facilities in the southern hemisphere for each breeding season and would therefore need to become re-accustomed to the presence of a wind farm each season in Ireland.*

*Furthermore, a significant component of stud farm operations relates to the covering of mares, many of which are short term visitors, attending the stallion's stud farm for a matter of just hours. There would be no opportunity for these visiting mares to become accustomed to the noise and potentially erratic movement of wind turbines in that short period.*

*In addition to this, new-born thoroughbred foals are easily startled, and it seems reasonable to expect that any real or perceived additional risk to the foals, or to mares or stallions, will be avoided by owners and managers alike.*

*There is a high turnover of horses in "breaking", pre-training and training stables. Horses in such facilities are particularly vulnerable to noise and visual distractions. Young thoroughbred horses being ridden in the vicinity of turbines would be exposed to unacceptable levels of risk – as would their riders.*

*The combined risk to horses and breeding operations from wind turbines' noise and potentially erratic sweeping movements are considered to represent a real concern for the stud farms, training stables and their clients and are viewed as a real safety risk to thoroughbred horses and to stud farm and training stable personnel.*

*At the very least it is submitted that the material in the proposed development should:-*

- *Require to demonstrate using solar projection and scattering models how shadow flicker will occur and how it will be prevented from existing at dwellings or other existing affected properties, within 10 rotor diameters of any wind turbine.*
- *Require that mitigation steps such as turbine shut down schedules will be publicly available and subject to review.*
- *That solar reflection flicker will also be suitably guarded against.*

## Safety Issues – UK Case

*With regard to safety issues, a recent planning appeal decided by the UK's Secretary of State for Communities and Local Government1 acknowledged, in one of the reasons given for refusing permission for a proposed development of 9 wind turbines, that the proposed development would have a potential significant adverse impact on three nearby equine businesses (stud farms) and that "considerable weight should be attached to this".*

*The Planning Inspector who reported to the Secretary of State on this case noted that: "There are 3 particular aspects of wind turbines that have a very significant detrimental effect on horses and riders compromising their safety. Firstly, the movement of the blades when they suddenly come into view from the road, the gallops or a paddock. The second is flicker which has certainly been known to spook a horse. Lastly, the noise of a group of very large turbines, particularly at start up and on a crowded site such as the southern group of 6, could have a very serious effect."*

*The Planning Inspector's report acknowledged that thoroughbred horses are "high value, highly strung and volatile" and that "where turbines would suddenly appear in the view" or where shadows thrown by turbines are visible "there is the potential for spooking of highly strung and volatile horses".*

*The Planning Inspector's report for the Secretary of State continued by stating that: "Whilst not every horse would be startled and as a result injure itself or its rider some would. In my view, the risks of this happening would exist over and above the normal risks these stables experience in dealing with this type of horse. These horses represent a significant investment. Thus, every horse owner who uses these stables and every potential client will believe that their valuable investment will be at risk and as such will go elsewhere. The horse racing industry is highly competitive and one where perception and reputation are significant drivers in choosing a trainer and yard. Thus, it strikes me as inevitable that the businesses would decline and given the particular impact of the wind farm would unlikely be replaced with anything similar."*

## Precedent

*As a specific example of an industrial development proposal which threatened not only the operation of an internationally recognized stud farm in County Tipperary but also wider confidence in the industry, it is noted that An Bord Pleanála refused planning permission for a biogas and biodiesel production facility at Castleblake, Rosegreen, Co. Tipperary, for the following reason:*

*'The site of the proposed development is located in open countryside in an area of national importance for the bloodstock industry alongside a major horse training establishment. It is the policy of the planning authority, as set out in the current South Tipperary Development Plan, to support the equine industry. It is also the policy of the Government to support the equine sector. It is considered that the proposed development of this large scale industrial type facility at this location, employing the particular technology on the scale proposed, having regard to its nature, scale and visual impact, would be incompatible with equine related activities in the vicinity and would be prejudicial to the viability of the equine industry in this area (including undermining confidence therein). Notwithstanding the desirability of providing such facilities, it is considered that the proposed development would seriously injure the amenities of the area and property in the vicinity, would be incompatible with the surrounding land uses, and would, therefore, be contrary to the said Development Plan objectives and to national policy and to the proper planning and sustainable development of the area'. (emphasis added).*

*In this case, the Planning Inspector's report for An Bord Pleanála stated that:*

*"The equine industry and in particular the bloodstock industry is a highly competitive commercial industry, which needs a high quality in relation to environmental standards and what could best be described as a clean image. This area of County Tipperary has developed a niche industry comparable with other bloodstock areas as for example Newmarket and Kentucky with major financial benefits to the area and any consideration of permitting development must have consider policy ENV 11, for proposals for non-agriculture related development."*

*The Planning Inspector noted that it could be necessary and appropriate to invoke the precautionary principle "as we are not talking about just any agricultural operation, but one of the international leaders, a business that carries Ireland's reputation in the blood stock industry worldwide and one from which the local economy benefits well beyond the level were it to be of only local, or national standing".*

*The Planning Inspector's report for An Bord Pleanála also noted that it should be a consideration in the planning process if one successful enterprise of benefit to an area's economy is placed at risk by a development, which is not by its nature locationally tied to the area. Therefore, the Planning Inspector's report stated that "the onus is on any new development in the rural area and in particular non-agricultural development, which for reasons already outlined is not specifically locationally dependent to a rural area to demonstrate that it will not have a negative impact on the viability of existing stud farms or stables and that it is reasonable to consider the development in this context".*

*When the real and perceived safety risk to thoroughbred horses and stud farm personnel is combined with the visual perception impacts, it is considered that there is a genuine risk that if these impacts become unacceptable to stud farm operators, especially major international operators with alternative breeding facilities abroad, these significant rural businesses may choose to move their operations abroad thereby drastically impacting on the entire Equine Industry in Ireland, and particularly on the Equine Industry Cluster identified with the midlands. The proposed development*

*would undermine the current 'ecosystem' of premier equine operations and supporting rural enterprises which the County Development Plan is seeking to protect.*

*It is submitted the extensive support in the Kildare County Development Plan for the equine and Bloodstock industry outlined in Section 3 of this report is considerably stronger than that set out in the decision above. We ask the Board to agree that the proposed development of such a scale in sensitive locations, in close proximity to an incompatible land use such as the equine Industry should be a material factor in the determination of the proposal. Therefore, we ask An Bord Pleanála to refuse permission for the large-scale industrial windfarm.*

## Incompatible land-uses:

*It is therefore our considered view that major wind farm proposals and viable thoroughbred breeding enterprises are incompatible land-uses.*

*If a large wind farm proposals are allowed to encroach upon established thoroughbred breeding facilities in Ireland without regulation or guidance, as part of a 'plan led' development, the country's high calibre of bloodstock would be directly and immediately threatened by real or perceived equine health impacts, caused by noise, vibration or visual stimuli, and the national and international reputation and brand recognition of Irish stud farms and training stables could be permanently damaged, which could in turn threaten Ireland's status as an international centre of thoroughbred breeding excellence in the world. This would pose a major systemic threat to the long-established thoroughbred breeding industry in Ireland and the many ancillary rural industries that have grown around it.*

*A common planning response to incompatible land uses is to demarcate buffer zones to keep them apart. Defining an adequate buffer distance between thoroughbred stud farms and wind turbines is not simple and no minimum buffer distance is proposed because not every wind turbine will have the same potential impacts on adjacent land uses, especially taking into account the specific topography and land-cover in between. With this in mind, acceptable levels of impacts from wind turbines on stud farms and training stables should be variable, not fixed, and therefore should be determined carefully on a case-by-case basis. However, a buffer between wind farm proposals and existing stud farm and training stable facilities should be sufficiently sized to prevent and avoid all potential impact on the continued operation of these thoroughbred breeding businesses. It is possible that an adequate buffer distance in this instance could be measured in kilometres, not hundreds of metres. No alternate mitigation measures could suffice.*

*Therefore, any wind farm proposal contemplated in the vicinity of an established stud farm or training stable should be required to demonstrate that its impacts will not affect the viability of the stud farm or training stable. Considerable buffering will necessary to shield the thoroughbred facilities from the visually perceptible elements of a proposed wind turbine, taking into account both distance and topography between the established facilities and the proposed wind turbine. It is*

*submitted that the planning application material accompanying the proposal does not fully appreciate or assess the potential impacts on the Bloodstock/Equine Industry.*

## Conclusion

The Maigue Valley is a hub for the bloodstock industry in County Limerick and in economic terms, an ecosystem that benefits from the presence of competitors and colleagues. While horse breeders are primarily drawn to suitable land, there is also a tendency among actors in many economic activities to congregate in clusters.

This clustering creates the economies of scale that attract top-level farriers, veterinarians, specialist equine professionals, and high-quality support services. Disrupting any part of this finely balanced ecosystem — particularly by introducing industrial-scale turbines that are fundamentally incompatible with a sensitive equine environment — risks undermining the stability and long-term viability of what is, in effect, a best-in-class bloodstock industry.

A more appropriate approach towards participation in the Climate Action plan for owners of equestrian premises would be participation in the Department of Agriculture's Acres scheme.

The Agri-Climate Rural Environment Scheme (ACRES) is the agri-environment climate measure under Ireland's CAP Strategic Plan for the period 2023-2027. The Scheme is jointly funded by the European Union and the National Exchequer.

Landscape Actions (LAs) are large scale complementary environmental actions that may be chosen by participants of the ACRES Co-operation approach that addresses on-farm issues and contribute to the scheme's environmental objectives. Much of the area proposed for industry wind development is eligible for participation in this scheme.

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# Risk of Invasive Species Spread and Threat to Protected Habitats

## Executive Summary

This submission formally objects to the proposed Ballinlee Wind Farm on the grounds of a significant and unmanaged risk of invasive alien plant species (IAS) spread within and beyond the development footprint. The site is already infested with several high-risk, Third Schedule invasive species—namely *Japanese Knotweed* (*Reynoutria japonica*), *Giant Rhubarb* (*Gunnera tinctoria*), and *Winter Heliotrope* (*Petasites fragrans*)—with records confirmed along access tracks, drainage lines, and the grid connection route.

The development site lies within the hydrologically sensitive Morning Star–Maigue catchment, directly connected to downstream protected habitats, including Tory Hill Special Area of Conservation (SAC) and Lough Gur pNHA. The Environmental Impact Assessment Report (EIAR) identifies infestation within flood-prone areas that discharge to the Morning Star River, presenting a clear vector for downstream dispersal. Currently, on 13th November 2025, the Morning Star has breached its banks extensively at numerous points throughout the site. In addition, the flood plain (Flood zone A and B) in the northern part of the proposed site is waterlogged, together with drainage throughout the site from Camas traversing to Rathcannon overflowing with flooding throughout.

The mitigation measures proposed by the Developer are generic, non-site-specific, and unenforceable. They fail to meet statutory obligations under Irish and EU environmental law, including the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) and EU Regulation 1143/2014 on the prevention and management of IAS. Moreover, the proposal conflicts with ongoing catchment-scale eradication efforts led by the Maigue Rivers Trust (MRT) and supported through the Local Biodiversity Action Fund.

It is respectfully submitted that permission should be refused unless a comprehensive, independently verified Invasive Species Management Plan (ISMP) is implemented *prior* to the commencement of any site works, ensuring full eradication and biosecurity compliance consistent with statutory and ecological best practice.

Authors details: I am a third-generation professional grower with experience in both wholesale and retail horticulture production. Having completed Nursery Management at Kildalton College. I set up my own Nursery in 1992 and expanded into a retail Garden Centre in 2010. I have continued to develop my expertise through active membership in the Irish Farmers' Association (IFA), I am registered as a Professional Grower with the Department of Agriculture, Food and the Marine, and the Irish Hardy Nursery Stock Association. I regularly deliver workshops with Ballyhoura Development CLG, Tidy Town Groups and other gardening organisations focusing

on biodiversity, edible gardening, sustainability and pollinator plans. I have given many talks to groups and spoken on radio talk shows about my work promoting environmental awareness and sustainable land use—principles that strongly align with the values and objectives of An Coimisiún Pleanála. Orla Ahern

## Introduction

The proposed Ballinlee Wind Farm and its associated infrastructure—including turbine bases, borrow pits, access roads, and grid connection routes—present a high risk of introducing and spreading invasive alien species (IAS). This risk arises during the construction, operation, and decommissioning phases through soil disturbance, vehicular movement, and the importation of aggregate and construction materials from external sources.

This submission addresses the inadequacy of the Developer's proposals for the prevention and management of IAS within the proposed development area.

Invasive species represent a major ecological, economic, and legal challenge in Ireland. Their spread undermines biodiversity, damages infrastructure, and jeopardises Ireland's compliance with European environmental legislation, including the Habitats Directive (92/43/EEC) and associated national transpositions.

## Legislative and Policy Context

The European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477/2011) establish statutory controls on invasive species. Section 49 prohibits the introduction or dispersal of any species listed under the Third Schedule, including *Reynoutria japonica* and *Gunnera tinctoria*.

Schedule 3 explicitly bans the movement of soil or spoil taken from areas infested with *Japanese Knotweed*, *Giant Knotweed*, or hybrids thereof, except under licence.

EU Regulation No. 1143/2014 requires Member States to prevent introduction, ensure early detection, and manage established IAS populations.

National policy reinforces these obligations through:

- The National Biodiversity Action Plan (2023–2030);
- The EPA (2022) Guidelines on the Information to be Contained in EIARs;
- Transport Infrastructure Ireland (TII, 2023) and Inland Fisheries Ireland (IFI, 2010) biosecurity guidance; and

- The Limerick County Development Plan (2022–2028), Objective EH O11, which mandates prevention and control of invasive species in all development activities.

Compliance with these instruments is a mandatory component of Article 6(3) Appropriate Assessment, as clarified by *People Over Wind and Sweetman v Coillte Teoranta* (C-323/17).

## Confirmed Presence and Extent of Invasive Species

The Developer's EIAR (Chapter 6: Biodiversity) and Habitat and Species Management Plan (Appendix 6I) confirm the presence of:

- *Japanese Knotweed* (*Reynoutria japonica*) – recorded along the grid connection route and access track to Turbines 14 and 15;
- *Giant Rhubarb* (*Gunnera tinctoria*) – observed along the Morning Star River in the southern section of the site; and
- *Winter Heliotrope* (*Petasites fragrans*) – widespread along internal roads and verges.

These species are highly invasive, capable of regenerating from minute root fragments, and are listed under the Third Schedule of S.I. No. 477/2011.

Additional invasive species of concern in the wider catchment—such as *Giant Hogweed* (*Heracleum mantegazzianum*)—were not considered by the Developer, despite documented occurrence along the Morning Star River.

## Ecological and Hydrological Sensitivity

The Ballinlee site lies within the Morning Star River floodplain, a tributary of the River Maigue, ultimately discharging to the River Shannon.

This hydrological system maintains high ecological connectivity between the development site and protected habitats, including Tory Hill SAC (Site Code 000439) and Lough Gur pNHA.

Infested areas occur within drainage channels and flood-prone zones, allowing propagules and rhizomes to disperse via floodwater and sediment transport. The site's topography, coupled with construction disturbance, poses a direct vector for downstream colonisation.

Such hydrological linkage magnifies the ecological risk, threatening restoration efforts and protected habitats downstream.

## Assessment of Developer's Proposed Mitigation Measures

The Developer's mitigation measures, as set out in the EIAR and HSMP, include fencing, signage, contractor cleaning, and chemical treatment. However, these measures are generalised and lack enforceable detail.

Physical Containment: The proposed 10 m exclusion zones are impractical within the constrained local road network and cannot be maintained during heavy construction traffic.

Cleaning Protocols: There are no designated wash-down areas or systems for managing contaminated effluent. This omission breaches IFI (2010) Biosecurity Protocol requirements.

Treatment Strategy: The proposed "chemical treatment" lacks specification regarding timing, frequency, or post-treatment verification. Best practice requires pre-construction eradication and multi-year monitoring, which are absent.

Omission of Additional Species: The exclusion of *Giant Hogweed* from baseline assessment represents a significant ecological and public health oversight.

Monitoring and Enforcement: No schedule, responsible personnel, or success criteria are identified. Post-consent "adaptive management" does not meet the certainty required under Article 6(3) of the Habitats Directive.

## Deficiencies and Non-Compliance

The Developer's strategy is inconsistent with:

- Regulation 49 of S.I. No. 477/2011;
- EU Regulation 1143/2014;
- EPA (2022) and TII (2023) Guidelines;
- IFI (2010) Biosecurity Protocol; and
- Objective EH O11 of the Limerick County Development Plan.

The proposed measures rely on voluntary compliance, lack independent certification, and fail to integrate with catchment-scale management.

By undermining the ongoing Maigue Rivers Trust eradication programme, the development would frustrate existing public-funded conservation actions, contrary to the objectives of the National Biodiversity Action Plan.

## Cumulative and Catchment-Scale Risks

The Morning Star–Maigue–Shannon corridor contains multiple operational or proposed renewable energy projects. None have adequately addressed cumulative IAS spread pathways.

Construction disturbance and soil mobilisation at Ballinlee would heighten downstream colonisation risks, compromising catchment-wide eradication work and rendering the assessment scientifically incomplete (EPA, 2022; NatureScot, 2021).

## Conclusion and Recommendation

The Ballinlee Wind Farm poses a significant and unmanaged risk of invasive plant spread from a site already infested with regulated species.

The mitigation measures proposed are insufficient, unverified, and legally non-compliant.

The development would conflict with ongoing catchment-scale control efforts and threatens the ecological integrity of the Morning Star–Maigue system and downstream protected sites.

It is respectfully submitted that An Coimisiún Pleanála should:

- Refuse permission for the proposed development due to inadequate IAS management and legal non-compliance; or
- As a condition of any approval, require the preparation and independent verification of a comprehensive *Invasive Species Management Plan (ISMP)* prior to the commencement of any site works, to include:
  - Full pre-construction eradication and verification;
  - Certified biosecurity procedures for soil and machinery;
  - Multi-year monitoring and reporting; and
  - Integration with the Maigue Rivers Trust's ongoing catchment management programme.

Until these actions are implemented and independently verified, the project fails to demonstrate compliance with Article 6(3) of the Habitats Directive, Regulation 42 of the Birds and Natural Habitats Regulations 2011, and established national guidance.

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# Bat Ecology

**Katy Steele**
Bat Ecologist (NPWS Licence No. DER/BAT/C263/2025)
Sneem, Co.Kerry
10/11/2025

**To:**

Karol O' Regan

Bruff Dromin Athlacca-Ballinlee Community Action Group

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**Re: Independent Ecological Review – Ballinlee Wind Farm (Co. Limerick) Updated**

Dear Karol, Maria and Co

Please find attached my Independent Ecological Review of the Ballinlee Wind Farm planning documentation, with specific focus on bat ecology and associated habitats.

This review evaluates the adequacy, completeness, and internal consistency of the bat survey data, habitat quantification, and mitigation measures presented in the Ballinlee planning submission. It has been prepared in accordance with *CIEEM (2019)* and *NPWS (Marnell et al., 2022)* guidance and draws upon relevant sections of the Natura Impact Statement, Appropriate Assessment, and EIAR chapters.

The report identifies several significant omissions and inconsistencies in how bat habitats and potential roost sites were assessed, and provides evidence-based recommendations for further survey and mitigation measures. **Includes updated note on R. Hipposideros in Section 6.2.1.**

This report is provided to support your submission on the Ballinlee Wind Farm planning application.
You are welcome to include it with your objection to the planning authority, provided it is submitted in full and unaltered. It does not express a planning opinion and remains the property of the author.

**For transparency, Appendix A – Clarifications Note is included, summarising the author's responses to specific points raised during pre-submission review and cross-referencing the applicant's documentation. If submitting it, note in own cover letter "An accompanying note from the author provides clarifications for reference and transparency".**

Please do not circulate or publish the report without written consent.

Kind regards,
Katy Steele
Bat Ecologist (NPWS Licensed)




# Independent Ecological Review

## Ballinlee Wind Farm (Co. Limerick)

### Assessment of Bat Ecology Documentation and Associated Omissions

**Prepared by: Katy Steele, Bat Ecologist (NPWS Licensed)**
**Date: 7 November 2025**


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## 1 Executive Summary

This independent ecological review evaluates the bat-related elements of the Ballinlee Wind Farm Environmental Impact Assessment documentation prepared by Woodrow Ecology (2025). A detailed cross-analysis of the Natura Impact Statement (NIS), Appropriate Assessment Screening Report (AA), Chapter 6 – Biodiversity, Appendix 6E – Baseline Bat Survey, and Chapter 19 – Schedule of Mitigation identifies significant omissions and inconsistencies in the treatment of bat habitats and potential roost sites.

Key findings include:
- Omission of approximately 14.4 ha of forestry clearance noted in Appendix 6E from formal impact and mitigation calculations.
- Inconsistent hedgerow and treeline figures between chapters of the EIAR documents.
- Incomplete bat survey coverage, with missing seasonal data and detector failures.
- No roost inspection of nearby buildings or outbuildings within 250 m of turbine sites.
- Absence of operational mitigation, such as turbine curtailment or post-construction monitoring.

These findings are not only procedural in nature but have clear ecological implications. Understanding how such omissions affect protected species, particularly bats, is critical to evaluating the adequacy of the assessment.

Bats function as a keystone group within rural ecosystems and are particularly sensitive to landscape-scale changes. Wind turbines, while essential to Ireland's renewable energy goals, can introduce collision or displacement risks that disproportionately affect species such as *Nyctalus leisleri* and *Pipistrellus pipistrellus*. When forestry removal or hedgerow clearance occurs, the resulting loss of navigational corridors further heightens vulnerability. For this reason, precise baseline mapping of linear habitats and roosting potential is fundamental to any credible ecological impact assessment.

Collectively, these deficiencies render the assessment non-compliant with the EU Habitats Directive (92/43/EEC) and CIEEM (2019) professional standards. This review concludes that the ecological information presently before the planning authority is insufficient to support an informed or legally robust planning decision.

## 2 Introduction

This review was undertaken independently by Katy Steele, an NPWS-licensed bat handler and professional ecologist with over seven years' experience in bat rehabilitation and conservation work, complemented by subsequent ecological fieldwork and survey practice. Katy has completed multiple professional training modules in bat ecology and survey



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methodology under the tuition of Conor Kelleher (CEnv, MCIEEM). Using professional-grade acoustic detection equipment, including EchoMeter Touch 2 Pro and Batlogger M2 systems routinely to ensure survey accuracy in line with CIEEM (2019) and Marnell et al. (2022) standards.

Katy also holds fieldwork safety and outdoor qualifications, including Remote Emergency Care, Mountain Skills, and Water Safety Skills, supporting safe survey operations in challenging environments.

This report involved two full days of document review, data cross-referencing, and professional analysis of ecological and planning documentation relevant to bat conservation. It is presented in accordance with CIEEM (2019) professional standards for independent expert review.

The objective is to evaluate the completeness and reliability of the ecological documentation for the proposed Ballinlee Wind Farm, County Limerick, focusing on the adequacy of bat survey data, the accuracy of habitat quantification, and the sufficiency of mitigation measures for Annex IV species under the Habitats Directive.

In Ireland, the interaction between wind energy and bat ecology is shaped by the structure of the countryside itself - small woodlands, treelines, and hedgerows that form a connected network between roost and feeding areas. Appendix 6E indicates that approximately 14.4 ha of conifer forestry had been felled or cleared prior to or during survey works; when combined with the removal or alteration of hedgerows, this risks severing established bat flight paths. Bats such as *Plecotus auritus* and *Myotis nattereri* use these sheltered corridors for safe movement at low altitude, once lost, they are rarely replaced within the same generation. Understanding this spatial ecology is therefore central to any sustainable wind-farm design.

## 3 Methodology

All ecological documents relevant to biodiversity and bats were reviewed, including:

- *Natura Impact Statement (NIS)*
- *Appropriate Assessment Screening Report (AA)*
- *Chapter 6 – Biodiversity*
- *Appendix 6E – Baseline Bat Surveys*
- *Chapter 19 – Schedule of Mitigation*


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- *Appendices 6B and 6D – Protected Species and Habitats Baseline*
- *Planning Statement and Layout Drawings*

Each document was examined both individually and in combination to identify inconsistencies in scope, coverage, and data interpretation, and to assess compliance with CIEEM (2019), Marnell et al. (2022), and NatureScot (2021) guidelines.

Survey precision is vital in evaluating potential bat impacts. Detector coverage that omits seasonal phases or key habitats, such as forestry edges or commuting hedgerow, cannot accurately reflect real activity levels. Comprehensive acoustic deployment, roost inspection, and cross-referencing with habitat maps allow ecologists to identify high-risk turbine positions before engineering design is finalised. This proactive approach aligns with best practice under *CIEEM (2019)* and *Marnell et al. (2022)*.

## 4 Legislative and Guidance Context

The review considered the following:

- *Council Directive 92/43/EEC (Habitats Directive)* – Articles 6(3) and 12
- *European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. 477/2011)*
- *CIEEM (2019)* Guidelines for Ecological Impact Assessment
- *Marnell et al. (2022)* Bat Mitigation Guidelines for Ireland
- *NatureScot (2021)* Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation
- *EUROBATS (2018)* Guidelines for Consideration of Bats in Wind Farm Projects

The Bat Mitigation Guidelines for Ireland (Marnell et al., 2022) set the national standard for impact assessment and mitigation design. These guidelines should form the minimum basis for survey effort, roost mitigation, and turbine operational management in all wind-energy developments.

The protection afforded to bats under Articles 12 and 16 of the Habitats Directive extends beyond roosts to include foraging and commuting habitats. Consequently, felling of conifer stands or modification of treelines can constitute disturbance or habitat degradation if these features support regular bat movement. Current Irish guidance emphasises integrating ecological review during the design phase so that turbine siting and road



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alignments avoid key flight corridors rather than relying solely on mitigation after loss has occurred.

These documents collectively define the legal and professional framework governing bat conservation, survey design, and mitigation in Ireland and the wider EU context.

## 5 Overview of Reviewed Documentation

The following documents were examined to evaluate how bat ecology and habitats were treated within the Ballinlee Wind Farm EIAR process:

- **NIS:** Focused on hydrological pathways; did not include terrestrial or bat assessment.
- **AA Screening:** Stage 1 limited to surface-water pathways; no mention of bat receptors.
- **Chapter 6 – Biodiversity:** Summarised mammal and bat data but omitted quantification of forestry loss; habitat data inconsistent.
- **Appendix 6E – Bat Surveys:** Main dataset for activity and roost detection; partial seasonal coverage with detector failures.
- **Chapter 19 – Schedule of Mitigation:** Standard pre-construction measures only; no operational mitigation or quantified habitat impacts.
- **Appendices 6B and 6D:** Contain protected-species records and mammal baseline data; bats omitted despite known presence.
- **Planning Statement and Drawings:** Define project layout (17 turbines, substation, access tracks) and proximity to forestry and nearby buildings.

Together these documents form the evidential basis for the ecological assessment; cross-comparison reveals multiple inconsistencies affecting Annex IV conclusions.

In evaluating the documentation for Ballinlee, it is clear that survey data, on their own, do not ensure ecological compliance; it is their interpretation and completeness that determine reliability. The omission of forestry and hedgerow quantification removes essential context for understanding bat habitat use across the site. From an ecological standpoint, such data gaps are not procedural details but fundamental omissions that can determine whether a project meets legal obligations under the Habitats Directive.

## 6 Findings and Implications

### 6.1 Inconsistent Habitat Quantification

Appendix 6E states that approximately 14.4 ha of conifer forestry had been felled prior to or during the survey period; however, this figure does not appear in Chapter 6 or Chapter 19. Hedgerow and treeline losses are reported differently across chapters, undermining



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transparency required by *CIEEM (2019)*. These areas of felling and habitat alteration are illustrated in Plates 1–3, showing deforestation within and adjacent to the site boundary.

**Table 6.1.1 – Habitat Loss Quantification Comparison**

| Source Document | Reported Hedgerow / Forestry Removal |
|---|---|
| Chapter 6 (Biodiversity) | 2 822 m hedgerow/treeline; forestry not quantified |
| Chapter 19 (Schedule of Mitigation) | 2 822 m loss; 3 970 m replacement (net +1 574 m) |
| Appendix 6E | 14.4 ha forestry felling – *omitted from mitigation tables* |

Discrepancies in reported habitat loss figures suggest cumulative habitat removal was underestimated, preventing accurate assessment of ecological connectivity and mitigation adequacy.

The mitigation listed constitutes proposed measures rather than verified outcomes. Without demonstrable post-construction monitoring or design integration, these remain commitments in principle rather than proven mitigation in practice.

**6.2 Bat Survey Limitations**

Appendix 6E deployed 14 detectors; two malfunctioned, and April and the autumn swarming seasons were missed. Chapter 6 nonetheless asserts "full seasonal coverage," inconsistent with *Marnell et al. (2022)* standards. Five roosts were recorded yet omitted from the NIS and AA.

**6.2.1 Residential Structures:**
Small dwellings and farm outbuildings within approximately 250 m of turbines (Appendix B drawings) provide likely roost potential for *Pipistrellus pipistrellus*, *P. pygmaeus*, and *Plecotus auritus*. Proximity of turbines to nearby forestry and farm structures is visible in Plates 4–6. No inspections or emergence surveys were reported. This omission limits assessment of potential roost disturbance and may contravene Article 12(1)(d) of the Habitats Directive.

It is noted that *Rhinolophus hipposideros* (Lesser Horseshoe Bat) was recorded within the survey dataset. Given the species' high conservation significance and strict protection under the Habitats Directive, any verified detection of this species warrants emphasis in future survey design and follow-up monitoring to confirm distribution and activity patterns within the wider landscape.


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**Table 6.2.2 – Protected Species Coverage Summary**

| Species Group | Protected / Recorded Species (Appx 6B) | Survey Conducted (Appx 6D / 6E) | Reported Limitations | Comment / Deficiency |
|---|---|---|---|---|
| **Bats** | *Plecotus auritus, Pipistrellus pipistrellus, Nyctalus leisleri, Myotis daubentonii, M. nattereri, R. hipposideros* | Yes (Appx 6E) but incomplete | Detector failures; missing seasons | Incomplete baseline; non-compliant with CIEEM (2019) |
| **Non-bat mammals** | *Lutra lutra, Meles meles, Erinaceus europaeus* | Yes (Appx 6D) | Limited access to dense areas | Adequate coverage; not linked to bat corridors |
| **Amphibians** | *Rana temporaria* | No | No surveys undertaken | Minor gap but indicates narrow scope |
| **Birds** | Annex I / Red-listed species | Yes (Ch 7) | Appropriate coverage | No deficiency noted |
| **Reptiles** | *Zootoca vivipara* | No | Not mentioned | Standard omission |
| **Flora / Habitats** | Annex I habitats | Yes (Appx 6D) | Forestry areas inaccessible | Affects bat habitat context |

Table shows that bats are the only Annex IV group surveyed inadequately and omitted from cross-taxon habitat linkage assessment.

### 6.3 Mitigation Deficiencies

Chapter 19 lists only construction-phase soft-felling of 13 PRF trees and lighting control. No operational mitigation, curtailment, or monitoring is proposed. Forestry removal is unaccounted for.
Such measures fall below *NatureScot (2021)* and *Marnell et al. (2022)* standards requiring adaptive risk management and post-construction monitoring for high-risk sites.

### 6.4 Professional Competency and Integration


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Documentation was prepared without oversight by a recognised bat-specialist ecologist. Cross-referencing between baseline datasets, mitigation, and AA documentation is lacking, contravening *CIEEM (2019)* transparency expectations.

### 6.5 Overall Implication

These omissions and inconsistencies undermine "no significant effect" conclusions and fail to meet Article 6(3) and Regulation 42 standards. Further fieldwork, verification, and integrated mitigation design are necessary before lawful determination. Visual evidence of forestry removal and landscape modification supports this conclusion (Plates 1–7).

## 7 Conclusion

The Ballinlee Wind Farm ecological documentation remains incomplete and internally inconsistent in its treatment of potential bat impacts. Key baseline components, particularly forestry clearance, linear habitat loss, and roost potential in nearby buildings - are under-quantified or unassessed. While the presence of bat surveys suggests some ecological consideration, the scope and interpretation of those surveys fall short of accepted professional and statutory standards.

Appendix 6E records that approximately 14.4 ha of conifer forestry had been felled before or during survey works. This previously unassessed loss, combined with hedgerow removal, represents a significant alteration of a landscape type known to support multiple Annex IV bat species. The absence of integrated habitat connectivity analysis limits confidence in any conclusion that the project will have "no significant effect." Moreover, the omission of operational mitigation, such as smart curtailment or long-term monitoring, fails to address well-documented turbine-related mortality and displacement risks.

From an ecological and legislative perspective, these deficiencies undermine the project's compliance with Articles 6(3) and 12 of the EU Habitats Directive and Regulation 42 of the Birds and Natural Habitats Regulations (2011). The Precautionary Principle must therefore apply: where uncertainty exists, impacts must be further investigated and mitigated before consent is granted.

The cumulative pattern of omissions suggests a systemic gap in the ecological assessment process rather than isolated error. For the planning authority to rely on the current dataset would risk contravention of both EU and national law. In addition, cumulative effects from concurrent forestry operations or habitat clearance in adjoining lands should also be considered as part of a revised system.

Robust re-surveying, quantification of all habitat losses, and adoption of operational mitigation are essential to ensure the project aligns with best practice and the intent of Irish



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renewable development policy - to deliver climate solutions without compromising biodiversity integrity.

Implementation of these steps would ensure that the Ballinlee Wind Farm advances Ireland's renewable targets in a manner fully consistent with the conservation of protected bat species and the principles of ecological sustainability.

## 8 Recommendations

1. **Comprehensive Bat Survey Program** - A full 12-month bat activity survey should be undertaken across all relevant habitats, including forestry, hedgerows, and riparian corridors. This programme should provide coverage for spring, summer, autumn, and swarming periods, and must include both static detector deployment and walked transects to ensure representative sampling across habitat types. All Potential Roost Features (PRFs) within the forestry and along hedgerows should be re-inspected under licence, and any roosts identified must be recorded with GPS precision and appropriate mitigation proposed.
   Survey design should follow *Marnell et al. (2022)* and *CIEEM (2019)* guidance to ensure that activity data are statistically robust and comparable with national baselines. A qualified bat specialist should oversee data analysis and reporting to ensure full compliance with professional standards.

2. **Quantification of Habitat Loss and Connectivity** - A revised habitat assessment should be carried out to accurately quantify the total loss of conifer forestry (14.4 ha as identified in Appendix 6E) and linear features such as hedgerows, treelines, and roadside vegetation (≥ 2.8 km). These losses should be clearly mapped and reconciled across all planning documents to ensure transparency between chapters. An ecological connectivity analysis should then be undertaken to evaluate how the removal of forestry and hedgerows affects commuting and foraging routes for Annex IV bat species, otter, and other protected mammals. This analysis should inform revised site layout and mitigation design to maintain functional linkages across the site, particularly between roosting and foraging areas.

3. **Revised Mitigation and Monitoring Strategy** -
   • Implement a revised mitigation and monitoring strategy including **smart turbine curtailment** using motion or acoustic triggers at < 6 m/s wind (Arnett et al., 2022; NatureScot, 2024).
   • Ensure lighting design complies with ILP 08/23.
   • Conduct roost inspections of outbuildings within 300 m of turbines under NPWS licence with appropriate mitigation if roosts found.
   • Undertake two seasons of post-construction monitoring and independent audit.


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4. **Independent Verification** - Any resubmitted bat surveys should be led by or undertaken under the supervision of a suitably qualified bat specialist (e.g., a CIEEM-accredited ecologist or NPWS-licensed bat handler with demonstrable experience in bat survey design and interpretation.

5. **Legal and Procedural Compliance** - Revised biodiversity and bat survey data should be formally resubmitted for Appropriate Assessment (AA) screening and determination under Regulation 42 of the European Communities (Birds and Natural Habitats) Regulations 2011. This process must include review by the planning authority's ecological consultant or an NPWS-appointed specialist.

   The current omission of key data prevents a lawful determination under Article 6(3) of the Habitats Directive. Compliance therefore requires that any decision on consent be deferred until adequate surveys, mitigation measures, and AA documentation are submitted and publicly available for consultation.

## 9 References

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## 10 Appendices (Summarised)

**Appendix A – Planning Statement (MWP 2025)**
Outlines project description (17 turbines up to 160 m, substation, roads). Cited to verify habitat quantification inconsistencies and forestry omission.


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**Appendix B – Planning Drawings (MWP 2025)**
Shows site layout and infrastructure locations (Drawing 5005); confirms turbines' proximity to forestry and residential structures with roost potential.

**Appendix C – Protected Species Records (Woodrow Ecology 2025)**
Lists protected species within 10 km, confirming six Annex IV bat species locally; supports assertion that bats were known receptors omitted from AA.

**Appendix D – Baseline Habitats and Mammals (Woodrow Ecology 2025)**
Details habitat and mammal surveys (2023–2025); bats explicitly excluded, confirming key gap in baseline dataset.

## 11 Plates:

The following satellite and planning images illustrate areas of forestry loss and deforestation identified within or adjacent to the Ballinlee site, with focus on turbine zones T1–T6 and the southern forestry block noted in Appendix 6E.




*Plate 1. Chapter 4 Wind Farm Planning Drawing showing four affected forestry patches within the project boundary.*


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*Plate 2. Bruff (east) and forested areas (center) within proposed site 2013 -2018 Geohive*



*Plate 3. Bruff (east) and deforested areas within proposed site August-September 2025*



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*Plate 4. Forest and deforested areas between T4 and T6 site focus August-September 2025*



*Plate 5. Close view Forest and deforested areas between T4 and T6 site focus August-September 2025*



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*Plate 6. Areas of forest and felling across from Temporary Compound 2 and T1, T2 and T3*

*August-September 2025*



*Plate 7. Bruff and surrounding area, sparce in habitat with few forest areas some already compromised. August to September 2025*



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# Ornithology

## Introduction: Species-Rich Farmland and Presence of Endangered Birds at Ballinlee

The proposed Wind Farm site, located near Bruff in south-east County Limerick, occupies a biodiverse agricultural landscape of exceptional ornithological value.
The baseline surveys submitted by the developer (Appendix 7B – *Baseline Ornithology Report*) confirm that the area supports a high diversity of breeding, wintering, and passage birds, including several species that are red-listed under *Birds of Conservation Concern in Ireland (BoCCI 2021)* and protected under Annex I of the EU Birds Directive (2009/147/EC).

The mosaic of improved and semi-natural grassland, hedgerows, wet ditches, riparian corridors, and small woodland edges provides an unusually rich combination of habitats that sustain both open-country and edge-dwelling species.
Field margins, drainage lines, and rough pasture recorded within the development boundary function as critical foraging and nesting zones for numerous declining farmland and lowland bird species.

Among the species documented in the developer's own three-year survey programme are:

- Curlew (*Numenius arquata*) – Red-listed, Annex I species, once widespread in County Limerick but now close to local extinction; observed using wet grassland within and adjoining the site.
- Lapwing (*Vanellus vanellus*) – Red-listed farmland breeder, regularly recorded displaying and feeding across open sward fields.
- Snipe (*Gallinago gallinago*) – Red-listed, wet-grassland specialist, dependent on the intact hydrology of field drains and boggy ground.
- Barn Owl (*Tyto alba*) – Red-listed, Annex I species, confirmed foraging along the hedgerow network and likely breeding within 2 km of the turbine envelope.
- Kestrel (*Falco tinnunculus*) – Red-listed raptor, reliant on rough pasture and field margins that would be disturbed or removed by construction.
- Meadow Pipit (*Anthus pratensis*) and Skylark (*Alauda arvensis*) – Red-listed indicator species of farmland biodiversity, widespread across the turbine plots.
- Buzzard (*Buteo buteo*) and Sparrowhawk (*Accipiter nisus*), regionally important raptors utilising the area for hunting and nesting.
- Golden Plover Pluvialis apricaria, Red Listed
- Whooper Swan Annex I species, internationally important.

The site therefore represents a functioning ecological corridor between the Lough Gur pNHA and the River Maigue catchment, supporting a guild of species whose conservation status is in severe national decline.

This diversity directly reflects the complex habitat structure still present in the landscape — features increasingly rare in intensively managed lowland Ireland.

In ecological terms, the area qualifies as a species-rich, high-biodiversity farmland system that contributes materially to Ireland's obligations under the EU Nature Restoration Regulation (2024/1264) and the EU Birds Directive to restore and maintain healthy populations of wild birds and their habitats.

Any proposal that fragments, disturbs, or removes these habitats must therefore be assessed against the highest environmental protection standards and the precautionary principle set out in EU law.

## Local Ornithological Records — BirdWatch Ireland Clare Branch (Limerick Listings)

Verified field data compiled by the BirdWatch Ireland Clare Branch (Limerick Listings, accessed 2025) confirm that the Ballinlee–Bruff–Camas–Athlacca corridor continues to support a high diversity of farmland and wetland birds of conservation concern. Records collected between 2013 and 2023 show regular presence of Red-listed species such as *Curlew Numenius arquata*, *Lapwing Vanellus*, *Barn Owl Tyto alba*, *Snipe Gallinago*, and *Golden Plover Pluvialis apricaria*, together with Amber-listed species including *Black-tailed Godwit Limosa*, *Dunlin Calidris alpina*, *Ruff Calidris pugnax*, *Merlin Falco columbarius*, and *Lesser Black-backed Gull Larus fuscus*.
These locally verified records, gathered by trained observers under BirdWatch Ireland's national protocols, complement NPWS datasets and provide independent evidence that the Ballinlee landscape remains a functioning mosaic of high-biodiversity farmland and wetland habitats (BirdWatch Ireland Clare Branch, 2023; NPWS, 2022). (see appendix 1 for full list)

## Breach of EU Nature and Biodiversity Legislation

### Non-compliance with the EU Nature Restoration Regulation (EU) 2024/1264

The EU Nature Restoration Regulation requires Member States to restore and maintain biodiversity and ecosystem functionality, including agricultural landscapes supporting declining bird populations such as barn owl (Tyto alba), curlew (Numenius arquata), lapwing (Vanellus vanellus), and kestrel (Falco tinnunculus).

The EIAR and its supporting ornithology appendices fail to demonstrate how the project aligns with Article 4 and 5 of the Regulation, which mandate:

- No deterioration of restored or semi-natural ecosystems,
- Measurable improvement in populations of farmland and grassland birds,
- Integration of restoration objectives into spatial and land-use planning.

By approving intensive infrastructure development in a functioning agricultural mosaic with hedgerows, ditches, and mixed habitats, the proposal would fragment and degrade foraging and breeding habitats for these declining species — directly undermining EU restoration objectives and Ireland's obligations to reverse biodiversity loss.

### Deficiencies under the EU Birds Directive (2009/147/EC)

The assessment focuses narrowly on whooper swan and neglects other Annex I and red-listed birds, including:

- Curlew (Numenius arquata) – red-listed, Annex I, in severe national decline.
- Lapwing (Vanellus vanellus) – red-listed, farmland breeder, sensitive to disturbance and habitat loss.
- Barn owl (Tyto alba) – red-listed, dependent on linear hedgerow networks and rough grassland prey habitats.
- Kestrel (Falco tinnunculus) and Snipe (Gallinago gallinago) – nationally declining indicator species of agricultural biodiversity.

Despite acknowledging their presence in the Baseline Ornithology Report (Appendix 7B, Section 4.2–4.4) the EIAR provides no evidence of adequate mitigation or habitat offsetting.
The EU Birds Directive obliges Ireland to preserve sufficient diversity and area of habitats for all naturally occurring wild bird species (Article 3). The proposed development, by fragmenting semi-natural farmland and wetland margins, is inconsistent with this requirement.

## Insufficient Alignment with the Limerick County Development Plan and National Policy

The EIAR fails to demonstrate consistency with the Limerick County Development Plan (2022–2028) and Draft Limerick Biodiversity Action Plan (2025–2030), both of which incorporate EU biodiversity objectives.

### Contradictions with Key Objectives

- Objective BEO 1–3: Protect ecological corridors and species of conservation concern.
- Objective EH 06–09: Maintain and enhance biodiversity and habitat connectivity.
- Objective BEO 5: Achieve biodiversity net gain in new developments.

The proposal's own data shows red- and amber-listed species breeding and foraging within the turbine envelope and grid route corridor, yet no measurable biodiversity gain or long-term restoration commitment is proposed.
The token "habitat enhancement" at Camas South lacks detail, binding targets, or monitoring, and is therefore non-compliant with the Plan's biodiversity protection framework.

# Flawed Assessment of Impacts on Red-Listed and Annex I Species

## Habitat Fragmentation and Loss

The baseline surveys confirm presence of curlew, lapwing, snipe, kestrel, and barn owl, yet the EIAR minimises habitat loss by describing the land as "intensively managed grassland."
In reality, this agricultural matrix of hedgerows, ditches, and rough margins forms essential nesting and feeding habitat for red-listed farmland birds.
No assessment quantifies the total area of functional bird habitat lost, nor the reduction in prey or nesting availability — a breach of the EPA (2022) Guidelines requiring quantifiable baseline-to-impact analysis.

## Collision and Displacement Risk Underestimated

The Collision Risk Modelling (Appendix 7C) excludes several species due to limited flight seconds, but that omission is methodologically flawed.
Species such as curlew, and barn owl are known to fly below turbine hub height or exhibit localised flight paths — behaviours not adequately captured by limited daylight vantage point watches.
The absence of nocturnal surveys severely underestimates the risk for crepuscular and night-active species such as the barn owl, contravening NPWS (2019) Guidance on Addressing Data Gaps in Ecological Impact Assessment.

A further consideration pertaining to a collision impact risk analysis, is the effect aviation lights on wind turbine hubs may have on disorientating nocturnal migratory species. As in this development, turbine heights are capped at 160M, this initiates a mandatory requirement for aviation lights as per Civil Aviation rule (CAP 764, 2016). According to Evans et al. (2009), it concludes that artificial lighting at or just above ground level changes the behaviour of migrating birds. This might be due to birds changing migratory routes, flying at lower altitudes or remaining longer over lit areas. Gehring et al. (2009) further suggested that it is the mode - flashing vs. non-flashing, steady lights - that is the principal factor that increases collision and that colour may be a secondary consideration. It has been hypothesised that red lights interfere with magnetoreception (Gauthreux & Belser, 2006, Manville 2009) in migrating birds. When skies are clear, birds may be able to use stars to navigate; in cloudy or foggy conditions such cues are not available, which may explain why birds are more likely to collide with towers and turbines during foggy/cloudy nights.

## Cumulative and Regional Effects Ignored

The EIAR acknowledges other wind farm developments within 20 km but performs no cumulative population-level modelling for declining red-listed birds.
This neglects obligations under the EU Birds Directive (Article 4.1 & 4.2) to consider species

conservation status "in their natural range," not just within the site boundary.
Fragmentation across Limerick's lowland farmland now represents a cumulative and regionally significant threat to ground-nesting waders and small raptors.

## Indirect Observation Reliance

The EIAR infers bird presence in inaccessible areas. Direct observations are required to validate habitat use, particularly for roosting, nesting and foraging.

## Assumption-Based Habitat Representativness:

Un-surveyed habitats were assumed equivalent to surveyed ones. Small patches of woodland, grassland and hedgerows support significant bird activity and cannot be assumed redundant.

## Waterbirds, Raptors and Red-Listed Passerines

## Waterbirds

Chapter 7 of the main EIAR does not state that the numbers of Teal recorded within the study area are below thresholds considered to confer conservation significance at national level while not highlighting that Golden Plover numbers recorded are both of local and regional significance.

Chapter 7 concludes in relation to Woodcock that no population of ecological significance is using the Development. This conclusion is very questionable given the fact that the species was recorded three times during the survey period and given that the development area includes suitable breeding habitat.

In chapter 7, the applicant acknowledges positive identification of the herring gull, however states that these are sporadic sightings in October 2023 and April 2024, and that this bird species is categorised as being BoCCi Amber listed. Chapter 7 suggests no population of ecological significance using the development.

The Herring Gull according to Birdwatch Ireland Birds of Conservation Concern in Ireland 4: 2020-2026 is Amber/Red-listed in Ireland, reflecting moderate to serious conservation concern due to long-term breeding declines. Protecting Herring Gull populations supports the overall resilience and functioning of Ireland's coastal and inland ecosystems. It also reflects its opportunistic nature, to forage within the northern part of the proposed site, photo taken adjacent to Carrigeen, which is recently flooded following a substantial breach of the Morning Star river. Observations of the carcass speculate a raptor was possibly implicated in this kill.



Herring identification 15/11/2025

## Raptors.

Chapter 7 concludes that the Development does not support a population of Barn Owl. With breeding confirmed just outside the 2km buffer zone it is highly likely that Barn Owls use the development area as a regular foraging/hunting zone given that the Development area holds suitable habitat for foraging/hunting.

Chapter 7 concludes that Kestrels use the land within the Development for foraging but surprising given the data soes not make a similar conclusion relating to the barn owl.

## Red Listed Passerines.

Chapter 7 concludes relating to Redwing that a population of ecological significance does not occur within the Development area. This conclusion is again highly questionable given the fact that flocks as large as 450 birds were recorded within the study area.

Chapter 7 states that a local population of Meadow Pipit utilise the lands within the Development site. Any population of Meadow Pipit is significant at a local or county level given that this species has suffered significant declines throughout the county due to modern farming practices.

## Amber Listed Passerines.

Chapter 7 states that local populations of the species listed including Skylark utilise suitable lands within the Development site. Skylark have largely disappeared from lowland farmland areas in County Limerick. It is vitally important that any remaining areas that hold breeding populations of this bird of open grassland as protected.

## Failure to Incorporate EU Biodiversity Strategy and Restoration Targets

The EU Biodiversity Strategy for 2030 and the Nature Restoration Regulation (2024) require member states and local authorities to:

- Restore at least 30% of degraded ecosystems by 2030,
- Ensure restoration contributes to increasing bird abundance and diversity,
- Integrate restoration into spatial planning decisions.

By contrast, the Wind Farm would:

- Remove semi-natural field margins and wetland edges used by declining species,
- Introduce chronic disturbance and fragmentation effects over 255 hectares,
- Provide no credible restoration or offset plan in compliance with EU obligations.

Thus, the proposal is contrary to the Restoration Regulation's intent and undermines Ireland's biodiversity recovery commitments.

## Procedural and Legal Deficiencies

1. **No Demonstrable Compliance with Article 3 of the Birds Directive** – failure to maintain sufficient habitat diversity for all wild birds.
2. **No integration of the Nature Restoration Regulation's restoration obligations** into the planning justification.
3. **No robust cumulative or long-term monitoring framework**, contrary to **EPA (2022)** and **CIEEM (2018)** guidance.
4. **Failure to apply the precautionary principle** where data gaps exist for declining farmland birds.

# Conclusion and Request

Given these fundamental deficiencies, the proposed Wind Farm:

- Contravenes Articles 3 and 4 of the EU Birds Directive,
- Conflicts with Articles 4–6 of the EU Nature Restoration Regulation,
- Fails to comply with Objectives BEO 1–5 and EH 06–09 of the Limerick County Development Plan 2022–2028, and
- Is inconsistent with Ireland's obligations under the National Biodiversity Action Plan 2023–2030.

Accordingly, permission should be refused or further information required, including:

1. A revised ornithological assessment specifically addressing curlew, lapwing, kestrel, snipe, and barn owl.
2. A quantifiable biodiversity restoration and offset plan consistent with EU Regulation 2024/1264.
3. A cumulative population-level impact model for all red-listed farmland and lowland bird species.
4. A legally binding habitat management and monitoring plan with independent ecological oversight.

# Conclusion:

## Irreversible Impacts on Species-Rich, Amber- and Red-Listed Bird Populations

The proposed Wind Farm poses a significant and enduring threat to one of County Limerick's last remaining mosaics of species-rich agricultural and wetland habitat.
The developer's own baseline studies demonstrate that this landscape supports a high density of red- and amber-listed birds, including curlew, lapwing, snipe, barn owl, kestrel, skylark, meadow pipit, and buzzard—all species identified as experiencing severe national or regional declines.

Despite this, the Environmental Impact Assessment Report (EIAR) and associated appendices treat these findings as incidental, categorising effects as "not significant" following unquantified mitigation.
This approach fundamentally undermines the precautionary principle enshrined in Article 191 of the Treaty on the Functioning of the European Union and required under both the EU Birds Directive (2009/147/EC) and the EU Nature Restoration Regulation (2024/1264).
These instruments place clear and legally binding obligations on Member States to halt and reverse the loss of bird populations and their habitats, especially within productive farmland landscapes where biodiversity decline is most acute.

By introducing seventeen industrial-scale turbines, extensive access roads, borrow pits, and grid infrastructure across 255 hectares of mixed farmland and hedgerow networks, the development will:

- Fragment foraging and breeding habitat for ground-nesting waders and small raptors;
- Disrupt feeding corridors and flightlines between Lough Gur, the River Maigue, and surrounding wet grasslands
- Increase disturbance and displacement, particularly during construction and turbine operation.
- And erode ecological connectivity that supports regionally important bird assemblages.
- Increase the collision risk for potential transiting species such as the Hen Harrier (reported with the application) and White-Tailed eagles.

These effects are cumulative, long-term, and effectively irreversible. Once the field networks and hydrological systems are altered, the ecological structure that sustains this bird population cannot be restored within the operational lifetime of the wind farm.

Additionally, raptor populations in Ireland faced historical persecution and a lack of monitoring has been a concern. Conservation efforts and legal protections have helped some species, like the Buzzard, but many still face threats from habitat loss, declining prey, and illegal persecution. So, any loss of raptors in Ireland should not be considered collateral damage from a Wind Turbine project.

In ecological and legal terms, this proposal represents a net loss of biodiversity and a direct contravention of Ireland's obligations under:

- Articles 3 and 4 of the Birds Directive, requiring the protection of habitats for all wild bird species.
- Articles 4–6 of the EU Nature Restoration Regulation, mandating measurable restoration and protection of declining farmland birds;
- And Objectives BEO 1–5 and EH 06–09 of the Limerick County Development Plan, which commit to maintaining ecological corridors, species diversity, and biodiversity net gain.

Granting permission for this development, considering the documented presence of multiple threatened species, would set a dangerous precedent—effectively sanctioning the degradation of a functioning lowland ecosystem of regional significance.

In conclusion, the development would cause substantial, adverse, and irreversible effects on the populations of red- and amber-listed birds in this area, contrary to EU law, national biodiversity policy, and the Limerick County Development Plan.
The precautionary and legal position is therefore unequivocal: planning consent should be refused, or, at a minimum, the application should be required to provide a full, independent reassessment that:

- Quantifies habitat loss for each species of conservation concern.
- Evaluates regional population-level impacts.

And demonstrates genuine alignment with the EU Nature Restoration Regulation's restoration and non-deterioration principles.

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Treaty on the Functioning of the European Union (TFEU) (2008) *Consolidated Version, Article 191 (Environment)*. *Official Journal of the European Union*, C 115/47.

# Appendix 1 — Condensed Summary of Red- and Amber-listed Birds (2013–2025)

*Source: BirdWatch Ireland Clare Branch — Limerick Listings Dataset 2013–2025*

| Species | Location(s) | Date | Qty | Conservation Status |
|---|---|---|---|---|
| Snipe | Camas North | 02/03/2018 | 1 | Red |
| | Camas North | 14/09/2023 | 3 | |
| | Camas North | 15/09/2023 | 14 | |
| | Camas North | 17/09/2023 | 7 | |
| Spotted Redshank | Camas North | 12/09/2023 | 1 | Red |
| | | 06/11/2023 | 2 | |
| Whooper Swans | Athlacca | 28/11/2013 | 17 | Amber |
| | Athlacca | 01/12/2013 | 11 | |
| | Athlacca | 23/12/2014 | 4 | |
| | Athlacca | 28/01/2016 | 2 | |
| | Athlacca | 02/03/2016 | 5 | |
| | Athlacca | 06/01/2013 | 5 | |
| | Camogue & Morning Star River Basins | 18/01/2017 | 58 | |
| | | 19/01/2017 | 41 | |
| | Athlacca | 08/02/2018 | 40 | |
| | Athlacca | 28/02/2019 | 37 | |
| | Athlacca | 28/02/2020 | 21 | |
| | Camas North | 25/10/2021 | 16 | |
| | Athlacca | 16/11/2021 | 32 | |
| | Camas | 14/11/2022 | 14 | |
| | Camas | 16/11/2022 | 3 | |
| | Camas | 07/04/2023 | 5 | |
| | Camas | 23/10/2023 | 2 | |
| | Camas | 11/12/2023 | 58 | |
| | Rathcannon | 14/11/2025 | 5 | |
| Starling | Athlacca | 07/06/2021 | 1 | Amber |
| Wheatears | Athlacca | 28/09/2020 | 2 | Amber |
| Short-eared Owl | Athlacca | 07/03/2016 | 1 | Amber |
| Barn Owl | Dromin | 07/02/2023 | 1 | Red |
| Buzzards | Carrigeen, Bruff | 12/12/2022 | 2 | Green |
| | Ballinlee | 15/04/2022 | 2 | |
| | Dromin | 11/05/2022 | 1 | |
| | | 24/05/2022 | 2 | |

| | | | | |
|---|---|---|---|---|
| | Ballinlee | 14/06/2022 | 2 | |
| | Dromin | 20/06/2022 | 2 | |
| | Ballinlee | 19/06/2022 | 1 | |
| | Dromin | 01/12/2022 | 2 | |
| | Camas | 15/11/2022 | 3 | |
| Kittiwake | Camas | 15/11/2022 | 1 | Red |
| Spotted Flycatcher | Ballinlee | 19/06/2022 | 3 | Amber |
| Ruff | Camas North | 14/09/2023 | 6 | Amber |
| Curlew | Camas | 23/10/2023 | 9 | Red |
| | | 06/11/2023 | 19 | |
| Lapwing | Camas North | 14/09/2023 | 6 | Red |
| | | 15/09/2023 | 6 | |
| | | 17/09/2023 | 5 | |
| | | 23/10/2023 | 22 | |
| | | 15/11/2022 | 79 | |
| | | 03/10/2023 | 25 | |
| | | 06/11/2023 | 165 | |
| Peregrine | Dromin | 11/05/2022 | 1 | Green |
| Golden Plover | Camas | 06/11/2023 | 2 | Red |
| Teal | Camas North | 14/09/2023 | 60 | Amber |
| | | 15/09/2023 | 84 | |
| | | 17/09/2023 | 60 | |
| | | 23/10/2023 | 30 | |
| | | 18/09/2023 | 80 | |
| | Rathcannon | 14/11/2025 | 4 | |
| Shoveler | Camas | 23/10/2023 | 4 | Red |
| | | 03/10/2023 | 34 | |
| | Rathcannon | 14/11/2025 | 6 | |
| Wigeon | Camas | 23/10/2023 | 33 | Amber |
| | | 18/09/2023 | 1 | |
| | Rathcannon | 14/11/2025 | 47 | |
| Lesser Black-backed Gulls | Camas North | 14/09/2023 | 45 | Amber |
| | | 15/09/2023 | 180 | |
| | | 17/09/2023 | 500 | |
| | | 23/09/2023 | 274 | |
| | | 03/10/2023 | 550 | |
| | Rathcannon | 14/11/2025 | 262 | |
| Black-tailed Godwit | Camas North | 14/09/2023 | 1 | Amber |
| Three Ringed Plover | Camas North | 14/09/2023 | 1 | Amber |
| White Thoat | Ballinlee | 15/04/2022 | 1 | Amber |
| | Dromin | 11/05/2022 | 1 | |
| Chiffchaff | Camas | 15/11/2022 | 1 | Green |
| Merlin | Camas | 15/11/2022 | 1 | Amber |
| Dunlin | Camas | 15/11/2022 | 9 | Amber |
| Herring Gull | Rathcanon | 14/11/2025 | 12 | Amber |
| Black Headed Gull | Rathcannon | 14/11/2025 | 161 | Amber |

# Hydrology Expert Report by Dr. Pamela Bartley

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# Water

## Introduction

Dr. Pamela Bartley (Hydro-G) was commissioned by the **'Bruff Dromin Athlacca-Ballinlee Community Action Group'** to independently assess water and flooding related details of a development proposal in their area. This community group was formed when they were informed that a SID application was to be lodged with An Coimisiún Pleanála in relation to the proposed erection of 17 Turbines in the vicinity of their homes. The proposed development is called Ballinlee Green Energy (An Coimisiún Pleanála Case Reference PAX91.323780).

An alleged 'separate' SID application was lodged in the same month by the same company directors for 9 Turbines in Garrane, 4km away, which places the residents of both Bruff and Bruee in a difficult situation to come to terms with a wind park of 26 Turbines. To the ordinary tax payer and resident of Ireland how this can be explained as 'separate' or national 'Strategic Development' is difficult to understand. It is understandable only by investors and investment trust managers, Wind Energy Ireland lobbyists, a few politicians and their appointed civil 'servants'.

Hydro-G's evaluation of case details presented here relates to the proposed Ballinlee Green Energy Wind Farm, grid connection and all associated works – ACP Case File PAX91.323780.

For the purposes of the inspector's own Cumulative Impact potential assessment, if that part of the EIA Directive holds any legal effect in Ireland anymore, the adjacent proposed Garrane investment project, their case file is An Coimisiún Pleanála - Case reference: PAX91.323635.

In the course of Hydro-G's evaluation of the application documents relating to the proposed Ballinlee Project, water related matters became apparent in the subject areas of

1) Inappropriate Site Selection – contrary to the law of EIA in terms of Consideration of Alternatives,
2) Inappropriate Site Investigation Programme creating risks that are unassessed,
3) Wholly inappropriate use of Flood Risk Modelling outputs and other site data,
4) Actual local experiences, and omitted, evidence of flooding,
5) Unacknowledged and unassessed Construction Impacts arising from proposals for a flood zone,
6) Unassessed risks posed to local Public Water Supplies,
7) Incorrect Screening Out of hydrogeological connection to Lough Gur
8) WFD Status & Risk.

In this Hydro-G body of work there is a separate subsection for each of the water related matters.

# Statement of Expertise

Dr. Pamela Bartley is a water focussed civil engineer and is considered an Expert Service Provider (ESP) in service to engineering consultants, planning authorities, the legal profession, Environment Sections of County Councils, Uisce Eireann, The National Federation of Group Water Schemes and nationally important limestone quarries. She has almost 30 years of experience in field-based practice working on construction sites, supervising borehole drilling, completing impact assessments, groundwater monitoring, modelling and abstraction point management. She is considered a specialist in hydrology, hydrogeology, Public Water Supply and extractive industries (quarries).

Pamela is qualified and IOSH certified to act as PSDP (Project Supervisor Design Phase) & PSCS (Project Supervisor Construction Stage) as defined by the Health and Safety at Work (Construction) Regulations. Pamela's limited company is a registered Uisce Eireann Supplier (no. 1855) and Pamela Bartley is HSQE approved within Uisce Eireann as one of their Hydrogeologist Framework service providers. She has advised on some projects advancing Uisce Eireann's NWRP's resultant Supply Demand Programme. Upon completion of a Diploma in Water and Wastewater Technology at Sligo RTC she completed a degree in Civil Engineering at Queens University, Belfast and then completed a Master of Science in Environmental Engineering, which was followed by a hydrogeologically focussed Ph.D. on Groundwater Impact: both postgraduate degrees were completed within the school of Civil Engineering at Trinity College, Dublin.

Her key work areas are the assessment of potential impact to groundwater and surface water arising from large scale rock extraction and groundwater use for PWS. She specialises in the engineering of groundwater and large-scale water supply boreholes for PWS, GWS, Motorway Service Stations & Hotels. Part of her work requires the assessment of Zones of Contribution to Groundwater and Spring Abstraction Points. Other work areas include evaluation of discharges to groundwater and surface waters for compliance with Irish Regulations and the hydrological and hydrogeological assessments required for EIA. She has a skillset in the assessment of groundwater quality for water treatment process parameters and working in collaboration with water treatment plant designers. She is responsible for the successful, legally compliant, attainment of large-scale Section 4 Discharge Licences.

As a result of work in evaluating planning appeals, Pamela has become specialist in planning evaluations in the context of enacted Irish Regulation and EU Directives concerning the water environment such as the Groundwater Regulations (S.I. No. 9 of 2010 & Amendment Regulations S.I. No. 366/2016), Surface Water Regulations (S.I. No. 272 of 2009 & Amendment Regulations S.I. No. 386 of 2015), Water Framework and Habitats' Directives. She has been an invited guest speaker at An Bord Pleanála, The Irish Concrete Federation, The Health Service Executive, Environmental Health Officers National

Conference, The Irish Planning Institute's National Conference, The International Association of Hydrogeologist's National Conference (Irish Branch) and has delivered hydrogeological lectures to the public during Science Week. In the past, she has held full time lecturing positions in third level institutions (WIT & CIT, 1996 – 1999), delivered practical laboratory instruction in the assessment of subsoils for the FETAC Site Assessor programme and also demonstrated hydraulics laboratory and practical field survey tutorial modules at Trinity College Dublin (1996). Pamela is a qualified and certified 'Site Assessor' and has been an interviewer for examination candidates in respect of eligibility for the Site Suitability FETAC Qualification. Pamela Bartley's company is Bartley Hydrogeology ltd., registered to trade as Hydro-G. The company holds the requisite professional indemnity insurance and employers, public and products liability insurances.

## Inappropriate Site Selection

The proposed wind farm at Ballinlee, Co. Limerick is an example of where not to propose large scale construction or a wind farm for many reasons. The townlands in which the development is proposed are listed on An Coimisiún Pleanála's planning portal as Ballincurra, Ballingayrour, Ballinlee North & South, Ballinrea, Ballyreesode, Camas North & South, Carrigeen, Knockuregare, Ballybane and other townlands in County Limerick. The inspector is referred to Figure 1 for the OPW's Flood Mapping for the townlands listed above and proposed for catchment alteration including the creation of internal routes and large construction pads to accommodate excessively abnormal loads.

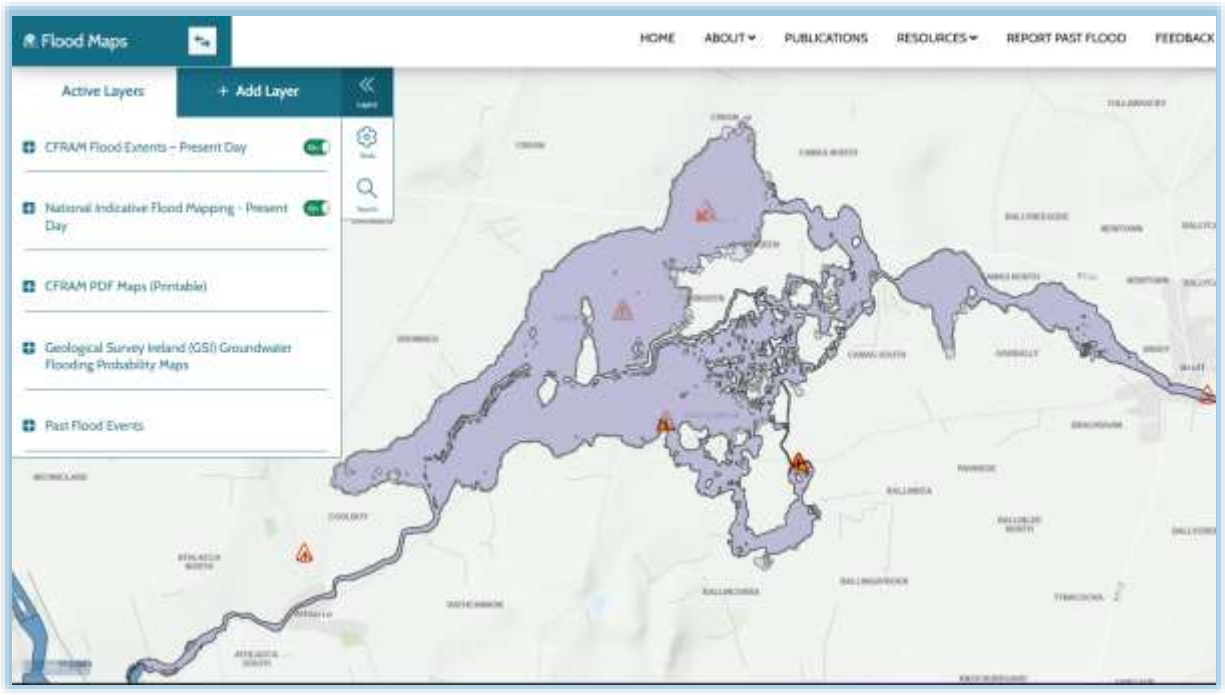



Figure 1 OPW Flood Mapping for the proposed development area.

Hydrological and hydrogeological reasons as to why the 'project scoping' should have ruled out the area include the following:

a. The proposed development area is within an OPW mapped 'Flood Zone A' site, which has a very frequent ACTUAL return period of flooding adjacent to roads that are used by people to go to work and school. Flooding of lands is one thing. Creating a public health hazard is another and should be avoided.

b. The rivers are all mapped as 3rd Cycle At Risk. Whilst construction is not a reported pressure or issue at the moment, that does not mean that construction is viable either.

c. The proximity of the proposed development to Lough Gur Geological Heritage Site (CODE LK024).

## Local Area Flooding

In relation to Flooding, page 39 of the proposed Ballinlee Wind Farm's Flood Risk Report (Appendix 9B, MWP September 2025) presents 'spin' and bias. Neither of these elements are recommended for a Flood Risk Analysis assessment. One needs to read between the lines, with a critical perspective, to realise that the entire development is proposed in an OPW Flood Zone of some scale.

On Page 39 of the FRA (MWP, September 2025), it is stated that:

> *"As can be seen in Figure 4.12 the proposed sub-station is located within Flood Zone C. The majority of the turbines (13 of 17) are located outside of Flood Zone A and Flood Zone B, therefore placing 13 of the 17 turbines in Flood Zone C.*
>
> *The zoning and baseline flood level of each of the turbine and substation is summarised in Table 4.15. The baseline flood extent maps for various scenarios are included in Appendix 2."*

Hydro-G offers that MWP's statement that "The majority of the Turbines (13 of 17) are located outside Flood Zone A and Flood Zone B means that ALL of the Turbines are in some class of a Flood Zone but "4 of the 17 no. turbines are located within Flood Zone A/Flood Zone B" (Conclusions of the FRA, page 54, Appendix 9B).

Hydro-G also invites the inspector to consider that the applicant's agent reports that 4 of the 5 Turbines are in high risk Flood Zones but in actual fact there are 5 in this high risk flood zone. Refer to Flood Zone A and B Maps presented as Appendix 3 of the FRA (Appendix 9B, MWP, September 2025). However, regardless of how many turbines are in the highest risk Flood Zone, it remains that the substation and all turbines are in some class of a Flood Zone. The whole point of FRA used to be that one would consider the results AND ADVISE THAT THE DEVELOPMENT ZONE WAS NOT SUITABLE. Instead, we seem to have a culture in the renewable energy investor industry that results do not matter. The development matters. Risk to humans does not matter. The financial incentives of the RESS trump all other considerations.

The OPW's definition of Flood Zone A is **"Flood Zone A is a designation by the Office of Public Works (OPW) for areas with the highest probability of flooding from rivers and the sea. In this zone, the chance of flooding in any given year is greater than 1% (or 1 in 100 for river flooding).**" The nuances of the actual definition rather than the applicant's agent's text is critically important in terms of risk assessment and planning feasibility. Of particular note is that:

- Flood Zone A is primarily defined as the highest risk area.
- The probability is NOT 1 in 100 year BUT GREATER than 1% IN ANY GIVEN YEAR.

Further, An Coimisiún Pleanála is well aware that development in Flood Zone A is subject to strict planning controls to manage the flood risk. Planning authorities consider the potential impact of new development on flood risk to both the area and surrounding locations.

Why would anyone propose building turbines in a Flood Zone A? - p.25 of volume 4 of Limerick County development plan says "not appropriate" to build highly vulnerable development in Flood Zone A or B. "Highly vulnerable development (including essential infrastructure)" includes, "Essential infrastructure, such as primary transport and utilities distribution, including electricity generating power stations and sub-stations ..."

The Department of the Environment, Heritage and Local Government / Office of Public Works. (2009) *The Planning System and Flood Risk Management – Guidelines for Planning Authorities*. Dublin: Government of Ireland clearly states that

> *"Most types of development would be considered inappropriate in this zone. Development in this zone should be avoided and/or only considered in exceptional circumstances, such as in city and town centres, or in the case of essential infrastructure that cannot be located elsewhere, and where the Justification Test has been applied. Only water-compatible development, such as docks and marinas, dockside activities that require a waterside location, amenity open space, outdoor sports and recreation, would be considered appropriate in this zone". - section 3.5, p.24*

There are vast expanses of the southern region that are not a Flood risk. The proposed Ballinlee Wind Farm area is presented to An Coimisiún Pleanála almost as a test to see how far the Wind Energy lobby groups can push the government's agents. The adjacent proposed Garrane Wind Fram and the Ballinlee Wind Farm areas are amongst the few high-risk flood areas in mid-Munster, the nearest other one being 25km away to NW, and the others 40-50km or more away. The relatively recent study by MKO (April 2025) commissioned by Wind Energy Ireland called, 'Protecting Consumers: Our onshore wind energy opportunity' suggested that more than 1,300 $km^2$ of the Republic of Ireland is suitable for future wind farms. That available area would enable exceedance of the national target of 9GW onshore wind. Why then propose a SID farm in a Flood Zone A. MKO did not assign suitability to Flood Zone A & B Lands, surely.

# Local experiences, and omitted, evidence of flooding.

In the matter of Hydro-G's evaluation of the actual return period and evidence of flooding in the vicinity of the proposed Ballinlee Wind Farm site, local information was provided by the community who have been documenting the experiences along the roads in November 2025.

The Flood Risk Assessment has underestimated the actual frequency of flood events. The area is significantly more flood prone than the Flood Risk Assessment for the proposed development has portrayed it to be.

The fact that that the area's flood frequency has been greatly under-estimated supports a conclusion of no confidence in the Flood Risk Assessment's claim that the development "does not have the potential to significantly increase upstream or downstream flood risk."

The misrepresentation of the absorption capacity of the natural environment in the development area amounts to a breach of Annex III of DIRECTIVE 2011/92/EU. The proposed development should be refused on this basis.

A subset of examples of actual flood experience in lands on all sides of the Morning Star river within the proposed development area and proximity to road users on the 13th and 14th of November 2025 are shown in Figures 2 to 5.



Figure 2 Actual Flood experience (R516) in the proposed development area on the 13th and 14th of November 2025. Normal winter flooding. Not a 1 in 100 Yr Return event. Note vehicles on roads and risks to the public. Loss of flood plain will only exacerbate this.



Figure 3 Actual Flood experience (R516) in the proposed development area on the 13th and 14th of November 2025. Normal winter flooding. Not a 1 in 100 Yr Return event. Note roads and risks to the public. Loss of flood plain will only exacerbate this.



Figure 4 Actual Flood experience (L1414) in the proposed development area on the 13th and 14th of November 2025. Normal winter flooding. Morning Star River bursts its banks as it flows through proposed development area.



Figure 5 Actual Flood experience (L1414) in the proposed development area on the 13th and 14th of November 2025. Normal winter flooding. Not a 1 in 100 Yr Return event. Note roads and private dwellings. Loss of flood plain will only exacerbate risks and frequency of flooding.

## Unassessed Construction Impacts arising from soil compaction flood zone

The proposal to bring large cranes into this wetland and flood zone presents real risks of increasing the already frequent flood experiences.

An Coimisiún Pleanála is requested to compare and contrast the baseline information used to inform the 'no risk' conclusion of the applicant's agents with this independent assessment commissioned by residents of the area. The actual flood experience to date and the frequency of flooding cannot be mitigated by proposing additional heavy load construction at this location.

The actual flood risks presented will result from applying mass loads to a wet soil and thereby destroying what small pore space there may have been. The Flood Risk Assessment HAS NOT simulated the compaction along proposed internal haul routes and construction pads.

Pore space allows some waters to be absorbed in the soils of a flood zone, which this development area is. When abnormal loads are applied to large areas of the flood plain, for the purposes of creating hardstanding for cranes and turbine component part, the characteristic of the soils, porosity and runoff characteristic change. This has neither been acknowledged nor evaluated by the agents for the applicant. This presents increased risk of flooding to the rivers and roads of the area.

Cranes are required to lift the masts and turbine blades.

Counter weights are required to stabilise the cranes.

The cranes and counter weights require enabling roads and land surfaces with the ability to carry 750 tonne weight of a crane itself plus the likely 200 tonne counter weight and the chain and hoist infrastructure.

The pressure of the weight of the crane and counter weight results in destruction of the permeability and pore space of subsoils in the proposed construction areas, which are lands mapped on historic 6" OSI maps as 'liable to flood' and on OPW Flood Maps as High Probability flood extents in this particular river bank setting.

The potential for increased flood risk arising from the change in soil and subsoil structure is not acknowledged by those employed by renewable energy investment firms. An Coimisiún Pleanála is requested to use their own resources, or AI, to fact check potential mass loadings arising from the enabling works that would be required to erect turbines in a flood plain wetland such as at the proposed Wind Farm site. Hydro-G's forays into this realm of AI and civil engineering infrastructure suggest, as follows:

d. Crane weights (ballast/counterweights) and base loadings required for erecting a 3-blade wind turbine with hub heights in the 80 – 95m range and 55 to 66 m rotor diameter ranges in a flood zone is complex and requires a full engineering lift study.

e. When erecting a large wind turbine in a challenging site (wetland, flood-zone) you must account for:

- The crane capacity (lift weight + reach) and corresponding ballast/counterweight.
- Ground support / crane hardstanding and pad design (especially for soft or wet ground).
- Water/flood risk, settlement, high water table, reduced bearing capacity.
- Wind loads during erection (significant for tall hub height & large rotor).
- Transport, crane mobilisation, boom length, luffing or fixed jib, outrigger spread.
- Safety factors, crane manufacturer load charts, method statements, lifting plans.

f. Main Lifting cranes can have a lifting capacity of up to 850 tonnes and a tail crane up to 500 tonnes.

g. The ground pressure under a crane lifting a tower up to 100m, "Every square metre under the heavy crawler chains must be able to withstand a ground pressure of 26 tonnes." theconstructtionindex.co.uk

h. For each of the 17 turbines proposed for Ballinlee Wind Farm a crane of higher higher-capacity range would be required (up to 1000tonne) class cranes depending on component weights and reach).

i. In a Flood Zone, additional measures are required:

- Ground bearing capacity will be lower, so you may need piled support, mats, heavier crane pad substructure, larger footprint.
- Hardstanding for the crane likely needs thicker crushed stone, possibly geotextile, maybe timber/steel mats to distribute loads.
- The crane's outriggers and tracks (if crawler) will impose high ground pressure; you must check ground pressure limits of the site.
- Flood risk means you must ensure crane set-up does not risk stability if water rises or softens ground.
- The lift plan must assume possible higher wind/gust profiles due to exposure in open wetland.

The facts of how crane and ballast weights will impact the drainage systems are not assessed and the omissions presents a health hazard and risk to the public and the WFD's Objectives for waterbodies in the catchment. The inspector and The Commission are requested to investigate and provide detail in their reporting and discussions/voting on this matter.

With respect to the likely loss of flood plain in the proposed Ballinlee Turbine Farm, because the effects have been not considered in respect of the loads placed upon the construction pads and access haul routes, there is no scientific evidence or mathematical detail to support the conclusions in relation to flood or loss of flood plain. As is the case with most renewable energy projects, the FRA is SITE SPECIFIC in the sense that it considers risk posed to their own infrastructure and they do not categorically assess flood risk to national infrastructure adjacent.

## Lough Gur & Grid Connection Risks – Zero Site Investigations or Geophysical Surveys Completed

The Geological Survey of Ireland's Geological Heritage of County Limerick An audit of County Geological Sites in County Limerick (Meehan et al., 2021) discusses Lough Gur in great detail.

The applicant proposes Trench excavations withing 50m of the Lough Gur site. The Wind Farm will be visible from Lough Gur.

Meehan et al. (2021) state that much of Limerick's County Development Plan alludes to Geological Heritage and 'Limerick's Natural Environment' in, in many cases mentioning it in particular.

## Objective EH O11:

Lough Gur Landscape Character Area It is the objective of the Council to:

(a) Safeguard the visual amenity of the area and to have regard to the views and prospects in and out of Lough Gur.

(b) Restrict development including residential development in the area of Special Development Control, shown on map 7.5 except in exceptional circumstances. Appropriate tourism development and extensions to existing properties, which respect the special character of Lough Gur will be considered.

(c) To have regard to the archaeological importance and richness of the area indicated in Map 7.5 as a zone of archaeological amenity. Any developments within the zone will be required to provide for an archaeological examination during the course of excavations or other ground disturbance.

(d) To safeguard the existence of Natural Heritage Areas and the Wildfowl sanctuary when assessing applications for development in the area.

The WFD Report for the Ballinlee energy development incorrectly 'screens out' Lough Gur (Table 5.1, page 36). The reason that the 'screening out' is incorrect is because on page 25 of the same WFD report it is stated that:

> *"The closest features are approximately 50m west of the grid connection route in Grange (2km north of the Holycross crossroads). These consist of a pair of springs that feed headwater streams in the Camoge catchment. It is indicated that these springs are linked to the sinkholes that drain Lough Gur approximately 1.8km to the east, notably the Pollavaddra sinkhole/enclosed depression at the north-eastern end of the lake (O' Connel et al. 2022)."*

Hydro-G advises An Coimisiún Pleanála that the hydrogeology of Lough Gur is complex. NO GEOPHYSICAL SURVEYS HAVE BEEN COMPLETED BY THE APPLICANT in relation to the potential for disturbance of the hydrogeology of the springs feeding Lough Gur, even though the grid connection trenches will be in proximity. Springs and sinkholes are ground surface expressions of a karst groundwater system. The entire EIA is founded on a number of very shallow Trial Pits at the Turbine sites and the proposed quarries ('borrow pits') at the proposed development lands. The entire EIAR is a desk study. The scale of construction proposed by the Ballinlee investors is enormous. The scale of Site Investigation completed by the agent's for the applicant is miniscule.

Previously, the hydrogeologist David Ball reported on the hydrogeology of the area for Limerick County Council in 2004 and his work enabled conclusions, as follows:

- Lough Gur is a lake with a large surface area, maintained by groundwater flow from a very limited catchment area.
- Direct surface run-off from the hills around the lake may occur during prolonged intense rainfall, but the soils are thin and the limestone rocks are permeable, therefore it is probable

that most of the less intense rainfall water feeding into the lake does so via the groundwater system.

- There are no significant streams or a river feeding into the lake. There is no natural surface water course draining water out of the lake. Though, several thousand years ago there was probably a lake to the south, in the area now named the Red bog, and the lakes were perhaps linked in winter or in a wetter climatic period. During these times there was probably a surface water outlet to the south via the Red Bog.
- The main outlet of the lake is artificial. A cutting was made in 1847 to drain water from the lake at the north west corner. The lake level appears to be 6-7 feet lower than it was prior to 1847. This means that prior to 1847 was a natural outlet from the lake through the bedrock. This outlet was probably at the northern end of the lake through Carrigeen Hill, a low hill between Knockfennell and Knockroe.
- The groundwater catchment is larger than the surface water catchment defined by the topography.
- Groundwater flows from beyond the crests of the hills around the lake.

The Geological Heritage of Limerick (Meehan et al., 2021) states as follows:

> *"Ireland's geological heritage stretches back almost two billion years and includes numerous traces of volcanic activity. Of most significance from a geoheritage perspective are those produced between the time of closure of one ocean, the Iapetus, and the opening of another, the Atlantic. Closure of the Iapetus along opposing subduction zones saw volcanic eruptions in the Ordovician period, with volcanic rocks preserved on both the southern side of the ocean (e.g. in Portrane, County Dublin and Avoca County Wicklow) and on the northern side (e.g. in the Longford-Down Inlier). The North Atlantic began opening around 200 million years ago and the ensuing period of crustal rifting eventually led, 65 million years ago, to the creation of the Palaeogene North Atlantic Igneous Province. Then, large volumes of magma were intruded into the crust or erupted through fissures. Traces of Palaeogene volcanism can be found as far south as Dingle in County Kerry but the most important examples are in County Antrim. The Giant's Causeway is the most spectacular example of thick basalt lava flows that covered much of the northern part of Ireland. In between these episodes of ocean closure and opening, the deposition of sediments in the shallow tropical seas of the Carboniferous period was interrupted by a third phase of volcanism.*
>
> *The Limerick Volcanics are among the most significant examples of Carboniferous age volcanism in Ireland and Britain. After the Antrim lavas, they comprise possibly the most extensive and, in places, spectacular exposures of volcanic rocks in Ireland. The volcanic rocks include lavas, tuffs and intrusive rocks and range in composition from alkali basalt to trachyte. The Limerick Volcanics are largely contained within the Limerick Syncline, a distinct oval-shaped basin in east Limerick. Two rock units, the older Knockroe Volcanic Formation and the Knockseefin Volcanic Formation, are interbedded with limestones of the Lough Gur and Herbertstown Limestone Formations. The*

*earliest extrusions in the west were subsequently overlapped by later ones in the east, indicating a gradual eastward migration of the centre of volcanism through time.*

*The Knockroe Volcanic Formation was erupted onto limestone of the Lough Gur Formation. Initially, lithic and vitric tuffs were produced by explosive eruptions when seawater interacted with hot magma in seafloor vents. As the volcanoes developed and emerged from the sea subsequent eruptions were of basalt lava which flowed across the earlier volcanic deposits and onto the limestone seafloor. As individual waned the magma generally became more fractionated, the basalt lava evolving to a more intermediate trachyte. There are numerous occurrences of trachyte in Limerick. It typically forms dykes, filling a fracture or fault, as stocks or plugs, where it filled a former vent, or as sills, emplaced conformably within the limestone strata."*

Lough Gur would not exist if there were not a complex series of faults and folds and differing bedrock types as shown the Cross Sections presented by Ball in 20024, one of which are reproduced here as Figure 6. The significance of this to An Coimisiún Pleanála in their evaluation of the feasibility of the proposed Turbines and grid connection before them is that the agents for the applicant have not considered the layering of bedrock and the faults at all in their proposal to load the landscape and their stated intention to 'borrow' rock for their construction efforts.

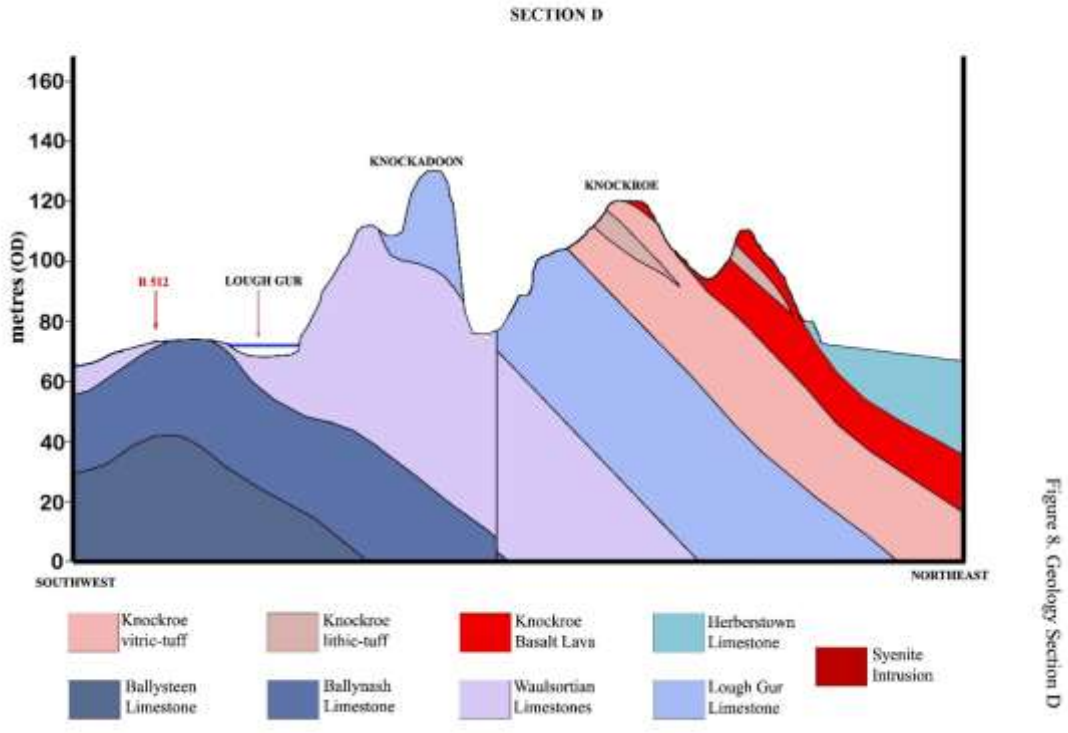



Figure 6 Cross Section through Lough Gur (reproduced from Ball, 2004).

## Private & Public Water Supply Sources – Groundwater

All persons in this part of Limerick are fed by groundwater sources. Many private wells exist and most of those will not be registered on the GSI Well Database. That is an archaic system of registration and does not represent the true facts of a proposed development area. However, because the EIA was completed using only desktop information and no meaningful community engagement was completed at the design evaluation stage, local people did not have an opportunity to register their wells.

All local towns and their environs rely on Public Water Supply or Group Water Scheme groundwater sources from springs and boreholes. Villages supplied with groundwater as a source of drinking water are Bruff, Hospital, Knockainey and Fedamore. Many of the PWSs in the area are part of the Uisce Eireann Supply Demand Balance Programme in which the towns have been identified as growth settlements are require more water.

There is no evidence of meaningful assessment or engagement with Uisce Eireann or local Group Water Schemes. The potential for Grid Connection enabling works to damage mains water supplies and interrupt supply of potable water to the community and local businesses has not been assessed.

## Climate Change Adaptation and Maladaptation

Whilst climate change mitigation is important, in this case it runs counter to climate change adaptation. The siting of alleged solutions cannot be in areas where it would make climate adaptation more difficult for the local community (in this case, adaptation to high, and increasing, flood risk). Indeed, the regional economy would suffer if it were put at greater risk of flooding.

Maladaptation refers to actions or strategies that, while intended to address the challenges posed by climate change, inadvertently exacerbate the problem, or create new vulnerabilities. This can occur when adaptation measures are poorly planned, misaligned with the local conditions, or fail to account for long- term consequences.

The Ireland National Adaptation Framework – National Adaptation Plan 2025 (NAP 2025) - published by United Nations Framework Convention on Climate Change (UNFCCC) states as follows:

- p.42, "Avoiding Maladaptation: Ensure that adaptation actions do not inadvertently create new vulnerabilities or exacerbate existing ones."

- "Consideration of Climate Mitigation: Ensure that climate mitigation outcomes are considered alongside adaptation planning where appropriate."

- p. 47, As part of its annual review, the CCAC also considers developments made in terms of supporting a just transition in terms of both mitigation and adaptation – noting in its 2023 review the need to accelerate the integration of the just transition principles across all mitigation and adaptation policy development and implementation".

- "In general, development in areas with a high risk of flooding should be avoided as per the sequential approach" and only mentions towns and cities as exceptions, section 3.3 of TII Strategic Flood Risk Assessment of National Roads 2040 Strategy (April, 2023).

## Discussion

Hydro-G invites An Coimisiún Pleanála to place on public record in the inspectors report, and in the minutes of the Board Meeting to discuss this case, why would development of excessively abnormal loads and associated infrastructure be suitable development for a Flood Zone? It would seem to observers to the 'gold rush' for curtailment payments and the renewable Energy Support Scheme (RESS) that agent's for the investors are claiming that *"RED III also places the presumption of overriding public interest for renewable energy projects (Imperative Reasons for Overriding Public Interest - IROPI) on a permanent footing. Article 16f of the Directive states that Member States must ensure that in the permit-granting procedure, the planning, construction and operation of renewable energy plants, their connection to the grid, the grid itself and storage assets are presumed to be IROPI."*

Hydro-G invites An Coimisiún Pleanála to place on public record in the inspectors report, and in the minutes of the Board Meeting to discuss this case, whether An Coimisiún Pleanála considers that the only suitable places for Turbine farms remaining in Ireland are Flood Plains and therefore the health and safety of rural communities are considered secondary in the IROPI energy demands of those choosing to reside in cities? If An Coimisiún Pleanála were prone to the opinion that flood plains are suitable or that only flood plains remain for the development of turbine farms then they are incorrect. The issue is that the investment fund led, rather than government led, renewable energy programme is intent on remaining on shore because the financial gains are less when the costs of offshore construction are considered. The government's 'privatisation of energy' drive is placing a strain on rural communities, the natural environment and An Coimisiún Pleanála itself. The continued selection by investment companies of unsuitable locations for their participation in the EU compensation scheme of RESS should be refuted by the planning authorities. Flood Plains are no place for this scale of infrastructure.

Similarly, it is not only 17 turbines that are proposed for the site. The same company directors are the applicants for the 9 Turbine proposal at 4km distance. Although An Coimisiún Pleanála has made a decision this year (Bord Pleanála Case reference: PL03.321285; Clare County Council PL reference 2460411) that seems to infer that the EIA Directives requirements for Cumulative Impact Assessment are

no longer law in Ireland, for some reason, I urge you to consider all the developments for this area of east Limerick cumulatively. That would be a Strategic Approach to development. Relevant Case file references for the three wind farm projects currently under consideration by Planning Authorities are:

- Garrane Wind Farm, grid connection and all associated works – ACP Case File PAX91.323635.
- Ballinlee Wind Farm, grid connection and all associated works - ACP Case File PAX91.323780.
- Ballynisky Wind Farm, County Limerick – Limerick County Council PL Ref 2561003.

In total, 33 Turbines Masts, 100's of Kms of internal enabling roads and 3 different Grid Connections are proposed in a relatively small area of Ireland: south Limerick.

## Conclusions and Significance of Lacunae

The misrepresentation of current flooding in this area amounts to a breach of The EIA Directive (2011, as amended 2014, 2020) on the assessment of the effects of certain public and private projects on the environment. With reference to wind energy projects, Point 2 in Annex III of the parent directive clearly states that, "The environmental sensitivity of geographical areas likely to be affected by projects must be considered, having regard, in particular, to:

(a) the existing land use.
(b) the relative abundance, quality and regenerative capacity of natural resources in the area;
(c) the absorption capacity of the natural environment, paying particular attention to the following areas:
    (i) wetlands; … "

Attention is drawn here to the *legal obligation* to consider "the absorption capacity of the natural environment". The failure to recognise the true frequency of past and current flood events means that the natural environment's absorption capacity has not been given proper consideration.

The inadequate consideration of the hydrogeology of Lough Gur and the lack of any geophysical evaluations are risks to the Grid Connection, which is a risk to the Turbine proposals.

All of the Turbines and the Sub Station are proposed in lands mapped as some class of Flood Risk. Five Turbines are proposed in Flood Zone A in which development is not advised. The Department of the Environment, Heritage and Local Government / Office of Public Works. (2009) *The Planning System and Flood Risk Management – Guidelines for Planning Authorities*. Dublin: Government of Ireland clearly states that

> *"Most types of development would be considered inappropriate in this zone. Development in this zone should be avoided and/or only considered in exceptional circumstances, such as in city and town centres, or in the case of essential infrastructure that cannot be located elsewhere, and*

*where the Justification Test has been applied. Only water-compatible development, such as docks and marinas, dockside activities that require a waterside location, amenity open space, outdoor sports and recreation, would be considered appropriate in this zone". - section 3.5, p.24*

The proposal put before the residents of Bruff Dromin Athlacca and Ballinlee are unjust and present a strong case for maladaptation of the pressing need for climate solutions that do not make matters worse. Flooding will certainly become worse in this area. Flooding is already a problem in this area.

## Recommendation

On the basis of the proposed development within a Flood Zone, it is recommended that An Coimisiún Pleanála refuse the application on the grounds of an inappropriate landscape position.

On the basis of risk posed by the proposed grid connection to the groundwater feeds to Lough Gur, it is recommended that An Coimisiún Pleanála refuse the application on the grounds of an inappropriate landscape position of a Grid route at 50m from a Geological Heritage site.

## References

Meehan et al. (2021) The Geological Heritage of County Limerick An audit of County Geological Sites in County Limerick 2021. Geological Survey of Ireland, Heritage Council & Limerick County Council. Robert Meehan, Vincent Gallagher, Ronan Hennessy and Clare Glanville. Available at

chromeextension://efaidnbmnnnibpcajpcglclefindmkaj/https://gsi.geodata.gov.ie/downloads/Geoheritage/Reports/Limerick_Audit.pdf

O'Connell et al (2022) Characterization of seasonal groundwater origin and evolution processes in a geologically heterogeneous catchment using geophysical, isotopic and hydro-chemical techniques (Lough Gur, Ireland) available at:

https://www.researchgate.net/publication/363814331_Characterization_of_seasonal_groundwater_origin_and_evolution_processes_in_a_geologically_heterogeneous_catchment_using_geophysical_isotopic_and_hydro-chemical_techniques_Lough_Gur_Ireland

# Land & Soils

## Executive Summary

The proposed Ballinlee Wind Farm comprises 17 turbines with associated infrastructure requiring 167,592m$^3$ of aggregate for construction. The developer claims 99,852m$^3$ (61%) will be sourced from on-site quarries (referred to in the EIAR as borrow pits), with only 67,740m$^3$ (39%) requiring import by truck. This aggregate sourcing strategy is central to the entire Environmental Impact Assessment Report (EIAR), underpinning traffic predictions, material management plans, and environmental impact assessments across multiple chapters.

Our detailed investigation reveals this strategy is built on a foundation of inadequate investigation, untested assumptions, and demonstrably false statements. The evidence suggests that the quarries will not deliver the claimed aggregate volume, meaning actual construction impacts, particularly HGV traffic through our community, will be 14-28% greater than assessed, with the potential for impacts up to 84% greater in a worst-case scenario.

This is not speculation. This assessment is based on the developer's own documentation, which, when systematically cross-referenced, reveals a pattern of procedural failures and substantive deficiencies that render the EIAR unreliable.

## The Investigation Timeline: Design Before Evidence

The sequence of events tells a story fundamentally at odds with professional best practice. Proper site investigation should inform design decisions: investigate the ground, understand what you have, then design based on findings. The Ballinlee timeline reveals the opposite: design commitments were made first, then investigations were conducted afterwards to validate those pre-determined decisions.

August 6-9, 2024: The first site investigation occurred, but focused exclusively on turbine locations. Twenty-four trial pits were excavated by Northwest Geotech to assess ground conditions for turbine foundations. Groundwater was encountered at two locations (TP04 at 1.40m depth, TP16 at 2.20m depth). The investigation report (Appendix 8A) appropriately included a disclaimer noting that "exploratory positions for potential *borrow pits* shown are indicative," because these locations, though marked on plans, had not yet been investigated (Fig 1)

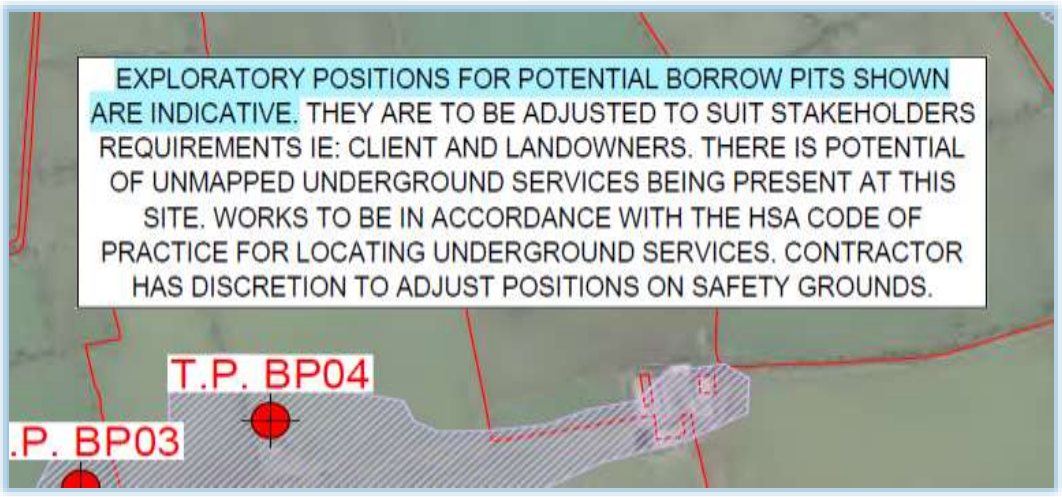
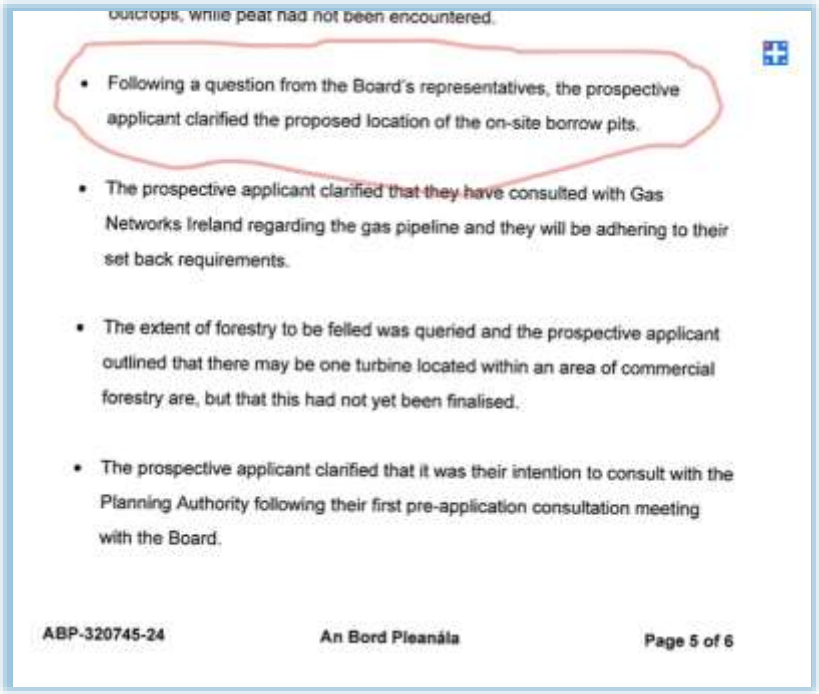



*Figure 1: From Appendix A of Appendix 8B confirming borrow pit locations were not confirmed as of August 2024*

Between August and November, design work proceeded. Turbine locations were finalised, site layouts determined, aggregate requirements calculated, and critically, the quarry (borrow pit) locations selected and incorporated into the design, all without any investigation of whether those locations contained suitable material.

October 25, 2024: The developer attended a pre-application consultation with An Bord Pleanála and "clarified the proposed location of the on-site *borrow pits*." They presented specific quarry (borrow pit) locations to the planning authority that had never been investigated (Fig. 2). This was not proper practice. It was presenting assumptions as if they were validated findings.


outcrops, while peat had not been encountered.

- Following a question from the Board's representatives, the prospective applicant clarified the proposed location of the on-site borrow pits.
- The prospective applicant clarified that they have consulted with Gas Networks Ireland regarding the gas pipeline and they will be adhering to their set back requirements.
- The extent of forestry to be felled was queried and the prospective applicant outlined that there may be one turbine located within an area of commercial forestry are, but that this had not yet been finalised.
- The prospective applicant clarified that it was their intention to consult with the Planning Authority following their first pre-application consultation meeting with the Board.

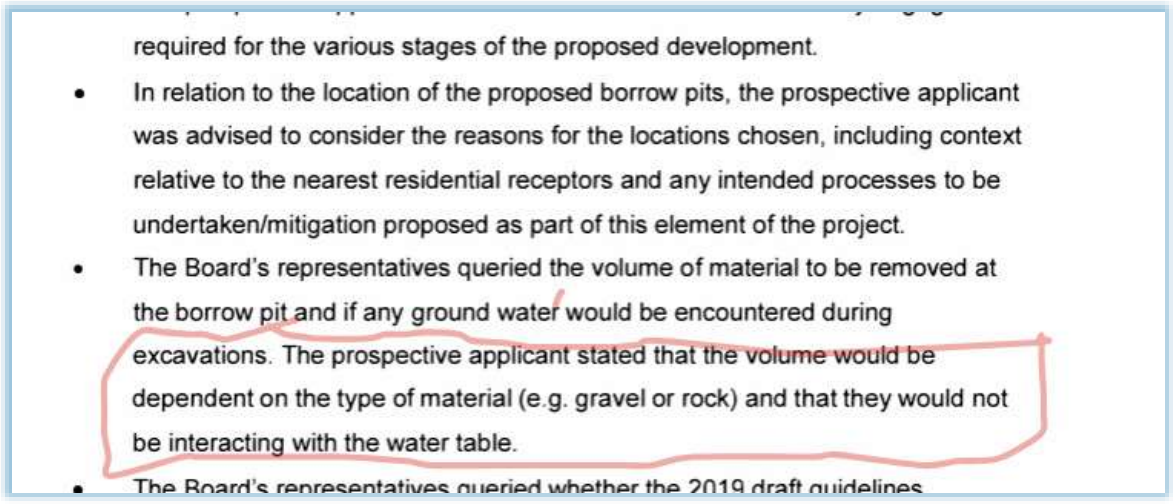
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*Figure 2: Extract from minutes of the pre-planning meeting between the applicant and An Coimisiún Pleanála 25/10/24 [https://www.pleanala.ie/en-ie/case/320745 Accessed 27/10/2025]*

November 29, 2024: Almost five weeks after the pre-application meeting, the first borrow pit investigation occurred (Appendix 8B). This was not a coincidence. This action has all the characteristics of an emergency response. An Bord Pleanála had questioned the borrow pits, and the developer scrambled to investigate locations they had already committed to. Five trial pits were excavated (TPBP10, 11, 13, 15, 16). None encountered groundwater at this transitional autumn season, but the material descriptions raised concerns: "gravelly, sandy CLAY," "gravelly, sandy SILT"—these are soil classifications, not rock. The pits terminated at 1.8-2.7m depth when excavators hit boulders or reached their limit.

February 7, 2025: Seventy-one days later, a second investigation phase occurred, suggesting the first was insufficient. Four additional trial pits (TPBP17, 18, 19, 20) were excavated. This time, in late winter with groundwater tables at seasonal highs, two of the four pits encountered groundwater: TPBP18 showed seepage at 2.3m depth, and critically, TPBP19 showed water ingress at just 1.0m depth, the shallowest groundwater observation across the entire site (Appendix 8B).

March 20, 2025: At the second pre-application consultation, forty-one days after finding groundwater at 1.0m depth, An Bord Pleanála asked the critical question: "Will groundwater be encountered during excavations?" The developer responded: "They would not be interacting with the water table." This was mathematically false. (Fig. 3).



required for the various stages of the proposed development.

- In relation to the location of the proposed borrow pits, the prospective applicant was advised to consider the reasons for the locations chosen, including context relative to the nearest residential receptors and any intended processes to be undertaken/mitigation proposed as part of this element of the project.
- The Board's representatives queried the volume of material to be removed at the borrow pit and if any ground water would be encountered during excavations. The prospective applicant stated that the volume would be dependent on the type of material (e.g. gravel or rock) and that they would not be interacting with the water table.
- The Board's representatives queried whether the 2019 draft guidelines

*Figure 3: Minutes of the second preplanning, 20th March 2025 meeting between An Coimisiún Pleanála and the applicant [https://www.pleanala.ie/en-ie/case/320745 Accessed 27/10/2025]*

Borrow pit excavations extend to 2.0m depth. Groundwater at 1.0m depth plus excavation to 2.0m depth equals interaction with the water table. The developer had forty-one days to process this information and prepare an honest answer. The false statement was deliberate, not mistaken.

September 2025: The EIAR was submitted. Chapter 8 claims the borrow pits will provide 99,852m$^3$ of aggregate. Chapter 9 (Water) states, "groundwater was not encountered at the trial pits at the proposed borrow pit sites," perpetuating the false narrative (Fig. 4).

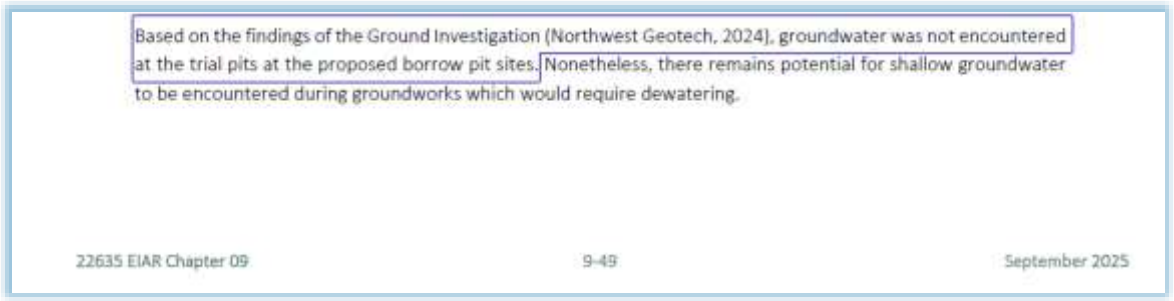



*Figure 4: Statement from Chapter 9 Water, which is inconsistent with the data in Appendix 8B*

Chapter 16 (Traffic) explicitly adopts the aggregate assumptions, stating "99,852m³ (61%) of aggregate materials will be sourced from on-site borrow pits" and assessing 17,819 total HGV loads based on this premise.

This timeline proves the investigation was reactive, not proactive. The quarry (borrow pit) locations were selected before investigation, presented to the planning authority before investigation, and then investigated as a reaction to being questioned about them. Even after the trial pit investigations revealed problematic conditions (e.g., unsuitable glacial till material, groundwater at multiple locations) the locations were confirmed on planning drawings without adjustment. This is backwards engineering: start with the answer you want, then conduct minimal investigation, hoping to validate it.

## The Investigation is Inadequate

Even setting aside the reversed timeline, the borrow pit investigation falls dramatically short of industry standards. The borrow pit area totals 60,700m², yet was investigated with only nine trial pits. Industry standards and professional guidance specify trial pit spacing of 25-50m for borrow pit assessment, which for this area requires 20-40 trial pits minimum. The Ballinlee investigation represents 50-70% below recognised standards (ref CIRIA C665 – Assessing Geotechnical Risks on Construction Projects (2009)).

Why does density matter? Borrow pit material is inherently variable. This site has glacial till deposits, which are heterogeneous mixtures of clay, silt, sand, gravel, cobbles and boulders. The aggregates the developer requires for use in the proposed development are rock, not the soils that they have investigated. Furthermore, ground conditions can change dramatically over short distances. You cannot reliably characterise 60,700m² of variable glacial deposits with nine widely spaced trial pits. The investigation provides snapshots at nine points but tells us nothing about the material between those points. Nine trial pits across 60,700m² (one pit per 6,744m²) are manifestly insufficient.

The depth inadequacy compounds this problem. Most trial pits terminated at 1.8-3.0m depth because excavators hit boulders or reached their operating limit (Appendix 8B). (Trial Pits are the cheapest type of Site Investigation technique available.) Only TPBP19 reached presumed bedrock at 1.0m depth. The others stopped when mechanical excavation became impossible, encountering boulders within glacial till rather than continuous bedrock. Yet the developer proposes to excavate

to 2.0m depth and claims to know how much extractable rock exists below that depth. Without rotary core drilling through the boulder layer to actual bedrock, they don't know the depth, quality, or volume of extractable rock. The developer is guessing!

Most critically, no aggregate quality testing is reported. Not a single sample was sent to a laboratory for testing. No Los Angeles Abrasion test (which measures wear resistance and is required by Transport Infrastructure Ireland specifications. LAA must be less than 30 for structural concrete, less than 40 for road sub-base. No California Bearing Ratio test (which measures bearing strength required for road construction). No particle size distribution analysis (which determines whether grading meets specifications for different uses). No chemical testing for chlorides or sulphates (which affect concrete durability).

Instead, the developer uses the Geological Survey of Ireland's online mapping showing "very high crushed rock aggregate potential" in the area. This is a regional-scale desktop assessment, not site-specific testing. It shows what the bedrock geology might theoretically provide, not what the actual material at these specific locations will deliver. The developer's own admission of uncertainty came at the March 20 pre-application meeting when asked about material volumes: "It depends on the type of material (e.g., gravel or rock)." See Fig. 3.

As well as not knowing the quantity of material available, the developer also does not know what material type they have, because they never tested it.

## The Material is Unsuitable

The trial pit logs, read carefully, tell a clear story: this is not competent rock suitable for crushing into high-quality aggregate. This is glacial till—soil containing boulders. Every single trial pit describes the material using soil mechanics terminology: "gravelly, sandy CLAY with cobbles and boulders," "gravelly, sandy SILT," "silty, gravelly SAND." In soil classification, when you capitalise CLAY, SILT, or SAND, these are the dominant materials. The lowercase modifiers (gravelly, sandy) indicate minor components. This is textbook glacial till: a heterogeneous soil deposit left by glacial action, mixing everything from clay to boulders. This material is of no use to the developer. They need rock.

The excavation method proves this. All nine trial pits were excavated using standard backhoes—JCB Sitemaster Plus and Yanmar Vio 50 machines. These are everyday construction excavators, not specialised rock excavation equipment. If the material was competent bedrock with "very high crushed rock aggregate potential" as claimed, it could not be excavated with a standard backhoe. It would require hydraulic rock breakers or blasting. The fact that excavators could dig through this material until hitting individual boulders proves it's a soil matrix containing boulders, not solid rock. When the developer states that "extraction of rock may be undertaken by a combination of rock breaking and ripping," they're describing how to extract boulders from soil, not how to quarry bedrock.

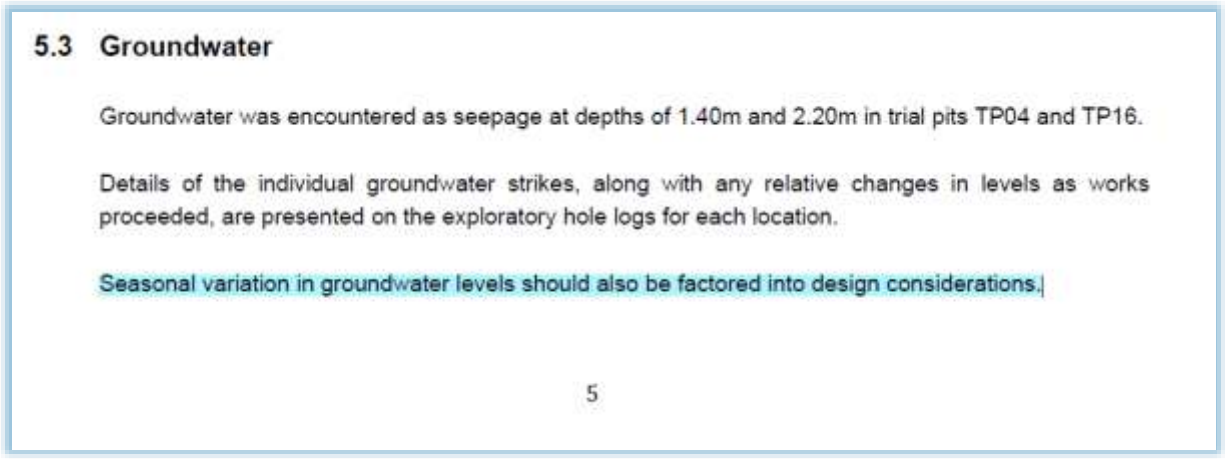
Chapter 8 claims "depth to rock layer varies from 0.5 to 1.5m below ground level." The trial pit logs contradict this claim. Only one pit—TPBP19—encountered presumed bedrock at 1.0m depth (and notably, none hit anything at 0.5m). The other eight pits reached 1.8m to 3.0m depth before stopping. That's 89% of the trial pits encountering material well beyond the claimed 1.5m maximum depth. The claim appears to cherry-pick the shallowest observation while ignoring the overwhelming majority of data points. This matters because if overburden thickness averages 2-2.5m (as the data suggests) rather than 0.5-1.5m (as claimed), there's much less extractable material and much more overburden to remove and store.

The crushing characteristics of glacial till are poor. High clay and silt content means crushing produces excessive fines (dust-sized particles), making the material unsuitable for many structural applications. The variable nature, clay lenses mixed with sandy zones, mixed with gravel and boulders, means inconsistent product quality. Some loads might be acceptable, others rejected. This is not a reliable aggregate source for precision applications like turbine foundation concrete, where specifications are strict and material must be consistent. The GSI "very high crushed rock aggregate potential" refers to the bedrock geology beneath the glacial till. But the trial pits couldn't reach that bedrock—they hit boulders in till and stopped. Without core drilling through the glacial deposits to the actual bedrock, the theoretical "high potential" bedrock remains inaccessible.

## The Groundwater Deception

The treatment of groundwater in this EIAR crosses from inadequacy into active misrepresentation. The Water chapter states explicitly: "Groundwater was not encountered at the trial pits at the proposed borrow pit sites." (see Fig. 4). This statement is false. The trial pit logs from February 7, 2025, clearly record TPBP18 "seepage at 2.3m below ground level" and TPBP19 "light ingress at 1m below ground level." That's two of nine borrow pit trial pits encountering groundwater, a 22% encounter rate (appendix 8B).

Additionally, the August 2024 site-wide investigation found groundwater at TP04 (1.40m depth) and TP16 (2.20m depth), proving groundwater presence across the wider site. The Ground Investigation Report (Appendix 8A) states clearly: "Groundwater was encountered as seepage at depths of 1.40m and 2.20m in trial pits TP04 and TP16" and includes an explicit warning: "*Groundwater levels usually vary due to seasonal and other effects, and may differ from those recorded during the investigation. Factor in seasonal variation in groundwater levels during design considerations*." (fig. 5)



5.3 Groundwater

Groundwater was encountered as seepage at depths of 1.40m and 2.20m in trial pits TP04 and TP16.

Details of the individual groundwater strikes, along with any relative changes in levels as works proceeded, are presented on the exploratory hole logs for each location.

Seasonal variation in groundwater levels should also be factored into design considerations.

5

*Figure 5: Advice in re Groundwater monitoring and analysis from Nortwest Geotech to the developer in August 2024 (appendix 8A)*

The developer ignored this warning. The investigation occurred in August (dry season with groundwater at annual lows), November (transitional season), and February (wet season with groundwater rising). The pattern is revealing: the November investigation (Phase 1, five pits) found no groundwater. The February investigation (Phase 2, four pits) found groundwater at 50% of locations. This validates the seasonal variation warning—as the investigation moved into wetter months, groundwater was encountered at shallower depths. Yet neither the Soils nor the Water chapters assessed seasonal variation. Construction will span 18-24 months, inevitably including multiple winter and spring periods when groundwater tables are at their highest. The February observation of groundwater at 1.0m depth suggests that during peak wet season (March-April), groundwater could be at or near ground surface (0.0-0.5m depth with typical 0.5-1.0m seasonal variation).

The false statement to An Bord Pleanála on March 20, 2025, cannot be excused as oversight. When ABP asked directly "will groundwater be encountered during excavations?", the developer answered "they would not be interacting with the water table." (Fig. 3) This was forty-one days after the February 7 investigation that found groundwater at 1.0m depth. Forty-one days to process the data, understand that excavating to 2.0m depth when groundwater is at 1.0m depth constitutes interaction, and prepare an honest response. The developer had the information, understood the question, and chose to provide a false answer. This suggests a deliberate strategy to minimise groundwater concerns to avoid triggering requirements for detailed dewatering assessment, groundwater modelling, private well surveys, and more robust environmental impact evaluation.

The implications for our community are significant if borrow pit dewatering occurs. Pumping groundwater from 60,700m$^2$ of excavation at 2.0m depth for months would lower the water table across a zone of influence extending 250-500m from the excavation, depending on pumping rates and aquifer properties. Several households in our community rely on private wells for domestic water supply. The EIAR contains no survey of private wells, no baseline water quality or quantity monitoring, no assessment of dewatering impacts on well yields, and no mitigation measures if

wells are affected. The Water chapter's vague statement that dewatering "will be allowed to infiltrate to ground at an appropriate buffer from watercourses (≥20m)" provides no detail on pumping volumes, discharge locations, water treatment for sediment removal, or monitoring protocols. The 20m buffer appears arbitrary; no hydrogeological modelling or zone-of-influence calculation justifies this distance. Furthermore, discharging to ground in the clayey/silty glacial till described in trial pits is problematic—low permeability means water will pond rather than infiltrate, potentially overflowing during storm events despite the buffer.

## The Traffic Implications

Chapter 16 (Traffic & Transportation) makes the direct connection we need to understand community impacts. It states explicitly: "99,852m³ (61%) of aggregate materials will be sourced from on-site borrow pits." The traffic assessment of 17,819 total HGV loads (11,405 for the wind farm site, 6,414 for grid connection) is premised on this aggregate sourcing assumption adopted from Chapter 8. (Fig. 6) If the quarry (borrow pit) assumption is wrong, the traffic assessment is wrong.

**Table 16-9: Proposed Construction Works Heavy Vehicle Loads**

| Works | Total Number of Heavy Vehicle Loads | | |
|---|---|---|---|
| | Total Construction (24 months) | Peak Daily | Highest Hour |
| Windfarm and Substation Site Works (24 months) | 11,405 | 142 | 16 |
| Public Roads' Grid Connection Works (6 months) | 6,414 | 42 | 6 |
| **Total (24 months)** | **17,819** | **142** | **16** |

*Figure 6: Chart (from Chapter 16) showing the applicant's assessment of HGV loads required at the Windfarm site. (Each load requires a journey to and from the site.)*

Let us work through the mathematics. Total aggregate requirement is 167,592m³. If the quarries deliver the claimed 99,852m³, only 67,740m³ requires import. That's 3,387 truck deliveries at 20m³ per truck. But if borrow pits deliver only 50% of the claim (which seems optimistic given the unsuitable glacial till and groundwater issues), import requirement rises to 117,666m³, requiring 5,883 deliveries, or an additional 2,496 truckloads generating 4,992 extra HGV movements (accounting for empty return trips). That's 14% more traffic than assessed. If borrow pits fail completely, which the trial pit evidence suggests is a distinct probability, 100% import is required, or 8,380 aggregate deliveries, adding 4,993 loads beyond the assessment, increasing total project traffic to 22,812 movements, a 28% increase over the assessed 17,819.

These percentages translate to real impacts on real roads. The assessed traffic identifies critical constraints: the R516 is only 4.6-5.3m wide with a one-way alternating system at the River Camoge bridge that already creates delays. Local roads L8012 and L8011 are 3.7m and 4.2m wide, respectively. This means they are effectively single-track roads where two HGVs cannot pass, requiring reversing to passing places. The L1170 has a posted three-tonne weight restriction, yet would need to accommodate 32-tonne HGVs. The Traffic chapter predicts peak daily traffic of 284 HGVs (388 total vehicles including cars), concentrated during hardstand formation, access track works, and turbine base concrete pours. Add 14-28% more HGVs (or potentially up to 84% more in the worst-case scenario where borrow pits fail and all excavated material requires off-site disposal), and these constrained roads become impassable. School runs, agricultural operations, emergency vehicle access, and daily commuting—all of this normal life happens on these roads. Our community will experience this traffic, this disruption, this wear on the infrastructure we depend on. And it will be worse than assessed because the aggregate assumptions are wrong.

## The Cascade Failure Risk

The EIAR's entire material management strategy rests on the viability of on-site quarries (which they refer to as borrow pits), creating a house-of-cards dependency where one failure cascades into multiple unassessed impacts. The plan shows elegant circularity: extract rock from borrow pits for aggregate, excavate material during construction, backfill borrow pits with excavated material, and restore to pasture. But this only works if borrow pits happen. If borrow pits prove unviable, which the evidence strongly suggests, the entire system collapses.

Construction will generate approximately 167,000$m^3$ of excavated material (turbine foundations, access tracks, substation, hardstands, drainage works, on-site cable trenches). Chapter 8's plan is to place this material in the quarry voids created by rock extraction. Without borrow pit extraction, there are no voids. The designated on-site deposition areas can accommodate only 65,625$m^3$ (based on 43,750$m^2$ footprint at 1.5m height), leaving approximately 100,000$m^3$ with nowhere to go. This material requires off-site disposal at licensed facilities, generating roughly 5,000 additional truck loads (10,000 HGV movements accounting for return trips). Simultaneously, with no on-site aggregate source, 100% of the 167,592$m^3$ required aggregate needs importing, adding approximately 4,993 truck deliveries beyond the assessed 3,387. The combined effect—importing aggregate while simultaneously removing excavated material will generate approximately 15,000 additional HGV movements beyond the assessed 17,819 total loads. This represents an 84% increase in construction traffic traversing the same narrow rural roads, inadequate for the assessed volumes.

The additional 15,000 HGV movements consume approximately 210,000 litres of diesel, generating 550 tonnes of $CO_2$ emissions, not assessed in the climate chapter. Road damage, dust, noise, and safety hazards all scale with traffic. 84% more movements means 84% more of every impact. Our community would experience nearly double the predicted disruption, yet none of this realistic scenario has been assessed or mitigated.

The risk is not theoretical. It is probable, given the inadequate investigation and clear evidence of unsuitable material. Proper EIA practice requires assessing reasonable alternatives and worst-case scenarios. The EIAR should have evaluated the borrow-pit-failure scenario and demonstrated mitigation or alternative sourcing. Instead, it gambles everything on an unproven assumption, externalising the risk onto our community. If borrow pits fail during construction, the developer will cite "unforeseen ground conditions" despite those conditions being entirely foreseeable from proper investigation. Permission will have been granted, and we'll bear the consequences.

# Conclusion: Why does this matter?

This analysis is not anti-development or anti-renewable energy. Ireland's climate commitments require substantial wind energy deployment, and well-planned, properly-assessed wind farms are part of our energy future. But this specific EIAR, for this specific development, is unreliable and bodes ill for the future of sustainable development in this country.

## Procedural failure

The investigation timeline proves design preceded adequate investigation. The investigation itself falls 50-70% below industry standards in density and lacks any aggregate quality testing. The material evidence (e.g., glacial till, not rock) contradicts claims of "very high crushed rock aggregate potential." The groundwater misrepresentation (e.g., false statements to An Bord Pleanála and in the EIAR itself) undermines trust in the entire assessment. The traffic analysis, explicitly dependent on unproven aggregate assumptions, underestimates community impacts by 14-28% (potentially 84% in worst-case). The material management strategy, entirely dependent on borrow pit viability, has no assessment of failure scenarios.

These are not minor technical disagreements or alternative professional interpretations. These are documented procedural violations, provable false statements (own data showing groundwater at 1.0m contradicts claim of "no interaction with water table"), systematic inadequacy (investigation 50-70% below standards, zero testing), and underassessed impacts (cross-chapter dependency on unproven assumptions). An Coimisuin Pleanala cannot grant permission when the foundational investigation is this flawed, when false statements were made during statutory consultation, when industry standards for material testing were not followed, and when realistic impact scenarios were not assessed.

## Legal implications

Our community deserves accurate information about what impacts we will experience. NPWS's website (https://www.npws.ie/legislation/eudirectives/eia-directive ) states that the Environmental Impact Assessment (EIA) Directive relates to the assessment of the effects of certain public and private projects on the environment. It aims to ensure a high level of environmental protection and that environmental considerations are integrated into the preparation and authorisation of projects. This objective is achieved by ensuring that environmental assessment of certain public and private

projects ..... is carried out prior to their authorisation. Amending legislation (Directive 2014/52/EU) was adopted in 2014. In line with the drive for smarter regulation, it:

A. helps reduce administrative burden
B. improves the level of environmental protection to permit sounder, more predictable and sustainable business decisions on public and private investments

Considering that the effect of the Ballinlee agent's having not actually investigating the rock resource (aggregates), this will change the entire Traffic Impact conclusions of this EIA and will likely change the 'in combination' knock on effect that this will have to the Traffic Impact conclusions of the nearby and proposed Garrane Wind Farm, grid connection and all associated works (currently active ACP Case File PAX91.323635 for 9 turbines) and the traffic implications for the nearby Coolcappa Wind proposal (Limerick County Council active PL Ref 2561003 for 6 turbines). This is why an SEA and government-led development of the final 4 GW of wind targets is necessary. The Ballinlee Community Action Group request that this 17-turbine proposal for Ballinlee cannot be assessed by An Coimisiún Pleanála in isolation from the other two adjacent developments. An Coimisiún Pleanála must ask the three developers to group and complete an integrated EIA for the proposed 32 Turbine Wind Park. Otherwise, it is our opinion that attempts at project splitting are being encouraged, and the Ballinlee Community Action Group expects the Planning Authority to be aware of case law regarding Project Splitting.

## The Moral Case for Telling the Truth

Our community deserves accurate information about what impacts we will experience. We deserve truthful baseline characterisations. We deserve an EIAR that assesses the actual development based on actual investigation, not hypothetical development based on optimistic assumptions. This EIAR does not meet that standard. At a minimum, before consent is granted, the applicant must conduct adequate quarry site investigations to industry standards (20-40 trial pits, rotary core drilling, aggregate quality testing), prove material suitability through laboratory results, revise the traffic assessment based on realistic aggregate sourcing scenarios, assess groundwater dewatering impacts with proper modelling and private well surveys, demonstrate adequate material disposal capacity or assess off-site disposal impacts, and provide a clear material balance accounting for all excavated volumes. Without this foundation of adequate investigation and honest assessment, the EIAR cannot support informed decision-making, and permission cannot responsibly be granted.

# Air Quality

*Prepared by Edel Foster, BSc Hons Quantity Surveying., MA by Research in the Built Environment, Prof Diploma Human Rights and Equality on behalf of the Bruff–Dromin–Athlacca–Ballinlee Community Action Group*

## Executive Introduction

This objection is submitted in strong opposition to the granting of planning permission for the proposed Ballinlee Wind Farm. It is the considered position of the Bruff–Dromin–Athlacca–Ballinlee Community Action Group that this proposal cannot be made acceptable through modification or conditions. The development poses unavoidable and unacceptable threats to public health, community wellbeing, and the right to a clean and safe environment. The project, if permitted, would constitute a breach of national and international obligations to protect human health and environmental integrity.

Residents across the Bruff–Dromin–Athlacca corridor already face environmental pressures from quarrying, haulage traffic, and agricultural dust sources. The proposed development would compound these cumulative burdens, particularly for vulnerable residents living along haul routes and near turbine foundations. EPA and IHREC frameworks both require decision-makers to avoid compounding existing inequalities or exposure burdens, yet this obligation is absent from the current assessment.

This submission is lodged by the Bruff–Dromin–Athlacca–Ballinlee Community Action Group in response to the proposed Ballinlee Wind Farm. We are a non-partisan, volunteer-led alliance of residents, community members, carers, and local business owners living in and around Bruff, Dromin, Athlacca, Crean, and the wider Lough Gur cultural landscape. While we support renewable energy and climate action, we object to this proposal on the grounds that it fails to safeguard human health, equality, and environmental integrity in compliance with Irish, European, and international standards. The Environmental Impact Assessment Report (EIAR) and Construction Environmental Management Plan (CEMP) do not meet the requirements of the EPA (2022) Guidelines, the Ambient Air Quality Standards Regulations (S.I. No. 739/2022), or the public sector duty obligations under the IHREC Act 2014. In its current form, the proposal exposes nearby residents to unacceptable and unmonitored dust and air-quality impacts during construction and decommissioning, without enforceable oversight or community protection measures.

## Air Quality and Dust Context

During the construction phase, principal dust-generating activities include excavation for turbine foundations, transport of materials, heavy-vehicle movement on unpaved roads, and stockpiling of soils. These activities emit both coarse (PM10) and fine (PM2.5) particulates capable of aggravating respiratory and cardiovascular conditions. The EIAR acknowledges potential dust but relies on

qualitative judgments rather than quantitative monitoring. No baseline air quality measurements were taken in the rural project area. The assessment substitutes EPA data from People's Park, Limerick City (~20 km away), which is not representative of rural dispersion conditions.

Table 1: WHO and EU Air-Quality Benchmarks

| Parameter | WHO 2021 Guideline | EU Limit Value | Health Implication |
|---|---|---|---|
| $PM_{2.5}$ (annual mean) | 5 µg/m³ | 25 µg/m³ | Linked to heart disease, stroke, and respiratory mortality |
| $PM_{10}$ (annual mean) | 15 µg/m³ | 40 µg/m³ | Triggers asthma and chronic bronchitis |
| $NO_2$ (annual mean) | 10 µg/m³ | 40 µg/m³ | Causes respiratory inflammation and reduced lung function |

## Deficiencies in Baseline and Monitoring

The developer's approach lacks site-specific data, PM2.5/PM10 baseline values, or receptor-based modelling. The CEMP's EMP-8 (Air Quality) framework relies on visual inspections without instrumental monitoring, thresholds, or health-based trigger levels. Sensitive receptors—such as children, older adults, and individuals with asthma—are neither mapped nor assessed. This omission breaches EPA EIAR (2022) standards and undermines compliance with WHO (2021) Air Quality Guidelines. Reliance on subjective visual checks offers no assurance that air quality impacts will be contained within safe limits.

## Human Health and Vulnerability Pathways

Table 2: Local Vulnerability Indicators (CSO Census 2022)

| Electoral Division | Population with Disability (%) | Fair/Bad Health (%) | Carers (%) | Children under 14 (%) |
|---|---|---|---|---|
| Bruff | 24.7 | 11.8 | 5.9 | 18.2 |
| Dromin | 22.3 | 10.7 | 6.2 | 17.5 |
| Athlacca | 21.5 | 9.9 | 5.5 | 19.0 |
| Crean | 23.1 | 11.2 | 6.0 | 16.9 |
| National Average | 22.5 | 9.1 | 4.3 | 20.4 |

Dust and fine particulate matter (PM2.5 and PM10) have well-documented links to respiratory irritation, asthma exacerbation, cardiovascular stress, and sleep disturbance. Vulnerable groups—children, elderly persons, and those with chronic respiratory illness—face disproportionate risk. The EIAR fails to identify or evaluate these groups despite available CSO Census 2022 data

demonstrating elevated disability and fair-to-poor health levels in the Bruff, Dromin, Athlacca, and Crean Electoral Divisions.

## Policy and Legislative Non-Compliance

Table 3: Legislative and Policy Compliance Review

| Regulation / Framework | Compliance Status | Comment |
|---|---|---|
| Ambient Air Quality Standards Regulations 2022 | Partial | No demonstration of PM compliance or monitoring plan. |
| EPA EIAR Guidelines 2022 | Weak | Human health integration absent; no receptor analysis. |
| Limerick Development Plan Objective EH029 | Non-Compliant | Fails to protect air quality during construction. |
| IHREC Act 2014 | Not Addressed | No equality or vulnerability assessment. |
| Clean Air Strategy 2023 | Not Implemented | No proactive community engagement or health linkage. |
| WHO Air Quality Guidelines 2021 | Ignored | Thresholds and exposure limits not applied. |

## Human Rights and Equality Framework

The EIAR and CEMP omit any analysis of equality, vulnerability, or human-rights implications. Under the IHREC Act (2014, s.42), public bodies must protect equality and human dignity in decision-making. The reliance on contractor-led visual monitoring and absence of recourse mechanisms contravene Articles 8 and 13 of the ECHR, which safeguard private and family life and provide for effective remedy. Likewise, Article 35 of the EU Charter guarantees the right to health.

Table 4: Human Rights and Equality Risks

| Right | Legal Source | Nature of Risk |
|---|---|---|
| Bodily Integrity & Life | Constitution Art. 40.3 | Exposure to particulate matter without monitoring |
| Private & Family Life / Home | Art. 8 ECHR / Art. 40.5 Constitution | Dust and emissions affecting domestic environment |
| Fair Procedures | Art. 40.1 Constitution | Delegation of monitoring and oversight to contractors |
| Right to Health | Art. 35 EU Charter / Art. 12 ICESCR | No air quality data or protection mechanisms |

| | | |
|---|---|---|
| Environmental Protection | Art. 37 EU Charter | Failure to ensure measurable air quality protection |

## Cumulative and Governance Failures

The EIAR's cumulative analysis disregards overlapping temporal effects from concurrent construction or nearby projects. Decommissioning is deferred to an undefined 'future plan', repeating construction-level risks. There is no integrated human-health assessment, no cross-chapter consistency between Air Quality, Noise, and Human Health, and no governance or complaint framework ensuring accountability. Public oversight is absent: no EPA or Council monitoring, no data transparency, and no clear escalation route for residents. The European Environment Agency (EEA, 2023) Cumulative Effects Review underscores that combined exposures to noise, air pollution, and vibration must be jointly assessed to understand health risks. By assessing each impact in isolation, the EIAR fails to capture the additive and synergistic effects likely to occur during overlapping construction activities, thereby contravening EPA 2022 best practice.

## Summary and Conclusions

Having regard to the cumulative evidence presented, it is the clear position of the community that the proposed development must be refused in its entirety. The deficiencies identified are not technicalities—they are structural, procedural, and ethical failures. The absence of monitoring, enforcement, and health protection mechanisms means that this proposal cannot comply with the EPA (2022) Guidelines, the IHREC Act (2014), the Clean Air Strategy (2023), or the European Convention on Human Rights. Permitting this project would set a dangerous precedent, exposing residents to unmonitored particulate pollution and undermining trust in governance. The precautionary principle, enshrined in Article 191(2) of the Treaty on the Functioning of the EU, requires refusal where credible evidence of harm exists. On these grounds, we urge An Coimisiún Pleanála to refuse permission outright.

The Bruff—Dromin—Athlacca—Ballinlee Community Action Group stands united in opposition to this project. We call on An Coimisiún Pleanála to uphold constitutional and human-rights protections and affirm that renewable energy objectives cannot override the right to health, equality, and environmental dignity. Planning permission for the Ballinlee Wind Farm should be refused in full.

# References


- EPA (2022). Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EIAR).
- World Health Organization (WHO) (2021). WHO Global Air Quality Guidelines.
- Irish Human Rights and Equality Commission Act 2014, Section 42.
- S.I. No. 739/2022 – Ambient Air Quality Standards Regulations.
- Government of Ireland (2023). Clean Air Strategy for Ireland.
- European Convention on Human Rights, Articles 2, 8, 13.
- EU Charter of Fundamental Rights, Articles 35 and 37.

# Climate

The applicant's EIAR (Chapter 11 – Climate) presents the development almost entirely as a positive for climate, on the basis that exported renewable electricity will displace fossil-fuel generation on the Irish grid. That is true in principle, but it is not the whole climate story for this project, and Irish case law over the last five years means An Coimisiún Pleanála is entitled to look for a fuller, more specific explanation.

## Construction and grid-route emissions have been underplayed

This wind farm is not just seventeen turbines in a field — it is seventeen turbines plus a c. 26km underground 110 kV grid connection along the R516, R512, L1412 and L1170, with repeated road opening, backfilling, HGV movements and asphalt reinstatement. Those works carry significant embodied and construction-phase carbon (diesel use, quarry products, concrete, cable manufacture). The EPA's own GHG guidance and Irish research on embodied carbon in construction show that these "front-loaded" emissions can be material and should be quantified clearly. (Environmental Protection Agency)

The EIAR material does not present a transparent, route-by-route carbon tally for the grid works, nor does it test alternatives (shorter route / partial off-road / trenchless at crossings) for lower carbon. Under Schedule 6 of the Planning and Development Regulations 2001, that is information the Board can legitimately seek.

## Irish climate litigation expects specificity

In Friends of the Irish Environment v Government of Ireland the Supreme Court quashed the State's 2017 National Mitigation Plan because it did not set out, with enough specificity, how Ireland would achieve its climate objective under the 2015 Act. The court's message was simple: *high-level statements about climate are not enough; you must show the pathway.*

More recently, in Coolglass Windfarm Ltd v An Bord Pleanála (2025) the High Court reminded the Board that, when applying the Climate Action and Low Carbon Development Act 2015 (as amended 2021), it has to show that it actually considered national climate duties in the context of the particular development. That means the Board can ask a renewable-energy applicant to demonstrate that its climate *benefit* is not being eroded by excessive construction emissions, over-long grid routes, or avoidable road-opening. (Irish Examiner)

So climate is no longer a "you're renewable, therefore you're fine" topic — it has to be specific, quantified and optimised.

## Climate

While the proposed wind farm will generate low-carbon electricity once operational, the EIAR does not give a sufficiently specific account of the construction-phase and grid-connection emissions associated with the 26+ km underground cable along the R516/R512/L-roads, nor does it compare this with lower-carbon alternatives. Recent Irish climate cases (Friends of the Irish Environment v Ireland, Supreme Court 2020; Coolglass Windfarm Ltd v An Bord Pleanála, High Court 2025) confirm that decision-makers may require a more detailed and credible explanation of how a proposal aligns with national climate obligations. In the absence of a transparent construction-emissions inventory, a justification for the chosen grid route in carbon terms, and mitigation for high-embodied-carbon materials, the climate chapter should be considered incomplete and Further Information should be sought.

# Landscape & Visuals & Cumulative Effect / Tourism

## Executive Summary

Under the EU EIA Directive (2014/52/EU) and the Planning and Development Regulations (2001–2024), developers are required to assess how a project interacts with existing or approved developments nearby. The Ballinlee EIAR fails to do this across several key areas:

- Noise and Shadow Flicker: No cumulative noise contour maps or combined analysis with nearby wind farms are provided, in breach of Sweetman v An Bord Pleanála (C-258/11) and WHO noise guidelines (2018).
- Landscape and Visual Impact: Photomontages omit critical viewpoints (Brackvoan, Athlacca, Bruff Hill) where multiple turbine clusters would be visible. The EPA (2022) Guidelines require assessment of overlapping visibility zones, which has not been done.
- Traffic and Transport: There is no cumulative road-use analysis despite significant HGV movements expected along narrow regional roads (R516, R512, etc.), contravening TII Guidelines (2021).
- Wildlife and Ecology: The EIAR overlooks multi-project effects on bat populations and migratory birds, breaching the EU Birds (2009/147/EC) and Habitats (92/43/EEC) Directives.
- Cultural Heritage: Cumulative effects on the settings of historic landscapes, monuments, and ringforts are ignored, contrary to the National Monuments Acts 1930–2014 and the Limerick County Development Plan (CH 01–02).

These omissions collectively breach EPA Draft Guidelines (2022) and Limerick County Development Plan Objective EN O27, which require clear demonstration of how wind farms interact visually, environmentally, and socially. The O'Grianna & Others v An Bord Pleanála (2014) ruling further confirms that grid connections must be considered part of the same project—an obligation the Ballinlee EIAR disregards.

The absence of a lawful cumulative assessment undermines the integrity of the planning process and deprives local residents of their right to full environmental information under the Aarhus Convention (2012).

Accordingly, this submission respectfully requests that An Bord Pleanála refuse permission for the Ballinlee Wind Farm unless a new, transparent, and legally compliant cumulative impact assessment is conducted—one that accurately reflects combined effects on landscape, noise, traffic, ecology, and heritage within the wider South Limerick region.

# Introduction

We wish to object to the proposed Ballinlee Wind Farm and associated 110kV grid connection on the grounds that the Environmental Impact Assessment Report (EIAR) has not properly examined the cumulative impacts this project will have on our community, landscape, wildlife, and wellbeing.

This is not an objection against renewable energy , it is about doing things properly, transparently, and in line with the law.
The law requires that developments like this must consider the full picture  how one project adds to the burden of others already built or approved nearby. Sadly, that's not what's happened here.

Under the EU EIA Directive (2014/52/EU) and Ireland's Planning and Development Regulations (2001–2024), developers are legally required to describe the combined or cumulative effects of their project alongside others that exist, are approved, or are reasonably foreseeable.
The Ballinlee EIAR does not do that.

# Where the EIAR Falls Short

## Noise and Shadow Flicker

The EIAR gives no real cumulative assessment of noise or shadow flicker. It models Ballinlee's turbines in isolation, even though there are several other wind farms within 15–20 km.
There are no cumulative noise contour maps, no data on how low-frequency hum might combine with nearby turbines, and no mention of the World Health Organisation (WHO) guidelines for environmental noise and sleep disturbance (2018).

That failure means the EIAR cannot tell residents what living here will really sound or feel like day or night.
In law, Sweetman v An Bord Pleanála (C-258/11) confirms that interactive effects must be assessed together. This hasn't been done.

## Landscape and Visual

Chapter 12 of the EIAR claims that cumulative visual effects will be "imperceptible".
That's simply not credible. The photomontages fail to include key viewpoints where multiple turbine clusters would be seen together such as Brackvoan, Athlacca, and the ridge above Bruff Hill.
If you live here, you know these are some of the most visible vantage points in the Golden Vale.

The EPA's 2022 Guidelines are clear: developers must assess "key receptors where cumulative visibility overlaps occur." That has not been done here.
Instead, the visual impact has been softened, and several images appear artificially screened by vegetation that doesn't reflect the true openness of the land.

This isn't just a missed technical detail it's a breach of trust with local people who deserve to see an honest portrayal of how their home landscape will change.

## Traffic and Transport

The EIAR also fails to show how construction traffic from Ballinlee would interact with other regional projects or ordinary road use.
The roads around Bruff, Athlacca, and Dromin are narrow, winding, and already under pressure.
Yet there is no cumulative analysis, no clear timeline for overlapping works, and no safety plan for residents walking or cycling these routes despite the TII (Transport Infrastructure Ireland) Guidelines (2021) requiring this.

This means the EIAR underestimates both congestion and danger. Two years of heavy HGV traffic could make ordinary movement unsafe  particularly for school children, farmers, and those who walk to work.

## Wildlife and Ecology

Cumulative effects on wildlife have been brushed over entirely.
The EIAR mentions Whooper Swans and bats but only assesses them in isolation, not as part of a wider ecological network.
There's no proper mapping of migration routes, no winter bird survey beyond a single season, and no assessment of how multiple developments may fragment habitats across South Limerick.

That approach breaches the EU Birds Directive (2009/147/EC) and Habitats Directive (92/43/EEC), both of which require a full account of cumulative disturbance on protected species.

## Cultural Heritage

Our heritage, too, is ignored in cumulative terms.
The EIAR doesn't explore how the combined presence of several wind farms alters the setting of historic townlands, ringforts (fairy forts) The Grange Stone Circle.  and local monuments.
Under the National Monuments Acts 1930–2014 and Limerick County Development Plan Policies CH 01–02, these settings are legally protected.
To omit this is to disregard the living heritage that gives South Limerick its identity.

# The Legal Framework They Ignored

Every one of these omissions goes against:

- EU Directive 2014/52/EU, which mandates assessment of cumulative and indirect effects;
- EPA Draft Guidelines (2022), Section 9.3, which requires developers to show combined impacts;

- Limerick County Development Plan 2022–2028, Objective EN O27, which explicitly states that wind farms must demonstrate how they interact visually and environmentally with others nearby.
- O'Grianna & Others v An Bord Pleanála (2014) IEHC 632, which ruled that a grid connection cannot be treated separately from the main project.

The Ballinlee EIAR separates them, in clear breach of that case law.

## Why This Matters

When developers fail to show the full cumulative picture, they misrepresent what life will really be like for the people who have to live with these turbines.
Cumulative impact assessment isn't a box to tick  it's about fairness, transparency, and the right to know.

Without that information, local residents are left to object in the dark, and the planning authority cannot make an informed, lawful decision.
That breaches Ireland's obligations under the Aarhus Convention (ratified 2012), which guarantees public access to complete environmental information.

## Request

For all of the reasons above, we respectfully ask An Coimisiún Pleanála to refuse permission for the Ballinlee Wind Farm unless and until a legally compliant and transparent cumulative assessment is provided one that truly reflects how this development will interact with others in terms of noise, traffic, wildlife, landscape, and heritage.

Ballinamona, Bulgaden
Kilmallock
Co. Limerick
EirCode: V35 EW86

Ballinlee Action Group,
Bruff,
Co. Limerick,

Re: An Coimisiún Pleanála Case reference: PAX91.323780

## Professional Background and Expertise

I, Jack O'Shea, am a qualified drone operator and visual documentation specialist with over ten years of continuous aerial and ground-level recording of South Limerick's landscape. My portfolio covers the Lough Gur, Bruff, Dromin, Athlacca, Rathcannon, Bruree, and Kilmallock areas, which collectively form the heart of the Golden Vale agricultural and heritage region. My work can be verified at https://gallery.jackosheaimages.org/josgallery/index.htm

My work is compliant with Irish Aviation Authority (IAA) Small Unmanned Aircraft (SUA) operations regulations, and I have maintained active registration and operational logs consistent with the requirements under EASA Open Category (A1/A2/A3) for aerial imagery collection. My recordings have been used to document local heritage, agricultural practices, land-use changes, and flood events for public, community, and planning purposes.

Through this ongoing documentation, I possess aerial imagery archives dating back to 2014, offering an unparalleled temporal dataset of the region's landscape evolution, watercourses, flood plains, drainage systems, and visual integrity.

## Drone-Based Environmental Record and Flooding Evidence

In recent days, I have captured new drone imagery along the R512 and L1414 roads — both key sections of the proposed underground grid-connection route. These images, which I will append to this submission, show extensive flooding across the carriageway and adjoining fields, confirming that:

- Local drainage infrastructure is already at or beyond capacity.
- Surface runoff from rainfall events is increasing in frequency and extent.

- Any trenching, cable installation, or road narrowing along these routes would exacerbate flood conditions and render roads impassable to emergency or agricultural vehicles.

These observations are consistent with the Flood Risk Assessment (Appendix 9B) submitted by the developer, which admits that sections of the route fall within moderate to high flood-risk zones. However, that assessment relies primarily on static mapping and modelling, not real-world, time-stamped visual evidence.

The flooding now documented demonstrates that the EIAR's assumption of "negligible residual flood impact" is materially inaccurate. Drone footage provides an objective, date-stamped record that can inform the Board's evaluation far more accurately than desktop hydrological projections.

## Visual Landscape and Amenity Impact – Professional Observations

From a visual and cultural heritage standpoint, my drone archives illustrate how the Golden Vale's open, pastoral skyline has remained largely intact for generations. The introduction of turbines up to 160m in height, visible from multiple heritage and recreational viewpoints (Lough Gur, Bruree Castle, Kilmallock Round Tower, and the Dromin Graveyard), would irreversibly alter the region's character.

I have compared the developer's photomontages (Appendix 12A) to my own georeferenced imagery, and it is evident that the applicant's "Zone of Theoretical Visibility (ZTV)" understates the number of sensitive receptors and public vantage points where turbines will be visible. Drone perspectives captured at 50–60m altitude — consistent with the line of sight from elevated road sections — reveal clear turbine visibility lines extending well beyond those predicted in the EIAR.

Under Schedule 6 of the Planning and Development Regulations 2001, the EIAR must provide accurate visual simulations. My imagery demonstrates that the submitted visual assessment is incomplete and potentially misleading.

## Legal Precedent Supporting Drone Evidence in Environmental Assessment

Aerial photography is accepted as valid evidence in Irish planning and environmental review (see Balz v An Bord Pleanála [2019] IEHC 623; Sweetman v An Bord Pleanála [2018] IESC 18). Modern drone imagery is now the primary means by which such evidence is captured, providing objective and verifiable georeferenced visual records. Accordingly, my drone-based documentation of the R512, L1414, and wider Golden Vale region — particularly recent flood-event recordings — should be granted appropriate evidential weight in considering the environmental, infrastructural, and public-safety implications of the proposed Ballinlee Wind Farm and its associated 110 kV grid-connection route.

## Public-Safety and Access Implications Along the Grid Route

The R512, R516, and L1414 roads are vital arteries for local residents, farmers, school transport, and emergency services. The documented flood events already restrict access for ambulances, fire brigades, and livestock transport.

Trenching for the proposed underground grid connection along these same roads will:

- Impede drainage during and after construction.
- Remove verges and ditches that currently convey runoff.
- Increase siltation in nearby drains, aggravating flood potential.

In an area that already experiences regular inundation, this poses a significant safety risk.

Drone footage captured during flood events provides direct evidence of where mitigation measures are insufficient. Without this visual documentation, the EIAR's conclusion that "no increase in flood risk is anticipated" cannot be considered credible.

## Conclusion

Over the past decade, I have documented — through aerial and ground imagery — the changing face of this landscape, from Lough Gur to Kilmallock. My footage provides clear, empirical proof of what the EIAR only models: that this area is visually and hydrologically sensitive, agriculturally active, and already experiencing infrastructural stress.

The Ballinlee Wind Farm and its associated grid route will not only industrialise a rural and heritage-rich environment but will also increase flooding risk, degrade visual amenity, and compromise road safety.

I respectfully submit that An Coimisiún Pleanála should:

- Take full account of the independent drone evidence documenting flooding and visibility;
- Seek a full cumulative visual and hydrological re-assessment; and
- Refuse permission unless and until the developer can demonstrate that these proven risks can be mitigated with certainty.



L1414 Road



Corcass (L1414)



R516 Road



Bruff Town



Golden Vale Countryside



Rathcannon Castle



Lough Gur



The Grange Stone Circle (R512)

Yours sincerely,

Jack O'Shea
Qualified Drone Operator / Visual Documentation Specialist
Ballinamona, Bulgaden, Kilmallock, Limerick, V35 EW86
16 November 2025

# Archaeology & Cultural Heritage & Visual Impact

## Review of Chapter 14 - Archaeology and Cultural Heritage by Rose M. Cleary

Rose M. Cleary

Rose Cleary is a graduate of University College Cork (UCC) with an honours BA in History and Archaeology and an honours MA in Archaeology. She was also conferred with a D.Litt (hc) from the University of Limerick (UL); Fellow of the Society of Antiquaries (London) and Member Institute of Archaeologists of Ireland (MIAI).

She has worked in the Lough Gur area of Co. Limerick since 1977 and has an in-depth knowledge of the archaeological landscape of the area.

She has is published over 20 academic papers on the area in various journals (*Proceedings of the Royal Irish Academy*, *Journal Royal Society of Antiquaries*, *Journal of Irish Academy* and *North Munster Archaeological Journal, Lough Gur and District Historical Society Journal)*. She published a book – *The Archaeology of Lough Gur* in 2018 which provides a synthesis of all archaeological research in the environs of the lake including research carried out by scholars since the late eighteenth century to the present day.

### Proposed development

The development comprises the construction of seventeen wind turbines and ancillary works with a turbine height of 160m for sixteen turbines, 150m for one turbine and span of 136m for all turbines.

### Lough Gur

Lough Gur is an antique landscape continuously occupied by people for over six thousand years. The lake was and is still a focus both within the community of Lough Gur and for the greater hinterland of East Limerick. Dowd (1896)[2] wrote that 'very few places which will be found more interesting by

[2] Dowd, Rev. J. 1896 *Round about the County of Limerick*. Limerick, G.McKern and Sons. P. 65.

the visitor than Lough Gur and its neighbourhood. From long distant ages man has found a home here, and the shores of the lake still bear witness to the ancient race whose monuments have survived all changes that have passed over the county'. Lough Gur is a place renowned in archaeology not only in Ireland but also in Western Europe. It was the location of Neolithic and Bronze Age settlements when these were practically unknown elsewhere. Much archaeological research and fieldwork in Ireland has altered this picture but Lough Gur remains one of the few places where the monuments are both visual and abundant within a relatively small area and where some date to back several millennia.

The review of the archaeological landscape in Chapter 12 – Landscape and Visual and Chapter 14 - Archaeology and Cultural Heritage of the EIAR greatly underestimates the archaeological landscape around Lough Gur in terms of visible remains and sub-surface archaeological sites. Indeed, of the National Monuments in State Care listed in Chapter 14 (Table 14.4), 66% are in the Lough Gur area.

The archaeological and historic landscape around Lough Gur has been studied and surveyed by scholars since the late seventeenth century. Modern surveys include M. J. O'Kelly's[3] extensive field work survey in 1941 and he documented over almost 400 monuments in the Barony of Small County in which Lough Gur is located. O'Kelly's survey included information on archaeological artefacts recovered in the survey area and these were particularly numerous from the Lough Gur area. This survey also confirmed that Lough Gur was a centre for prehistoric activity and most of the megalithic tombs, stone circles, standing stones, barrows ringforts, stone forts and later sites such as forts and castles are in the hinterland of the lake.

[3] O'Kelly, M.J. 1942–43 A survey of the antiquities in the Barony of Small County, Co. Limerick. *North Munster Antiquarian Journal* 3 (2), 75–97; 169–184; 222–241. O'Kelly, M.J. 1944 A survey of the antiquities in the Barony of Small County, Co. Limerick, Part 4. *North Munster Antiquarian Journal* **5**, 16–53.

A survey project aimed at examining and chronicling monuments in their landscape setting using modern survey technology was undertaken at Lough Gur in 2008–9 and 2012–2013[4]. The study areas were around the Grange Stone Circle complex on the western shore of Lough Gur and around Circles O and P to the north-east of Lough Gur. The results of these geophysical surveys show a rich upstanding archaeological landscape and archaeological sites which have with little surface remains. The surveys at Grange show a greater monument complex with upstanding monuments and sub-surface remains of previously unknown archaeological sites (Fig. 1). Pages 70-71 of Chapter 14 lists six 'high status' sites in Grange which is significant underestimate of the archaeological sites.

[4] Cleary, R. M. and Hogan 2013 Recent survey work at Lough Gur. *North Munster Antiquarian Journal* 53, 79–98. Cleary, R. M. and O'Driscoll, J. 2014 Archaeological remains and geophysical surveys at Lough Gur and Grange Stone Circle. *Irish Quaternary Association Field Guide No. 32,* 31–44.

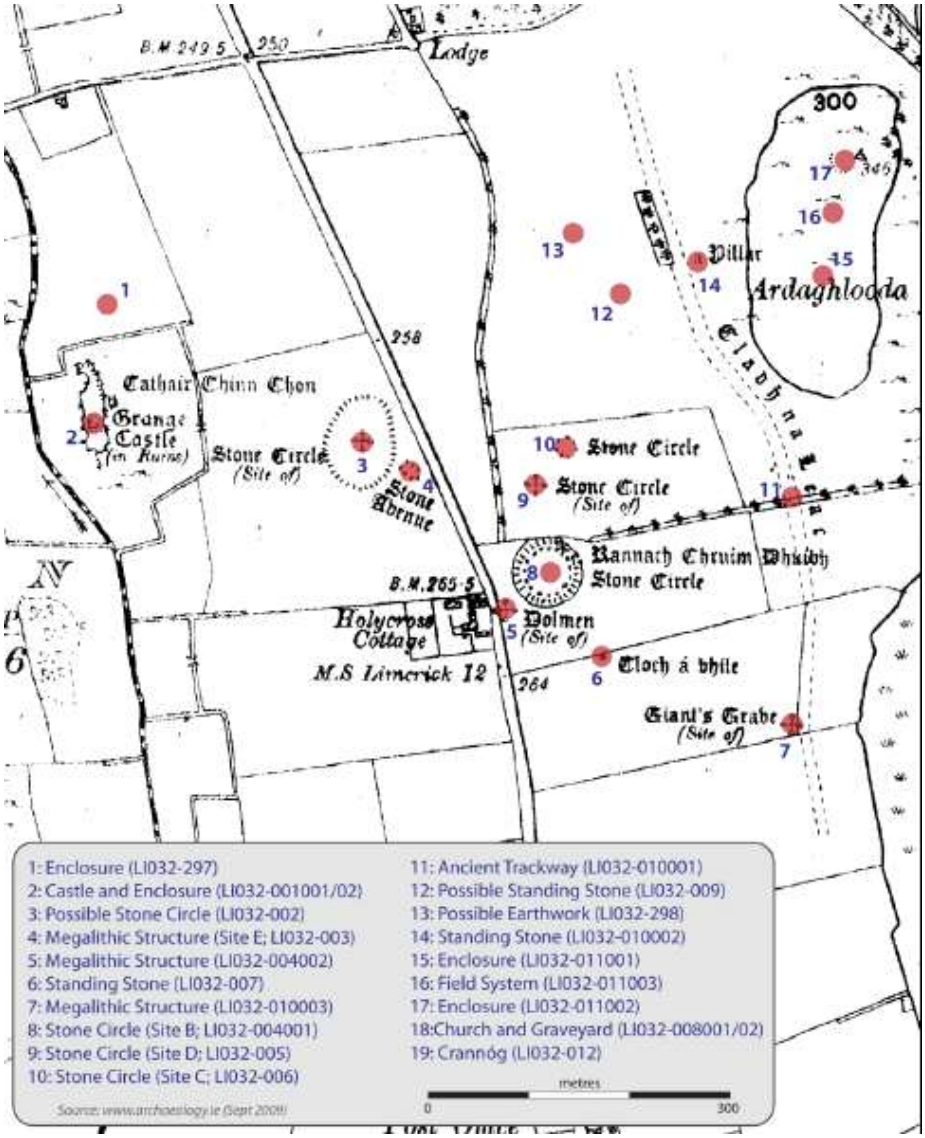



Fig. 1: Archaeological Sites in Grange (2008-09 survey)

Geophysical survey in 2012 within Grange Stone Circle (Circle B) identified seven ring-ditches within the circle and a sub-circular enclosure *c.* 15–20m south-west of the stone circle. A second site was detected *c.* 90m east of the stone circle which may be the remains of a small stone circle removed from the landscape. Geophysical survey around the almost ruinous Circle D confirmed that it was once surrounded by a bank similar to the Great Stone Circle (B) and with an overall maximum diameter of 78m and was larger than Circle B.

Airborne LiDAR is a survey method which uses a laser light detection and ranging system to record the topography of an area in great detail. The technique can rapidly map large areas of ground and also has the potential to penetrate vegetation cover. As an archaeological tool LiDAR has the ability

to record low-relief sites and landscapes, even those masked by trees and overgrowth. An analysis of LiDAR coverage of the Lough Gur area included a study of Grange, around Circles O and P, Carraig Aille and Rawleystown[5]. LiDAR survey detected the circular enclosure to the south-west of the Great Stone Circle which had also been recorded by the geophysical survey. The outline of the former bank of Stone Circle D was also clearly visible and LiDAR confirmed that the levelled bank was spread over a width of 15m outside the perimeter of the stone circle. An ancient trackway near Grange church and a previously unknown ring-barrow were also detected using LiDAR. The LiDAR survey recorded a network of ancient field enclosures near Carraig Aille and possible ancient trackway and field systems near Rawleystown.

Archaeological excavations around Lough Gur began in the 1860s but work from 1936—1954 by Seán P. Ó Ríordáin[6] highlighted the variety and complexity of the archaeological landscape in the hinterland of the lake. More recent work by Rose Cleary was carried out from 1977-2012[7]. These

[5] Motherwell, E. 2012 LiDAR and its potential contribution to Archaeological Survey in Ireland. Unpublished M.Phil Thesis, Department of Archaeology, UCC.

[6] Ó Ríordáin, S. P. 1936 Excavation of two stone circles at Lough Gur (1936). *North Munster Antiquarian Journal,* 1, 82. Ó Ríordáin, S. P. 1937 Excavation of two stone circles and two forts at Lough Gur (1937). *North Munster Antiquarian Journal,* 1, 82. Ó Ríordáin, S.P. 1949 Lough Gur excavations: Carraig Aille and the "Spectacles". *Proceedings of the Royal Irish Academy* **52**C, 39–111. Ó Ríordáin, S.P. 1949a Lough Gur excavations: three marshland habitation sites. *Journal of the Royal Society of Antiquaries of Ireland* **79**, 126–139. Ó Ríordáin, S.P. 1951 Lough Gur excavations: the great stone circle (B) in Grange townland. *Proceedings of the Royal Irish Academy* 54C, 37–74. Ó Ríordáin, S.P. 1954 Lough Gur excavations: Neolithic and Bronze Age houses on Knockadoon, *Proceedings of the Royal Irish Academy* **56**C, 297–459.

[7] Cleary, R. M. 1982a Excavations at Lough Gur, Co. Limerick 1977-78 Pt. I, *Journal of the Cork Historical and Archaeological Society*, **87** (245), 2–20. Cleary, R. M. 1982b Excavations at Lough Gur, Co. Limerick 1977-78 Pt. II, *Journal of the Cork Historical and Archaeological Society*, **87** (246), 77–106. Cleary, R. M. 1983 Excavations at Lough Gur, Co. Limerick 1977–78 Pt. III, *Journal of the Cork Historical and Archaeological Society*, **88** (247), 51–80. Cleary, R. M. 1995 Later Bronze Age houses and prehistoric burials from Lough Gur, Co. Limerick, *Proceedings of the Royal Irish Academy*, **95**C, 1–92. Cleary, R. M. 2003 An enclosed Later Bronze Age site on Knockadoon, Lough Gur, Co. Limerick. *Proceeding of the Royal Irish Academy,* 103C, 97–189. Cleary, R. M. 2006 Excavations of an Early-Medieval period enclosure at Ballynagallagh, Lough Gur, Co. Limerick. *Proceeding of the Royal Irish Academy,* **106**C, 1–66. Cleary, R. M. 2016 Excavation at Grange Stone Circle (B), Lough Gur, Co. Limerick and a review of the dating. *Journal of Irish Archaeology*. Cleary, R. M. 2018 *The Archaeology of Lough Gur.* Wordwell.

excavations have established a broad chronological framework for the various monuments at Lough Gur.

## Visual Impact

P. 47 of the Chapter 14 (EIAR) describes the landscape in which the proposed turbines are to be located as 'The entire site is very open to the surrounded landscape and apart from the trees no natural blockers were noted in a visual context'. This landscape description confirms that there will be visual impact on the surrounding heritage landscape. In the case of Lough Gur the chapter also states (P. 74) that: 'Analysis of ZTV revealed that the proposed turbines will be visible to differing degrees or will be not visible at all depending on the location of the archaeological site there'. Three view-points (VP17-19) were used to establish visual effect during LVIA assessment of which one location (VP19) was assessed as '*moderate-slight*'. The photograph (Fig. 14.11) taken to support this assessment (VP19) is from the lakeshore. There are no monuments along the present lakeshore as this level represents post-1847 drainage[8] and is *c.* 2m below the original lake level.

A similar scenario is presented in Chapter 12 of the EIAR – Landscape and Visual (Table 12.2) where VP (Viewpoints) from Lough Gur assess the magnitude of visual impacts is described as 'Low' and 'Imperceptible' (p. 42).

The siting of the majority of archaeological sites around Lough Gur is on elevated ground – for example the ridge where the majority of the archaeological complex at Grange is located; Knockadoon Hill which is surrounded by the lake and Knockfennell Hill on the north shore. The visual assessment of the visual impact of the turbines as 'moderate/slight' completely misinterprets the siting of the archaeological remains around and in the hinterland of the lake.

The visual assessment in Chapters 12 and 14 of the EIAR does not take into account the siting of the archaeological remains around the lake and in the hinterland and seeks to minimise the visual impact without an appreciation of the landscape around the lake.

[8] The lake was partially drained as part of a Poor Law Relief Scheme during the Great Famine (1845-47)

## Bruff

Archaeological research and survey projects in the Bruff area have highlighted the density of sites in the region. Many new sites were detected by aerial photographic surveys in advance of pipeline construction and a research project to determine the usefulness of medium altitude aerial survey known as the 'Bruff Aerial Survey'. This survey[9] (scale 1:10000) extended east-west from Bruff to Emly (Co. Tipperary) and north-south from Caherconlish to Knocklong increased the number of archaeological sites by 200% in some area particularly around Bruff. The review of the known archaeological landscape in Chapter 14 of the EIAR for wind turbine construction does not refer to the rich, varied and multi-period landscape in the environs of the development.

Rose Cleary was also Project Director on behalf of Bord Gáis Éireann on the gas pipeline 'Pipeline to the West'[10] which was constructed in 2002. The pipeline extended across the Morningstar River floodplain and crossed the landscape *c.* 2.5km west of Bruff. This project was preceded by a scoping study of the pipeline corridor including a review of a series of low level Aerial Photographs (1:5000) of the pipeline corridor which detected hundreds of previously unknown archaeological sites particularly in East Limerick. Route Selection was guided by avoidance of these newly discovered sites and sites that were recorded on Ordnance Survey maps (1839—1938). Nevertheless, the construction phase of the gas pipeline revealed over 1000 new archaeological sites, of which a significant number within the Bruff area (Fig. 2). A gas pipeline constructed in 1986[11], and guided in the route selection by avoidance of archaeological sites detected through aerial photography also uncovered a significant number of previously unknown archaeological sites during the construction stage. These sites were detected after the topsoil strip and were recorded by excavation.

[9] Doody, M. 1993 The Bruff Aerial Photographic Survey. *County Tipperary Historical Journal*, 173-180; Doody, M. 2008 Medium-altitude aerial survey in M. Doody *The Ballyhoura Hills Project*. Discovery Programme Monograph No. 7. Wordwell. Bray. 65–104.

[10] Grogan, E., O'Donnell, L. and Johnston, P. 2007 *The Bronze Age Landscapes of the Pipeline to the West*. Bray, Wordwell.

[11] Gowen, M, 1988 Three Irish Gas Pipelines: *New Archaeological Evidence in Munster*. Dublin, Wordwell.

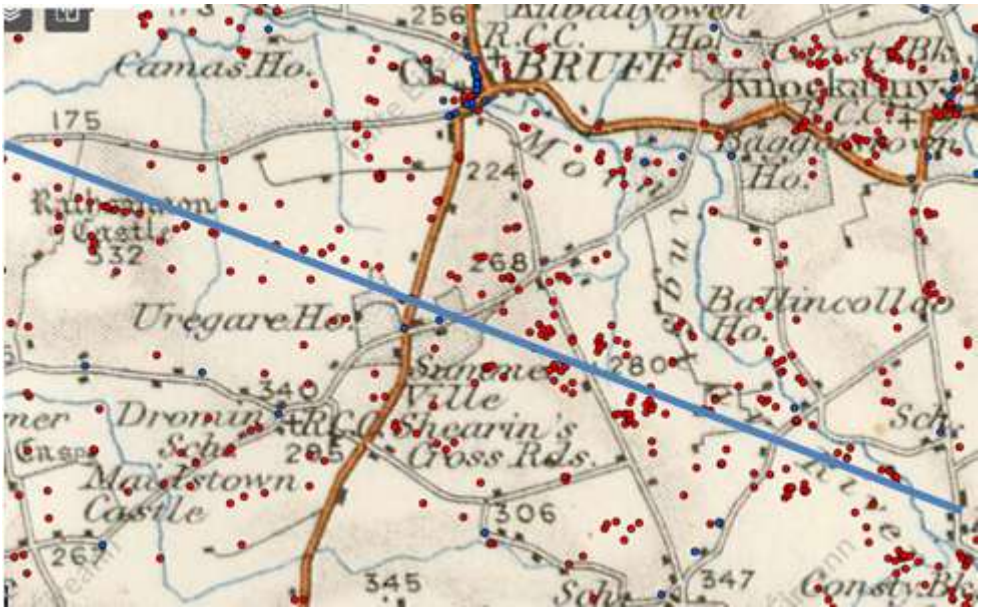



Fig. 2: Blue line = Approximate line of 1986 pipeline. The majority of the archaeological sites (red dots) within the pipeline pre-construction study area were detected from aerial survey and avoided during route selection.

Field inspection carried out as part of the survey process for Chapter 14 of the EIAR noted no previously unrecorded archaeological sites on the areas scheduled for development although the area development around Turbines 14 and 15 noted (p. 56) 'several archaeological sites found and excavated during topsoil-stripping on the Bord Gáis Éireann Pipeline to the West situated in proximity to T14'.It can therefore be suggested that the construction of wind turbines and ancillary works will in all likelihood uncover previously unknown sub-surface archaeological remains.

Geophysical survey is proposed as a mitigation strategy (p. 83 Chapter 14, EIAR) to detect and preserve by excavation sub-surface archaeology. Geophysical survey is a useful method of detecting archaeological remains. Archaeological test excavation is proposed where anomalies are detected and in the footprint of the core windfarm components and this may detect sub-surface archaeological features that have a weak magnetic signal. Archaeological monitoring during construction is also proposed. The project is likely to uncover previously unknown complex archaeological sites as indicated by previous infrastructural gas pipelines in the area.

## Visual Impact

Chapter 14 (p. 79) of the EIAR states: The Field inspection revealed that the proposed Ballinlee Wind Farm will be located with open views of the surrounding landscape. Furthermore, analysis of the results of ZTV data revealed that the proposed turbines will be theoretically visible from the vast majority of the monuments within the encompassing 3km study zone and in that context potential cultural effect is classified' as 'slight' for monuments without public access and 'moderate' on sites open to the public but located more than 1km off the proposed development. The visitor numbers to monuments has little bearing on the visual impact of turbines on upstanding archaeological sites. Access to archaeological sites is at the discretion of the landowners and in general, landowners allow access to monuments within the landholding.

# Review of Chapter 14 - Archaeology and Cultural Heritage by Bruff Heritage Group

Pat Hayes, Chairman,
Bruff Heritage,
Crean, Athlacca, Kilmallock, Co. Limerick
9 November 2025

To: The Secretary
An Coimisiún Pleanála
64 Marlborough Street
Dublin 1

Re: Archaeology and Cultural Heritage – Ballinlee Wind Farm

Dear Sir or Madam,

This submission is made in respect of the above Strategic Infrastructure Development application. It addresses the adequacy of the Environmental Impact Assessment Report (EIAR), specifically Chapter 14 – Archaeology and Cultural Heritage.
The chapter as presented does not meet the standards required by Directive 2014/52/EU, as transposed by S.I. No. 293 of 2021, and the Environmental Protection Agency's 2022 *Guidelines on the Preparation of Environmental Impact Assessment Reports*. The assessment contains procedural and substantive deficiencies that undermine its reliability and completeness.

## Failure to undertake licensed archaeological testing prior to consent

The EIAR proposes to carry out test excavation and geophysical survey only after consent is granted. This approach is inconsistent with established case law (*Kelly v An Bord Pleanála* [2014] IEHC 400; *Sweetman v An Bord Pleanála* [2017] IEHC 225), which requires that likely significant effects are assessed prior to determination.

## Unjustified study boundaries

The study area is restricted to a three-kilometre radius and a 120-metre grid corridor without justification. This limitation conflicts with EPA guidance and fails to reflect the sensitivity of the receiving environment. Academic sources (Darvill 2019, *Journal of Cultural Heritage*

*Management & Sustainable Development*; Smith 2020, *Environmental Impact Assessment Review*) show that narrow boundaries often under-represent impact.

## Misrepresentation of methodological limitations

The report declares that no limitations were encountered although several heritage sites were not visited due to access restrictions. This omission breaches the transparency standard required under EPA guidance and discussed by Fairclough (2021, *Conservation and Management of Archaeological Sites*).

## Desk-based methodology and inadequate field evidence

Over-reliance on secondary data and aerial imagery, without licensed archaeological investigation, does not satisfy Annex IV(6) of the Directive, which requires use of the best available evidence.

## Selective treatment of setting effects

More than three hundred recorded monuments occur within the study area, yet only a small selection was analysed. The absence of defined selection criteria undermines the credibility of the conclusions. Holtorf (2018, *International Journal of Heritage Studies*) identifies such selective analysis as a recurring flaw that underestimates cumulative heritage impact.

## Generic cumulative-impact analysis

The cumulative assessment is limited to a 20-kilometre radius and contains only qualitative statements. There is no quantitative modelling or mapping of combined visibility with other wind-energy projects. This falls short of the requirements set out in *Sweetman (No. 2)* [2018] IEHC 267 and CJEU Case C-404/09 (*Commission v Spain*). Gray (2020, *Impact Assessment and Project Appraisal*) makes similar observations.

## Exclusion of intangible heritage

Folklore and oral tradition are expressly excluded, contrary to Article 3(1)(d) of the Directive, which extends the definition of cultural heritage to include intangible elements.

## Reliance on post-consent mitigation

Mitigation is deferred to post-approval monitoring and potential preservation *in situ*. Conditional mitigation of this kind conflicts with the precautionary principle and with Annex IV obligations (Cooper 2019, *Planning Theory and Practice*).

## Inconsistent townland references

Townlands listed in Chapter 14 differ from those cited elsewhere in the EIAR and in the statutory notices. This inconsistency creates uncertainty regarding the extent of the

development and undermines public participation, contrary to *O'Grianna v An Bord Pleanála* [2014] IEHC 632.

## Absence of independent peer review

No evidence of independent verification or peer review is provided. Hughes (2021, *Environmental Assessment Policy and Management*) highlights that absence of external review is a persistent procedural weakness in Irish EIA practice.

## Conclusion

Taken together, these matters demonstrate that the cultural-heritage assessment does not constitute a complete, precise or definitive evaluation of likely significant effects as required by Annex IV of the EIA Directive and the EPA 2022 guidance. The Board cannot reasonably be satisfied that impacts on archaeological or cultural-heritage assets have been fully and properly assessed.

Accordingly, I submit that permission should be refused.

Yours faithfully,

Pat Hayes

Chairman, Bruff Heritage

# Review of Chapter 14 - Archaeology and Cultural Heritage by Lough Gur Historical Society

*Prepared by Brian Collopy on behalf of the Bruff-Dromin-Athlacca-Ballinlee Community Action Group*

## Submission

To whom it may concern,

I am writing to express my unease at the proposal to establish a wind farm at Ballinlee. This seems to me to be a very poorly developed plan, one which ill-conceived in relation to the local landscapes, all of which is clearly evidenced within the developer's own supporting documentation. There are also instances which, at best, display sloppy research and field work, or, more worryingly, duplicitous or misleading framing of the impacts of this project to the local area, landscape, and community. For brevity's sake, I shall contain myself to areas that I am both professionally knowledgeable of and directly work within. As such, this submission will focus specifically upon *Chapter 14 Archaeology & Cultural Heritage* of Ballinlee Wind Farm's proposal. I am writing this submission as both a resident of Lough Gur and as Chair of the Lough Gur Historical Society, who equally share my concerns, and who have given their entire support in challenging this proposal. I work in the local tourism industry and have a BA in Heritage Studies, and I am also presently midway through a MA in Mythology and Folklore in UCC.

We are given a technically functional, if underwhelming, description of Lough Gur in Section *14.6.4.1 National Monuments in State Care:*

The Lough Gur complex comprises of a number of significant, multi-period National Monuments situated within the Lough Gur area, c.5.5km to the NE of the proposed Ballinlee WF.

I think it is worth comparing this to a fuller (and I would suggest, more reflective) description of Lough Gur, from the *Lough Gur Environmental Management Study February 2009:*

Lough Gur is the most important water-based recreational resource in County Limerick and one of Ireland's most important archaeological sites. Its appeal largely lies in the highly scenic location of the lake and the large number of ancient sites and monuments, ranging from Neolithic to Medieval times, that are clustered around its shores. Lough Gur and the adjoining Red Bog also possess a diverse range of terrestrial and aquatic habitats for both flora and fauna. The area is internationally and nationally important for migrant wildfowl species and is designated as a Natural Heritage Area and a Wildfowl Sanctuary.

This appears as a common feature of this proposal; a deliberate downplaying of the significance of Lough Gur and its importance as an all but unique archaeological landscape. As Lough Gur Visitor Centre's website informs us:

It is the only site in Ireland where evidence of every age of humankind is visible. There are 136 monuments in State care surrounding Lough Gur.

I would argue that this is goes well beyond being 'a number of significant, multi-period National Monuments.' This wording verges on being dismissive, as though it is trying to quickly gloss over the significance of the place. I would further state that Lough Gur is easily the most complete, extant and important historical landscape in county Limerick. As such, its importance to our local story, alongside the larger national one, cannot be overstated.

Figure 14-11 of the Environmental Impact Assessment Form tells us the following:

Additionally, a walkover site inspection was undertaken of the Lough Gur complex of sites that revealed that several sites are not open to the public or are well hidden by blockers such as, topography. trees and buildings. Taking into consideration all the factors above, the cultural visual effect by the proposed wind farm on the Lough Gur complex is classified as 'slight'.

It includes a photograph of what is called VP19 (Viewing Point 19). This is an almost laughable attempt at a visual sleight of hand. The photograph is taken a little to the north of the lakefront, behind the small hillock to the immediate east of Knockfennell, called the Carrigeen. I would agree that the visual impact from here will likely be slight, given the nature of the topography that is immediately in front of anyone standing at this vantage point. Of course, this is not the famed and recognisable view of Lough Gur's eastern shore, and even a first-time visitor to the lake would instantly recognise this for what it is; a deliberate distortion of the actualities of the visual impact of the turbines to Lough Gur's skyline. It is a telling omission that no reference is made to the viewing point, Carraig a' Crothera, which is reached after climbing 115 steps over the lake's eastern shore (This is a location entirely open to the public – as this seems to be a factor for the environmental impact assessment). The lakeshore's height above sea level varies but is typically around 80m. The height above sea level at the viewing point is 105m approx. This is one of the iconic views of Lough Gur. From this higher point, there is a much more expansive view to the west. Rathcannon is clearly visible, as is Knockfierna. On a clear day, it is even possible to make out the Paps in County Kerry.

The visual impact of the proposed turbines from Carraig a' Crothera will be considerable, far beyond 'slight,' as stated by the developers. Frankly, selecting where they did to provide a visual assessment of the impact of their proposal on Lough Gur is dishonest and shows a blatant disregard for one of Limerick's most beloved vicinities. I would hope that such distortions are not dismissed or deemed of secondary importance. To be entirely blunt, Ballinlee Wind Farm are incorrect when they state that there is but a slight visual impact to Lough Gur Lakeshore Park. That they selected so unsuitable a location within the park to demonstrate the 'slight' nature of the impact, when there is a clearly marked viewing point immediately above their chosen place, can only be reflective of either blatant dishonesty, or gross negligence. Either should be concerning when faced with a proposal of this size, with long-lasting implications for both out local

communities and living landscapes. As I shall continue to demonstrate, this is not the only example of dubious findings in this particular section of their assessment.

Finally, and before moving forward, whilst the report is correct in stating that many of the sites are presently not open to the public, this in no way speaks to the future. Even modest ambitions for Lough Gur's future must surely include the hills of Knockadoon and Knockfennell as potentially publicly accessible places. Though these are currently private, there is no doubt that the proposed sites will loom large in the western skylines of both these important hills, and decisions made today will have long and lasting implications for the future of heritage and tourism in the region.

I will return to Lough Gur shortly and highlight what I think is the most alarming aspect of this proposal. However, before this, I would like to first discuss another curious underplaying of another potentially important site I have noticed in this assessment, which I feel once more highlights a seemingly duplicitous undercurrent running through this document.

Section 14.3.1.2.2. Neolithic Period (4000 – 2500 BC) states that:

There are no confirmed Neolithic sites recorded within the 3km radius study zone of the proposed WF. However, some of the excavation within the study area may be Neolithic in date. Possible Neolithic site (recorded monument LI039-179) was excavated in 2002 by Brian Halpin under licence No. 02E0396…

Is it true to state that there are no confirmed Neolithic Monuments within the 3km radius as shown in Figure 14-2 of the proposal, but it notably omits the large henge monument found in Boherygeela, approximately 2.5 km north of turbines One and Two. This is a considerable monument being described by the National Monuments Service as follows:

It consists of an oval circuit of bank inside of which is a wide fosse (Wth c. 7m-10m, D 1m ) with an overall diameter of c. 70m.

To put this in perspective, the Grange Stone Circle, widely known as Ireland's largest stone circle, has similar total dimensions. Rose Cleary Showed in 2015 that the initial phases of construction at Grange began almost 5,000 years ago, at the end of the Neolithic Period. Ronald Hicks, one of the few academics to directly make mention of the site in Boherygeela describes the landscape here as follows:

Perhaps the most interesting example of an association between henges and oenach sites [in Ireland] occurs near the ancient sacred area of Lough Gur in Co. Limerick, where Hogan placed his largest group of *oenaige*, listing ten names…

He goes on to state that:

Lying within 5km east and east-south-east of Monaster is a cluster of three other henge-like earthworks, in the townlands of Mortgage, Boherageela, and Rathmore North.

The sites in the townlands of Mortgage and Rathmore North are outside the 3km radius, so I will make no further comment on them here, but Hicks' work seems to imply that there is a considerable, and as of yet, scarcely explored ceremonial landscape found in the nearby vicinity of the proposed turbines, and with one element of this possible landscape being found within 3km of the suggested turbine locations. In his same paper, Hicks informs us that henge monuments begin to appear in Ireland around 2800 BC. This broadly aligns with Rose Cleary's dating of the initial phases of construction at the Grange Stone Circle (2850 -2950 BC). There is an importance to all this beyond what would seem to be the unusual omission of what is a relatively rare and noteworthy monument in the vicinity of the proposed turbines. The immediate area around Lough Gur is recognised for the richness of its archaeological remains (see Figure 4-7 in the discussed assessment for a map showing the boundary of the Lough Gur SMR Zone). However, sites such as the one at Boherygeela have the potential to expand the total area of this already centrally important ancient landscape considerably. If sites such as the henge at Bohergeela, alongside the fainter remains at Mortgage and Rathmore, are indeed shown to be part of an extended suite of Neolithic remains, then it would not seem excessive to state that this area of Limerick is one of Ireland's most important landscapes for that period. I would argue this could put it on par with Brú na Bóinne, a World Heritage Site. Following on from this, and it is worth recalling that as early as 2009 there were proposals to have Lough Gur considered as a World Heritage Site (as Brú na Bóinne already is). The management plan of that year stated that:

Lough Gur is an outstanding heritage and natural resource of international significance. Museums and collections from all over Britain and Ireland contain pieces from this area. Inhabited for over 5000 years the zone contains over 130 listed sites (28 of which are national monuments in State care) ranging in date from late Neolithic / early Bronze Age through to post Medieval times. Surviving monuments include stone circles, ring forts, standing stones, a megalithic tomb, holy wells, churches, and castles. It is also designated as a Natural Heritage Area and Birdlife Sanctuary.

In recognition of these unique characteristics, it is proposed that Lough Gur could be nominated for inclusion on the World Heritage List.

I see no reason why we still should not have this ambition for Lough Gur. Indeed, as more sites and discoveries are unearthed in the region, the case for it grows. Of course, to be considered for such an accolade, the following much always be held at the forefront of the mind:

To be deemed of outstanding universal value a property must meet the conditions on integrity and/or authenticity as per the Nara Document on Authenticity. The Inspectorate is very demanding in this respect. For cultural sites this would involve a clear and independently substantiated justification of any 'intervention' by way of, for example, conservation/restoration or adaptation.

It is hard to imagine such awards being received under the shadow of so many turbines. It seems grimly ironic to me that one of the stated benefits of such proposals is as a means of safeguarding for the future, yet we are clearly limiting many potential future opportunities for the development, growth and protection of our local heritage.

The Grange Stone Circle is almost certainly the most important single monument in the Lough Gur archaeological complex. Given the density of sites found here, this is no mean feat. Frankly, it stretches credulity to breaking that you would even consider locating any infrastructural elements in its immediate vicinity (see Vol. 3 Appendix 2D, 2.6 Archaeology). Cleary and Hogan's 2013 paper, *Recent Survey Work at Lough Gur, Co. Limerick*, clearly demonstrates that there are numerous sub surface features found in this area. Two of the areas they surveyed are located on either side of the R512 and adjacent to the Grange Stone Circle and the proposed route for the connector cable in your proposal. As they write when introducing their study area:

The density and variety of archaeological monuments highlights the importance of the Grange landscape from prehistoric times.

Many of the lesser-known sites are poorly understood here, even today. As two examples, and both of these on the western side of the R512, the so called 'stone avenue,' first described as such by Lynch in 1895, was later considered as a possible count tomb by Ó Nualláin and Cody. Alongside this, is a feature marked as the site of a stone circle on a 1924 map but later reinterpreted as a henge monument by Ó Nualláin and Cody. The Ballinlee windfarm proposals makes no mention of any archaeological surveying in advance of any groundworks, nor does it recommend having an archaeologist on site during infrastructural works concerning the connecting cable.

What Cleary and Hogan show is that there are many sub-surface features found on both side of the R512, and alongside the Grange Stone Circle, between it and the R512, 'the densest concentration of magnetic responses occurs.' They go on to describe a series of 'amorphous anomalies which may be archaeological in nature.' These include a circle measuring *c.* 13m in diameter, and a possible buried stone structure. Their paper also notes that one of the most apparent sub surface features:

A large sub-circular anomaly on the west end appears to extend outside the survey area.

In the interest of full transparency, I will acknowledge that in this instance the un-surveyed features are unlikely to extent beneath the R512, but this anomaly once more highlights the complexity of the archaeology here, with many sites now only existing as sub-surface features. Overall, this paper by Cleary and Hogan demonstrates how the archaeological importance of the Grange Stone Circle complex is even more multifaceted and nuanced than the surviving field monuments suggest:

While some anomalous are clearly of archaeological potential, the complexity and ill-defined nature of many other geophysical responses make it difficult to confidently distinguish anomalies of archaeological interest from those relating to modern disturbance or features of geological origin. The magnetic signatures of features of archaeological origin suggest that most comprise the remains of stone-built structures and earthworks of varying size and form and these appear to share morphological affinities with the extant stone circles. The survey project has uncovered a more complex archaeological landscape than previously known and broadened the archaeological visibility of what are essentially two areas of ritual landscapes in the Lough Gur region.

The emphasis in the above is my own, but it makes me wonder have we become so rich in later Neolithic landscapes in Ireland that we can now unconcernedly run extensive cable networks through the middle of them?

The Ballinlee windfarm proposal makes not mention of any of this when situating their connecting infrastructure right through the above discussed area. Cleary and Hogan show that there are numerous sub-surface features found on both sides of the road, under which the cable is being proposed to be situated. There appears to be no contingency plan in place should anything of archaeological significance be unearthed during these groundworks (I was unable to find anything that would even indicate an archaeologist on site during the proposed works). This is unquestionably Limerick's most important archaeological sites, it would be uncontroversial to claim it as one of Ireland's most important historical places, and that surely affords it a duty of care which seems all but absent for these proposals.

Lough Gur is a very important places for many people, be they living locally, nationally and internationally. It has played a central role in the exploration of Ireland's past. The plans by Ballinlee Windfarm treat it as a nuisance, something to be downplayed and glossed over. In a broader sense, the landscape and heritage of Limerick is as important as anywhere else on this island. The people who call this place home are entitled to feel emotionally invested in the place their family and ancestors call home. There is clear evidence of duplicitous framing and distortion of context found in many places within these proposals. For us, the archaeology of our landscape is something to be cherished and explored. However, for the developers of this plan, those who will profit handsomely from it, it is simply something to be got around, an inconvenience.

Tourism is an important feature of Ireland's economic fortitude. Our history and heritage play a central role in this. My own job is entirely predicated on the richness of our archaeology. I would caution against jeopardising this, one of the centrally vital columns in our local and national economy, in the pursuit of financial gains which will have little to no demonstrable positive impacts on our local communities.

Le meas,

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## Bibliography

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*Lough Gur Environmental Management Study* (Limerick, 2009).

# Visual Impact & Landscape

## Visuals:

This section outlines significant deficiencies in the Landscape and Visual Impact Assessment (LVIA) and associated photomontages submitted by the developer. The omissions identified below demonstrate that the EIAR does not provide a complete, accurate, or reliable representation of how the proposed 17-turbine development will affect the surrounding communities of Bruff, Dromin, Camas, Athlacca and Ballygrennan. Key viewpoints, sensitive cultural receptors, residential properties, heritage sites, public amenities, and major road corridors were either partially assessed or entirely excluded. The cumulative impact with other regional wind farm projects, including Garrane Green Energy, was also not meaningfully addressed. As a result, the public and the decision-making authority have not been presented with the full visual consequences of the development. The information below highlights these omissions and explains why the LVIA as submitted cannot be considered adequate for decision-making purposes.

Below is a table representing the photomontages that were in the EIAR. Please note the comments made for each one.

| VP Ref | Location / Viewpoint | Nearest Turbine | Distance (km) | Visibility Rating | Community Relevance | Objection Notes (for submissions) |
|---|---|---|---|---|---|---|
| VP1 | R513 at Hospital | T15 | 9.3 | Medium/Low | Outside core area; approach road | Distant skyline intrusion on approach to Hospital; EIAR should assess sequential views on regional roads (EPA EIAR Guidelines). |
| VP2 | R515 SW of Elton | T17 | 7.9 | Medium | Wider area | Moderate visibility; requires cumulative assessment of skyline with other wind energy projects per CDP policy. |
| VP3 | L1511 at Kilfinane | T12 | 12.6 | Low | Peripheral | Elevated distant view; limited weight but relevant to regional landscape setting. |
| VP4 | R512 at Ardpatrick | T13 | 12.8 | Medium/Low | Peripheral commuter route | Long-range horizon view; ensure EIAR includes photomontage verification methodology. |
| VP5 | N20 at Charleville | T9 | 12.4 | Low | Peripheral | Very faint visibility; minimal planning weight (record only). |
| VP6 | N20 at Harding Grove | T3 | 6.9 | Medium | Wider commuter corridor | Moderate visibility; requires cumulative assessment with N20 corridor viewpoints. |
| VP7 | R518 at Bruree | T9 | 5.4 | High | Nearby settlement | Clear skyline alteration from Bruree; test against Limerick CDP Landscape Policies (LCAP 01). |
| VP8 | R512 at Kilmallock | T12 | 5.3 | High | Key commuter route | Strong visual presence along R512; sequential view assessment required (EPA EIAR Guidelines). |
| VP9 | L1550 at Trinity Holywell | T9 | 2.1 | Critical | Heritage context | Near sensitive heritage site; EIAR must address setting/amenity per National Monuments Acts 1930–2014. |
| VP10 | Dromin Graveyard | T9 | 1.7 | Critical | Core heritage site | Major adverse effect on graveyard setting; cultural/spiritual value under-assessed; contrary to CDP CH policies. |
| VP11 | Local Rd at Dromin North (a–b) | T9 | 0.8 | Critical | Residential cluster | Dominant near-field turbines <1 km; EIAR underrepresents receptor sensitivity and cumulative magnitude. |
| VP12 | Local Rd at Rathcannon (a–b) | T6 | 1.7 | Critical | Residential/agricultural | Turbines above ridgeline; insufficient mitigation; check compliance with LCAP 01 and rural amenity objectives. |
| VP13 | Rathcannon (L1414) (a–b) | T3 | 1.1 | Critical | Rural community | Skyline dominance; residential receptors; photomontage suggests high magnitude of change. |
| VP14 | Camas South (a–c) | T9 | 0.7 | Critical | Central residential area | Closest residential exposure; EIAR lacks receptor-specific noise/flicker linkage with visual dominance. |
| VP15 | Tynacocka (R512) (a–b) | T15 | 0.9 | High | Main commuter road | Prominent roadside views; sequential impact not assessed; consider night-time aviation lighting effects. |
| VP16 | Bruff (R512) | T13 | 1.9 | Critical | Bruff town edge | Prominent skyline alteration at settlement edge; conflict with town approach character and CDP visual amenity. |
| VP17 | Grange Stone Circle | T5 | | Heritage | National monument | Protected archaeological landscape; EIAR mitigation insufficient for setting; CH policies engaged. |
| VP18 | Lough Gur Wedge Tomb | T5 | | Heritage | Protected site | National monument; adverse effect on heritage landscape; consider NPWS/CH guidance on setting. |
| VP19 | Lough Gur | T5 | 7 | Medium | Regional heritage setting | Visible across lake landscape; cumulative effects must be assessed with existing turbines/consents. |
| VP20 | Cahirgillmore (L1412) | T1 | 2.7 | Medium | Approach road | Moderate distance, open views; test against LCAP 01 and rural amenity objectives. |
| VP21 | West of Monaster (L1410) | T2 | 0.6 | Low | Peripheral | Horizon visibility; low planning weight but include for completeness. |
| VP22 | Residential Road at Adare | T2 | | Low | Peripheral | Very distant; negligible planning weight (record only). |

## What the Developer Failed to Include in Their Photomontages

The photomontages provided in Book 1 and Book 2 do not represent the real visual receptors in the Bruff–Dromin–Camas–Ballygrennan area. Several important viewpoints are missing entirely, including:

## No visual or Cumulative Impact with Existing or Planned Wind Farms

The EIAR must show: How these 17 turbines look in combination with other existing or permitted turbines.
They did not include:

- Any cumulative photomontage
- Any reference to wider landscape turbine presence

## Other Wind Farms Proposed in the Area

1. Garrane Green Energy Wind Farm
    - Proposed by Garrane Green Energy.
    - Up to **9 turbines** are planned in the townland of *Garrane, Co. Limerick*.
2. Ballynisky (Coolcappa) Wind Farm
    - Proposed by **Ballynisky Green Energy**.
    - The plan is for **6 turbines**, with a height of ~158 m (tower + blade).
    - The site is designated as a "preferred area" for wind development in the Limerick City & County Development Plan 2022–2028.
3. Oatfield Wind Farm (near Clare / Limerick border)
    - Proposed by **Ørsted**.
    - Up to **11 turbines** are being considered.
    - Although in County Clare, it's relatively close (northeast of Sixmilebridge) and could be relevant for wider cumulative effects depending on how far the cumulative study in the EIAR stretches.

This is a major LVIA failure.

## Wind Energy Guidelines and Noise

The wind energy Guidelines 2006 are seriously out of date which has been confirmed and acknowledged by Government Ministers and widely criticised. In respect of health protection, these guidelines assess Noise and impacts on outdated assessment criteria that has been internationally dispelled by Noise Experts. The use of ETSU_97 (now over 30 years old) cannot assess low-frequency noise. Its assessment methodology is flawed as the applied A-weighted sound levels are not adequate or fit for purpose, to assess ILFN acoustic pollution propagated by wind turbines. ETSU-R-97 and the IoA Good Practice Guide, 2013 are both deficient and currently under review and should not be relied upon for determining or assessing meaningful and acceptable noise limits for operational wind farms.

The EIAR concludes that no adverse health effects are expected, citing international reviews that downplaying physiological harm from infrasound or low-frequency noise. There is now scientific evidence that wind turbines can emit infrasound spreading at least 10 km, at levels proven to affect humans. People exposed to this kind of infrasound often report pressure sensations, anxiety,

migraines, dizziness, sleep deprivation, and chronic fatigue. *(Mattsson, K. (2025, October 8). Separating myth from fact on wind turbine noise [Lecture transcript]. Copenhagen, Denmark: Uppsala University.)*

# Visual Impacts

## Visual Impact – Golden Vale

The proposal to install nine industrial-scale wind turbines within the low-lying agricultural landscape of the Golden Vale raises serious concerns. To date, wind farms have predominantly been located on elevated terrain, and this shift toward development in flat, productive farmland represents a significant departure from established siting practices.

The Golden Vale for the readers of this document who may not be aware, refers to a historic agricultural region in the province of Munster, spanning parts of County Cork, County Limerick and County Tipperary. It is regarded as some of the most fertile farmland in Ireland, famed for dairy production. The region is celebrated not just for scenery but for its farming heritage and local produce, making it ideal for slower, "taste of place" type visits

For tourism, it offers scenic drives, countryside views, and pleasant rural stops. It is strongly promoted by Ballyhoura and Failte Ireland.




*Figure 16: From VisitBallyhours.com*

The Golden Vale Drive takes in the villages and towns of Kilmallock, Bruree, Bruff, Croom, Lough Gur, Ballyneety, Pallasgreen, Emly, Galbally, Kilfinane and Ballylanders.

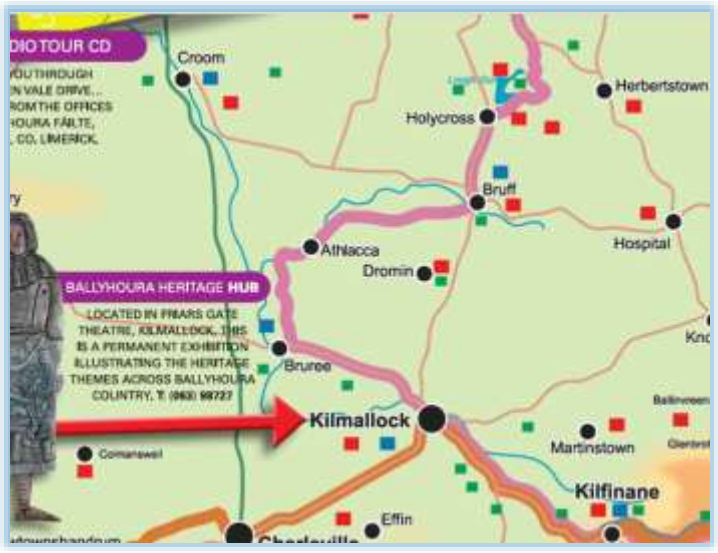



*Figure 17: Golden Vale Heritage Brochure*

## Cumulative Impacts – Visual

Concurrent to the application the Garrane Wind Farm, is another large wind farm proposal by the applicant Ballinlee Green Energy. It is important to state that both the Garrane and Ballinlee Wind Farms are owned by the parent company Greensource, based in Adare, Co. Limerick.

The distance between Garrane Wind Farm T9 is just 7.9km from the nearest Turbine from Ballinlee Wind Farm.

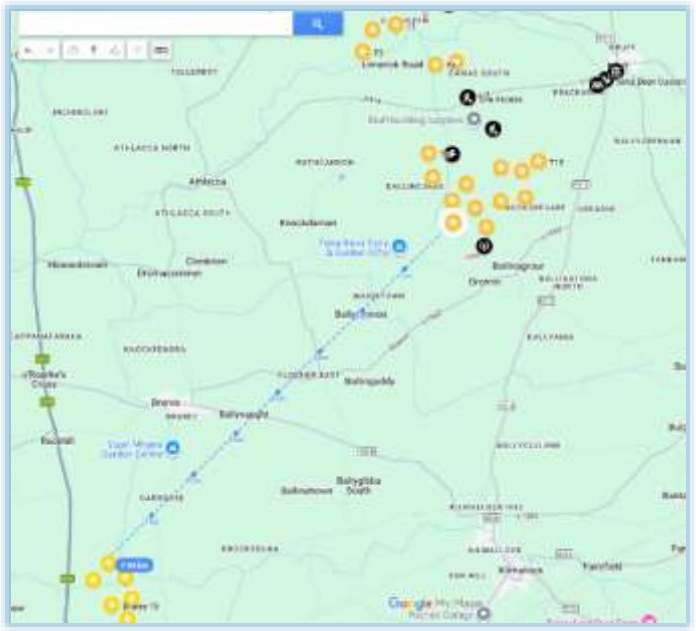


*Figure 18Distance from Garrane Wind Farm to Ballinlee Wind Farm*

It is important to consider that the Ballinlee Wind Farm is not the only large wind-energy development being planned in our wider area. There are other proposals either in planning or progressing through environmental assessment, and these projects would all contribute to the overall impact on our community.

The most significant of these is the Garrane Green Energy Wind Farm near Bruree. This includes nine turbines, a 110 kV substation and associated works. It is located roughly eight kilometres south-west of the Ballinlee site. The planning documents for Garrane clearly identify the proposed Ballinlee Wind Farm as the closest neighbouring wind energy project, and it is included in their own cumulative impact tables and assessments. They list Ballinlee as approximately 7.7 kilometres from their turbines.

The Ballinlee Natura Impact Statement does briefly list other plans and projects in the wider region, including Garrane. However, when we look at the main Ballinlee EIAR, especially the chapters dealing with Population and Human Health, Landscape and Visual impacts and Traffic and Transportation, there is no meaningful cumulative assessment that explains how Ballinlee and Garrane together might affect the same communities.

This matters because people in Bruff, Dromin and Athlacca and the wider areas would not experience these developments in isolation. They would see multiple wind farms on the landscape. They could experience increased construction periods on the same road network. They may be affected by overlapping traffic, noise, visual change and disturbance if more than one project goes ahead in the same timeframe.

What is also concerning is that the Garrane EIAR acknowledges Ballinlee as a significant neighbouring project, yet the Ballinlee EIAR does not offer the same level of transparency or analysis in return. This inconsistency leaves major unanswered questions for our community.

The photomontages presented in Book 1 and Book 2 of the EIAR fail to represent the real visual receptors in the Bruff–Dromin–Camas–Ballygrennan area and therefore do not provide an accurate or reliable assessment of the true visual impact of the proposed development. Several highly sensitive cultural and residential viewpoints were omitted entirely. Graveyards and burial grounds, which are required visual receptors under EIAR guidance, were not assessed. These omissions include Dromin Graveyard, where turbines would be widely visible from the upper section, Camas Graveyard, which has no internal visual representation, the famine burial sites near the Bruff water tower and Guineas Field, and the old roadside graveyard at Holycross beside the proposed cable route. Failing to include these locations removes key cultural landscapes from the visual assessment and undermines the credibility of the VIA.

In addition, multiple heritage sites that should have mandatory photomontage viewpoints were excluded. No visual assessment was provided from Ballygrennan Castle, despite its

elevated position and open views. The Rockbarton estate, the Old Garda (RIC) Barracks in Bruff, mass rocks and ringforts, and the historic settlement near the proposed substation were omitted entirely from the visual record. These omissions are particularly serious because they involve protected structures, recorded monuments, and archaeological landscapes that are specifically identified in EIAR requirements as mandatory receptors. The absence of photomontages from these locations means the landscape and heritage impact has not been properly assessed.

The developer also failed to include visualisations from the many residential properties located within 800 metres to 1.5 kilometres of the turbines. Many of these homes directly face the turbine cluster from kitchen, living room, or bedroom windows, yet no representative residential viewpoints were included. Under EIAR standards, residential receptors must be depicted to allow decision-makers and the public to understand the degree of visual dominance. By omitting these properties, the EIAR does not accurately reflect the impact on the local community.

Important road corridors were also excluded. No photomontages were provided from flood-prone sections of road where water regularly reaches the road surface, nor from the low-lying bends and straight sections along the grid connection route. These are locations where turbines and construction works will be highly visible. Rural roads that are expected to receive heavy construction traffic were also omitted. These roads represent key daily-use public viewpoints but were not assessed in the VIA.

Furthermore, the EIAR failed to assess long views across open farmland within the Golden Vale or elevated viewpoints overlooking the landscape. The Limerick County Development Plan identifies significant areas of this region as visually sensitive, yet the developer did not include photomontages from these areas. This omission presents an incomplete picture of the landscape's sensitivity and the scale of visual intrusion.

There are also no photomontages showing what residents and visitors will see when approaching Bruff, Dromin, Athlacca, or Camas, including the approaches from the R512 and other main local routes. LVIA practice requires assessment from approach roads into settlements, yet none were included. Similarly, viewpoints from public amenities such as walking routes, GAA community spaces, and the river corridor—where wildlife including storks is regularly observed—were ignored. These are areas used daily by the local population and should have been included as standard.

The photomontages also omit several mandatory visual assessment elements. There are no night-time visualisations showing aviation lighting, although turbines of this scale require red flashing aviation lights that will be visible for many kilometres. There are no views from school routes or schools within the Bruff–Dromin–Athlacca catchment area, even though EIAR standards require assessment of sensitive receptors used by children. The developer

did not provide photomontages showing full turbine height in several locations; images were taken from angles that hide the hub or reduce the perceived scale. This is misleading and reduces the apparent dominance of the structures.

Cumulative visual assessment is almost entirely absent. The EIAR fails to show how the 17 turbines at Ballinlee will interact visually with other existing, permitted, or proposed wind farms in the region. This is a major omission because the nearby Garrane Green Energy Wind Farm, located approximately eight kilometres away, clearly identifies Ballinlee as its closest neighbouring project. The Garrane EIAR includes Ballinlee in their cumulative tables, yet the Ballinlee EIAR does not offer equivalent transparency. This inconsistency leaves the community without a proper understanding of how multiple wind farms may collectively transform the landscape, increase construction traffic, and intensify visual dominance.

The EIAR also omits photomontages from ringforts and archaeological sites, despite many being elevated and offering panoramic views. These are recorded monuments and should have been included. No visuals were provided from farmyards, dairy parlours, livestock fields, or any working farmland, even though these landscapes are used daily and will be directly affected. The cabling infrastructure, trench works, temporary compounds, spoil heaps, and hedgerow clearance were also excluded from visualisation, presenting a false impression that the construction phase has no visual impact.

Additionally, all photomontages appear to be taken in full summer foliage, which artificially maximises screening. There are no winter photomontages, even though visibility is significantly greater in winter when trees are bare, and hedges are low. The VIA also avoids showing elevated windows or upstairs views from two-storey houses, which would reveal a far clearer view of the turbines. In many cases the photomontages appear to have been taken from behind hedges or buildings to minimise visibility.

Finally, the EIAR does not include photomontages from the approaches to Lough Gur or areas within the protected landscape zone, despite the potential for turbine visibility from these important amenity and heritage locations. Nor were any zoom-corrected or focal-length-corrected images provided; instead, wide-angle lenses were used, which make turbines appear smaller and further away than they are. This does not comply with established LVIA guidance and misrepresents the true scale of impact.

In summary, the developer's visual assessment fails to meet even basic EIAR standards. By omitting graveyards, heritage sites, archaeological monuments, residential clusters, schools, public amenities, winter viewpoints, night lighting, cumulative impacts, and construction-phase visuals, the EIAR seriously underrepresents the actual landscape and visual impact of the proposed development. It does not show the impact of having other wind farms nearby. As a result, the public and the decision-making authority have been

deprived of the information necessary to understand the full consequences of the project, and the VIA cannot be considered complete or reliable.

# Material Assets – Traffic & Transportation

## Areas of Omission on Traffic Management Plan.

The following provides information on high-risk safety concerns that may have been deliberately omitted from the planning application and therefore may be putting lives of the local communities at serious risk.

The planning application advises:

*The aim of the Traffic Management Plan is to provide a safe working environment for construction workers and efficient passage of traffic and other road users through the proposed development site and associated works. The procedures to be implemented by the contractor will include the provision of facilities for the safe passage of pedestrian and vehicular traffic and measures to separate them from the construction work.*

There is a serious omission here as the safety of every road user is important. The developers/contractor must legally provide a safe working environment for construction workers. However, this statement clearly omits the provision of a safe environment for all road users. Therefore, the principle of creating a traffic management plan in utmost good faith is clearly not being demonstrated.

The R516 and R512 are predominantly country roads, shared by vehicles, pedestrians and cyclists, and runners; there is no defined pedestrian, running or cycling area, therefore it is impossible to separate from construction traffic and provide for the safe passage of pedestrians, runners and cyclists. Indeed, cyclists have been completely omitted from the traffic management plan. A daily/weekly part of country life is going for a walk or cycling with both the above roads providing access to various loops. Without the above being addressed clearly. Then the safety of both pedestrians and cyclists is being put at risk.

The above risks become extremely high risk on the L roads around construction site and cable laying route.

Churches Croom / Bruff: There are an average of four funerals per month for each church, along with many other school, social and family occasions (christenings, weddings) throughout the year.

## Croom Church

The overflow vehicles from the church carpark, park on the roadside, with the funeral hearse parking directly outside the front entrance of the church on the roadside for funerals. In line with local tradition mourners will walk to the local graveyard as part of the funeral courtage.

## Bruff Church

Cars park on the street immediately around the church including along the R516 where there is no pedestrian pathway. With parking for funerals often on both sides of the R516, access through is restricted.

There is also an extremely busy medical practice close to the R516 within the general vicinity of the church. Again, the R516 approach to Bruff is utilised for parking by persons attending the medical practice, including the elderly/vulnerable persons within the community and surrounding areas. There is no pedestrian crossing available in this area. The junction of R516 with R512 at Bruff is high risk for pedestrians when availing of parking on R516. There is also a designated bus stop on the town side of this junction, with a very regular and popular bus service.

Both of the church locations lie directly on proposed construction supplier routes, with no feasible mitigation measures available to address the associated safety risks for pedestrians and vehicles.

Both national schools utilise their respective churches for practice sessions and school-associated religious ceremonies.

None of the above are mentioned or addressed in the Traffic Management Plan.

## Schools

St Marys Primary School, Croom is located on High Street, Skagh, Croom on the R516. Parking for access to the school is on the R516, with a lollipop lady in operation at school start and finish times. Along with car drop-off/collections and school buses.

There is also a pre-school and after school facility that operates close to the primary school, with a breakfast club option for pupils.

Scoil Dean Cussen, Bruff is located on the R512 with parking for access to the school on the R512. This is a very congested area at school times with both pedestrians and vehicle traffic for school drops/collections.

There is a school bus service that partially operates on the R516 from Crean Cross to Scoil Dean Cussen, Bruff. This involves parents waiting at the roadside with pupils for collection/drop off, which involves the pupils crossing the road for one either.

Secondary school bus routes also operate on the R516 with Crean Cross, Holycross and Bruff town being designated bus stops for the many students from the respective areas.

The planning application acknowledges there are schools within both towns, and will work around school start times. There is no plan provided, as it seems impractical with the various start and finish times involved in a school day to avoid and therefore increasing the safety risk for students and parents.

*The Irish Constitution recognizes children's rights through Article 42A, which was added in 2015. This article affirms that children have natural and imprescriptible rights, and the State has a duty to protect and vindicate them. Key provisions include making the child's best interests paramount in State interventions concerning their safety and welfare, and the right for a child's views to be heard and considered in court proceedings, taking into account their age and maturity.*

Therefore on this basis we object to this planning application as there is a serious risk to the safety and welfare of the above children/students during the construction phase. (This is separate to the health risks for pupils of Scoil Dean Cussen if planning permission was granted)

## Other Town Facilities

Bruff, the Thomas Fitzgerald Centre has become a focal point within the town and local area. It is now included in all Visit Ballyhoura tourist information, attracting many tourists due to the heritage and Kennedy family connection. It hosts events including guest speakers from international, national and local areas. Parking facilities for the Centre are shared in the area with the medical practice, church and on the R516. The Thomas Fitzgerald Centre is a very important visitor attraction within Bruff with no reference to the same on the Traffic Management Plan.

Croom, the community centre in Croom provides many sporting facilities for locals (indoor soccer, fitness classes, badminton,etc) including clubs and schools. It is a central venue to host county, regional and national sporting competitions. The facilities also host many other events, i.e. crafts/fairs, bingo, senior citizens events. There is some parking available outside the venue, with the majority of parking on the R516. There is also access to soccer facilities adjacent to the community centre.

Again there are serious safety concerns for both pedestrians and vehicles, it would again seem there is a deliberate omission in the planning application

The above are just a few of the many amenities in both towns.

## Croom Development Plan 2022-2026

*Encourage the development of safe and efficient movement and accessibility networks that will cater for the needs of all users and encourage priority for walking and cycling and public transport provision. Future development proposals for new residential, serviced sites, community and recreation and enterprise lands will demonstrate at design stage that consideration of Smarter Travel, mobility and connectivity with the town centre and community infrastructure has been considered;*

*(c) All future development proposal shall incorporate the relevant objectives of the Mid West Area Strategic Plan (MWASP 2011-2030), the Smarter Travel Strategy and the promotion of enhanced public transport facilities and services;*

*(d) Ensure that adequate facilities and access provisions are provided for those with disabilities in the community. The Council will strive to ensure that the provision of such facilities will be in line with current best practice; (e) Improve the efficiency of junctions as identified on land zoning map in the town to enhance the free flow of traffic through the area;*

The construction phase does not give cognisance to the effect the volume of HGVs will have with the above objective of the Croom Development Plan 2022-2026. At the consultation phase of the Croom Development Plan 2022-2026, parking issues were identified as an issue for local businesses. In particular regarding elderly and/or vulnerable persons having access to parking close to such facilities as pharmacy, grocery and post office.

It must be assumed this will continue to be an objective of any future Croom Development Plans in the years ahead to support the local community, businesses, amenities and the town in general. No assessment and/or mitigation has been taken in the planning application for the above. Indeed there is no evidence or reference of consultations with any businesses within the town of Croom in respect of the proposed R516 construction route and its impact.

The proposed construction phase is in direct conflict with C above and will have serious impact on the relevant objectives of the Mid West Area Strategic Plan (MWASP 2011-2030) and provides serious challenges for this objective.

## The Bruff Realm Development Plan advises:

*Tourism Development – It is an objective of the Council to enhance the tourism potential of the village, including the promotion of new tourism products in an environmentally sustainable manner, such as the linkages to JFK ancestry and the JFK Museum and work with relevant stakeholders to encourage new tourism development to be located within the village.*

*The proximity of the village to Lough Gur, one of Ireland's most important archaeological sites offers further opportunities to residents and visitors alike to the village to enhance and build on the recreational offering of the site. New walkway and cycleway linkages along the old road from Bruff to Lough Gur will be supported in this plan and in the new public realm plan for the village.*

The addition of construction traffic as per the planning application will contravene the above objectives of the Bruff Realm plan and have a drastic effect on potential tourism promotion within the town itself and surrounding areas.

Our local towns (Croom / Bruff), provide a safe environment in particular for our elderly/vulnerable people in the community and surrounding localities to maintain a level of independence as well as a social outlet. This may be daily trips to either town for the newspaper and some groceries, accessing the medical services, banking/credit union, post office (weekly pension) along with other

services provided. The R516 and its secondary routes provide a safe travel route, for this demographic of our communities to access our local towns. The proposed construction phase HGV volumes on the R516, will adversely affect this demographic of the community, and in some cases remove their independence due to fear of traffic volumes.

There is the potential that Monday to Saturday, the elderly and vulnerable in our communities will be prisoners within their own homes due the proposed construction phase planning to operate from 7am to 7pm. The effects of Covid-19 lockdown on our elderly/vulnerable community are well documented, if this proposed planning is granted permission, it is our opinion that Covid-19 like restrictions are being enforced on our elderly community again due to fear of travelling with the volume of traffic

As per the planning application there will be an increase in traffic volumes on the R516, and therefore volumes will increase on all secondary routes as people strive to avoid the construction route. These secondary routes do not have the provision or structure to cope with any additional traffic volumes. There are no assessments provided for any of these routes on potential accidents. The R516 and secondary routes are utilised by many locals for walking or cycling. Indeed the R516 is a main transition route for cyclists, however there is no mention in the planning application for the additional risks HGVs will create for all including cyclists and pedestrians.

## Existing Traffic Volumes:

Existing traffic volumes were recorded on Wednesday 15th January, 2025, it must be noted that no actual times and no defined locations are provided in the planning application. As of the above date (15/01/2025) students had only returned in one third level college in Limerick by this date, in another college students were only returning on a phased basis and students in the remaining college not returning until the end January 2025. In a study carried out by University College Galway in 2023, it was found that nationally forty percent of students remain in the family home and commute to third level colleges due to the shortage of accommodation. We must also recognise that the R516 and R512 link local towns, with Mondays being a preferred day for deliveries for businesses. As the planning application advises the area is predominantly agricultural, there is no allowance of adjustment for agricultural traffic peaks (summer months). With the local mart in Kilmallock taking place on Mondays this is also omitted from the traffic volumes.

Future baseline traffic predictions must include the effects of other windfarm planning applications and their construction supplier routes. The developer would have been aware of this fact at the time of submitting the application, as they already had other developments progressing through different stages of the planning process. Another application under process is the proposed Biomethane plant a short distance away, as the proposed application provides for a portion of the feed supply traffic through Croom. With Lough Gur being a popular tourist attraction especially during summer months, with access via both R516 and R512 is also omitted from traffic volumes.

The Tionscadal Eireann Project Ireland 2040 states from figures released by the N/M20 Project office show that the proportion of fatal collisions to all personal injury collisions on the N20 are four times higher than the national average. In addition, the rate of personal injury collisions on the N20 is substantially higher than average, meaning drivers are more likely to be involved in a personal injury collision on the N20 than on other national roads in the country.

The above statistic has an impact on the R516 and R512, in particular the R516 has many L routes directly linking to N/M20. This becomes an automatic detour for all transport when a road traffic accident occurs, often resulting in gridlock in Croom. Again given the above statistic has not been noted in the traffic management plan. The plan does not provide for an emergency process when traffic diversions occur due to closure of section(s) of the N/M20. The diversion of this volume traffic from the N/M20 increases the safety risks on the R516 and R512 with the addition of construction traffic the risk increases again.

The planning application displays the Turbine Delivery Route with an access track being provided at Tullovin for the turbine delivery. However there is no defined construction traffic route at Tullovin.

The planning application 16.2.1 Legislation, Policy and Guidance References includes The UK Traffic Capacity of Urban Roads TA79/99, must be considered irrelevant to this planning application as it is not directly applicable.

# Material Assets – Road Safety Audit Report

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SUBMISSION ON BALLINLEE WINDFARM
Planning Reference: 323780
Date for Submission: 17th November 2025
[Note comments in red &/or highlighted in yellow are from Martin Lavelle]
Roads Report

*Preamble*

*The Author of this Submission believes in Proper Planning & Sustainable Development. For every Mw of renewable energy, a Mw from fossil fuel or nuclear fuel will be needed as a back-up when the wind doesn't blow or the sun doesn't shine & on top of this duplication, we also have to invest in Grid upgrades costing €billions.*

We don't need duplication. We just need one system with capacity. Imposing excessive costs on the Citizen is a long way away from Proper Planning & Sustainable Development. The charging & curtailment charges being paid to developers remind one of the Cash for Ash scam in nIrl. Curtailment payments for energy in August 2025 would have supplied 700,000 houses, September 750,000 houses & October 750,000 houses. The squeezing of wind turbines into a restricted site to avail of such curtailment payments does not comply with the 2006 or 2019 Guidelines.

Table 2-1: Characteristics of the Proposed Development

| | |
|---|---|
| Proposed Development for which consent is sought | **Core Wind Farm Components**<br>• Seventeen (17) No. wind turbines (turbine tip height of 160m, and 150m (T6 only)) with associated foundations and crane hardstand areas.<br>• One (1) No. Permanent Meteorological Mast (92m height) and associated foundation, hardstand area and ancillary main crane hardstand area.<br>• One (1) No. Electrical Substation (110kV) including Eirgrid compound, IPP, maintenance compounds, ancillary building, security fencing and all associated works.<br>• Nine (9) No. site entrances.<br>• New and upgraded internal site service tracks (approximately 10.8km of new internal access tracks to be constructed).<br>• New clear span bridge over the Morningstar River.<br>• Underground electric collector cable systems between turbines within the wind farm site.<br>• Underground electric cabling systems between the wind farm site and connection point at existing Killonan 220/110kV substation.<br>**Associated Components of the Proposed Development**<br>• New temporary access track via R516 to facilitate turbine delivery route located in the townland of Tullovin.<br>• Three (3) No. temporary construction site compounds (one approximately 95m x 50m and two approximately 55m x 25m).<br>• Two (2) No. borrow pits to be used as a source of stone material during construction and for storage of excess excavated materials.<br>• Nine (9) No. permanent and two (2) temporary deposition areas.<br>• Associated surface water management systems.<br>• Tree felling required for wind farm infrastructure. |
| Other Associated Project Components | • Whooper Swan Management Area works<br>• Habitat Enhancement Area works<br>• Landscaping, fencing and all associated works. |

Summary of issues: Reasons for invalidation/Refusal in red font. (not exhaustive):

- The sweptpath analysis should have been for 2-way traffic over the entire route & not just pinch points. The applicant has not included a 2-way sweptpath analysis to the site showing road restrictions where passing bays will be required as the existing road widths are not adequate to accommodate passing HGV's or busses.

- The bridge over the Camoge River on the R516 Turbine delivery route is very narrow & it is a long span. No Sweptpath analysis or Structural analysis has been provided for Nacelle with weight of 350-400tonnes, Blade or Hub.

- 



| Ref # | Swept Path Drawing Number | Description of Location | Description of Enabling Works | Street view photo of site location |
|---|---|---|---|---|
| 13 | 22635-MWP-HR-00-DR-C-0020 | R516 crosses the River Camoge onto Clogghanduff Bridge in Tooreen facing south | • Verge strengthening required.<br>• Limerick City & County Council consultation for the works. |  |

Response: No landowner agreement to verge strengthening.

| | | | | |
|---|---|---|---|---|
| 14 | 22635-MWP-HR-00-DR-C-0021 | R516 reaches a junction with L8058 in Tullovin facing south-east | • Hedge / vegetation trimming required<br>• Limerick City & County Council consultation for the works. |  |

Response: No landowner agreement to hedge/vegetation trimming.

| | | | | |
|---|---|---|---|---|
| 15 | 22635-MWP-HR-00-DR-C-0022 | V-shaped road with two large turns on the R516 in Tullovin facing south-east | • One number wall section to be removed.<br>• Hedge/vegetation trimming required.<br>• Temporary access track surface required.<br>• Landowner permission in place for works removing walls, access track, vegetation removal/trimming.<br>• Limerick City & County Council consultation for the works. |  |

Response: No landowner agreement to hedge/vegetation trimming, no maps provided to indicate temporary access track, no landowner agreements provided with Folio maps.

| | | | | |
|---|---|---|---|---|
| 16 | 22635-MWP-HR-00-DR-C-0023 | R516 intersects Ballintaw Road in Ballintaw facing east | • Hedge/vegetation trimming required<br>• Limerick City & County Council consultation for the works. |  |

Response: No landowner agreement to hedge/vegetation trimming.

| | | | | |
|---|---|---|---|---|
| 17 | 22635-MWP-HR-00-DR-C-0024 | R516 heading east passing Lynchpin cottage in Carrigen/Camas North | • Verge strengthening required.<br>• Limerick City & County Council consultation for the works. |  |

Response: No landowner agreement to verge strengthening.

| | | | | |
|---|---|---|---|---|
| 18 | 22635-MWP-HR-00-DR-C-0025 | Site entrance is approximately 250m south-east from Lynchpin cottage in Carrigen | • One number telecom pole to be removed/relocated.<br>• Two number earth mounds to be removed.<br>• Two number concrete walls to be removed.<br>• Hedge/vegetation trimming required.<br>• Temporary access track surface required.<br>• Temporary widening surface required.<br>• Landowner permission in place for works removing walls, access track, vegetation removal/trimming.<br>• Limerick City & County Council consultation for the works. |  |

Response: No landowner agreement to removal of earth mounds, removal of walls, hedge/vegetation trimming.

The absence of these landowner consents to use of private property involves trespass as per Cremins v Dromada Windfarm 2023.

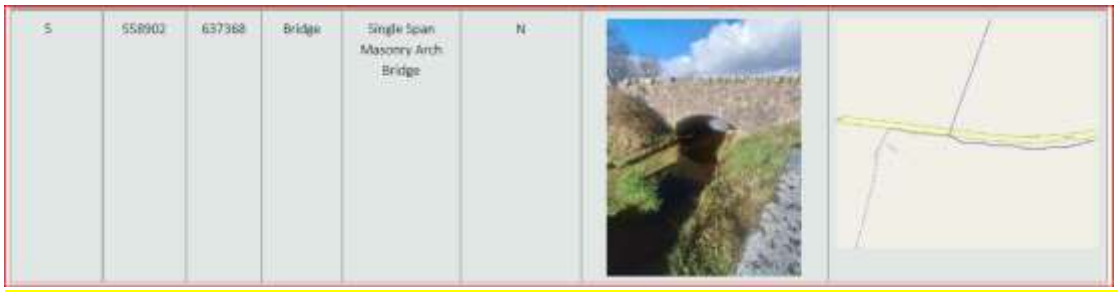
Table 2-1: Watercourse Crossings

| Watercourse crossing # | ITM (x) | ITM (y) | Crossing Type | Description | Private Land Required | Site Photo | EPA |
|---|---|---|---|---|---|---|---|
| 1 | 551235 | 641079 | Bridge | Six Arch Bridge | N |  |  |
| 2 | 552457 | 639573 | Bridge | Three Arch Bridge | N |  |  |

Response: No structural analysis provided to show these bridges can carry the load weights of Nacelle, Blade & Tower.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | 553971 | 638498 | Culvert | Single Span Concrete Culvert | N |  |  |
| 4 | 554356 | 638411 | Culvert | Single Span Concrete Culvert | N |  |  |

Response: No structural analysis provided to show these bridges can carry the load weights of Nacelle, Blade & Tower.




Response: No structural analysis provided to show these bridges can carry the load weights of Nacelle, Blade & Tower.

- It seems that the delivery route intends to travel across private lands. One of the landowner consents for this is not presented. Presenting this route without landowner consent is trespass.

2.3 Delivery Vehicle Types

Another important consideration for the route assessment is the standard delivery clearance area for manufacturers of this class of turbine which would typically be 6m wide. When road alignments are straight the blade delivery truck is not the most onerous in terms of width and height. For some turbines, as an example the Vestas V136, the height or width of the tower sections and the nacelle can be limiting. The bottom tower section is likely to have a bottom flange diameter of up to 4.5m. A maximum load height of 5m has been assumed for the tower sections to allow for ground and overhead clearance.

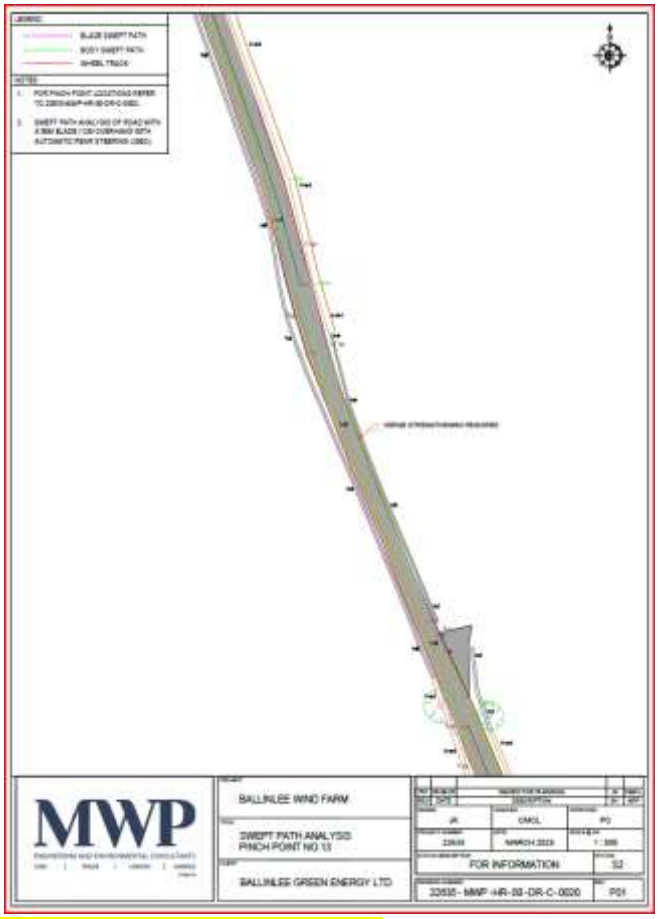
Response: The Local Roads are not wide enough for these vehicle widths.

## 4. Conclusions

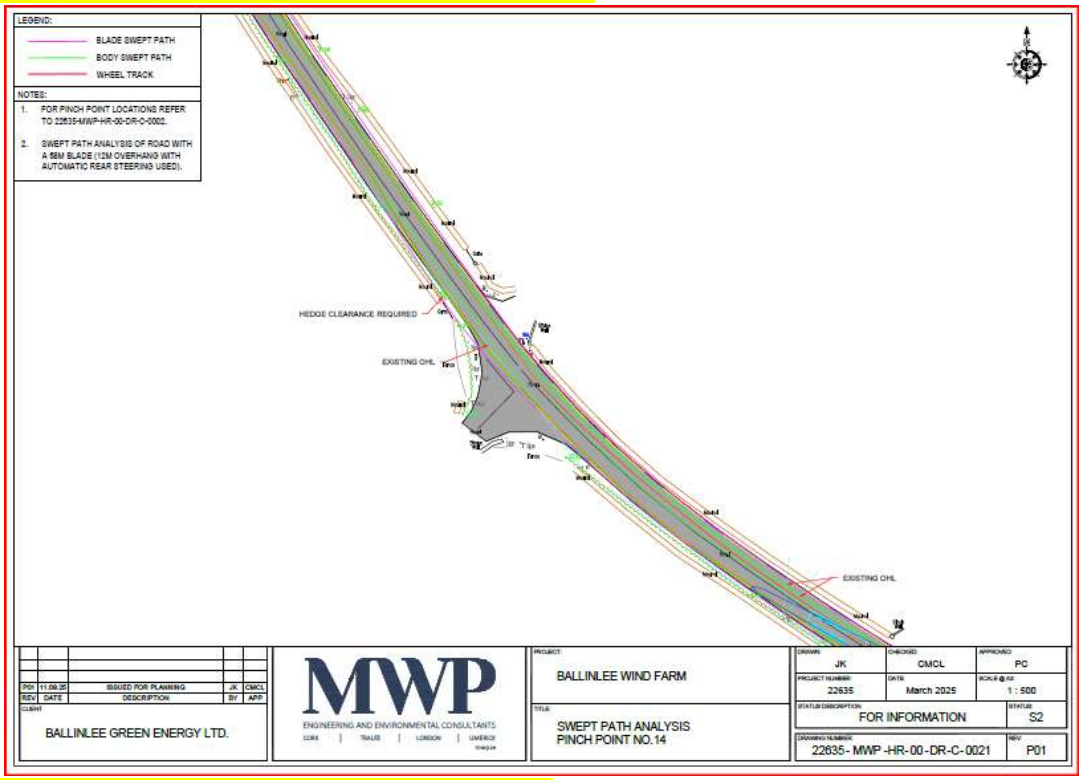
The swept path analysis of the proposed turbine delivery route has identified areas where component **overrun** requires works to be completed prior to deliveries occurring. These works have been detailed in drawings as seen in Appendix 1. The turbine delivery route is suitable for the delivery of turbine components to the proposed development.

Response: Overruns require landowner consents & these are not included as part of application.

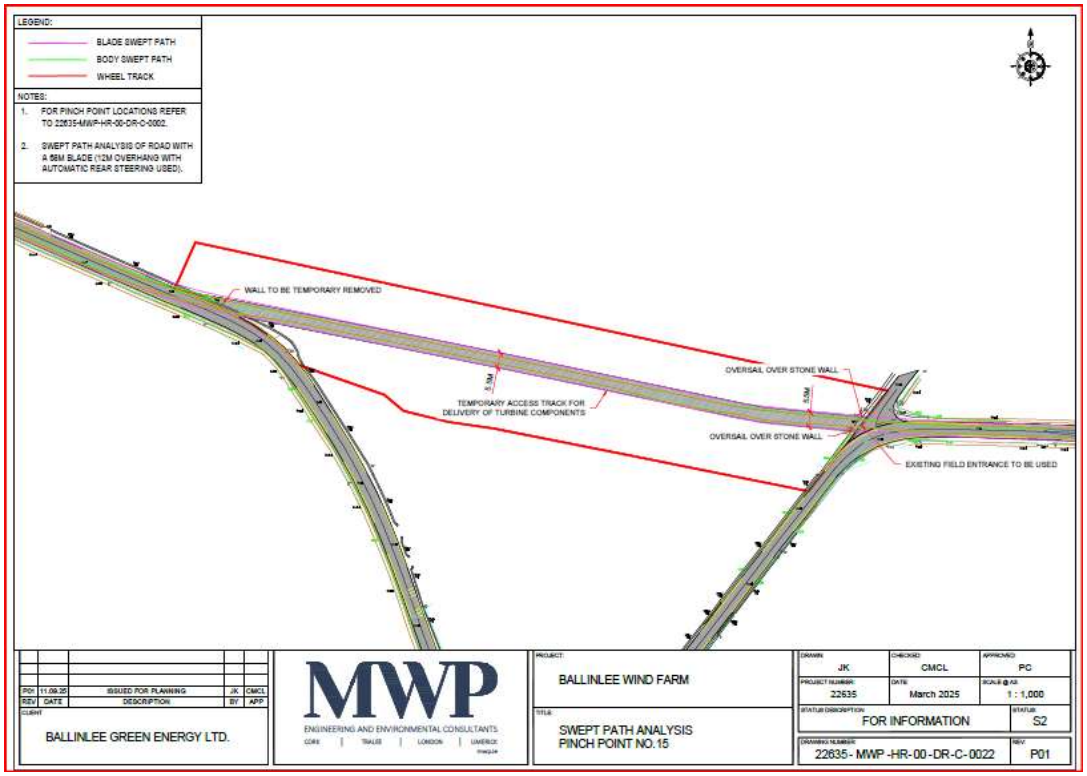





Response: Verge strengthening requires landowner consent.




Response: Hedge clearance requires landowner consent.




Response: There are 3 Folio references in relation to this route. No landowner consents are included with this application.





## 2.6 Tullovin Bridge

One section, near Tullovin Bridge, of the turbine delivery route (Ref 15, Table 2-2) requires a temporary access track as the swept path analysis highlighted vehicle manoeuvre difficulties at the bridge and the bends either side of the bridge. Figure 2-9 is an extract from the planning drawing showing the location of the proposed temporary access track. The proposed access track is temporary for the delivery of turbine components and will be reinstated following the construction phase. Details in relation to the works required are outlined in Chapter 4, Civil Engineering, Section 4.14.

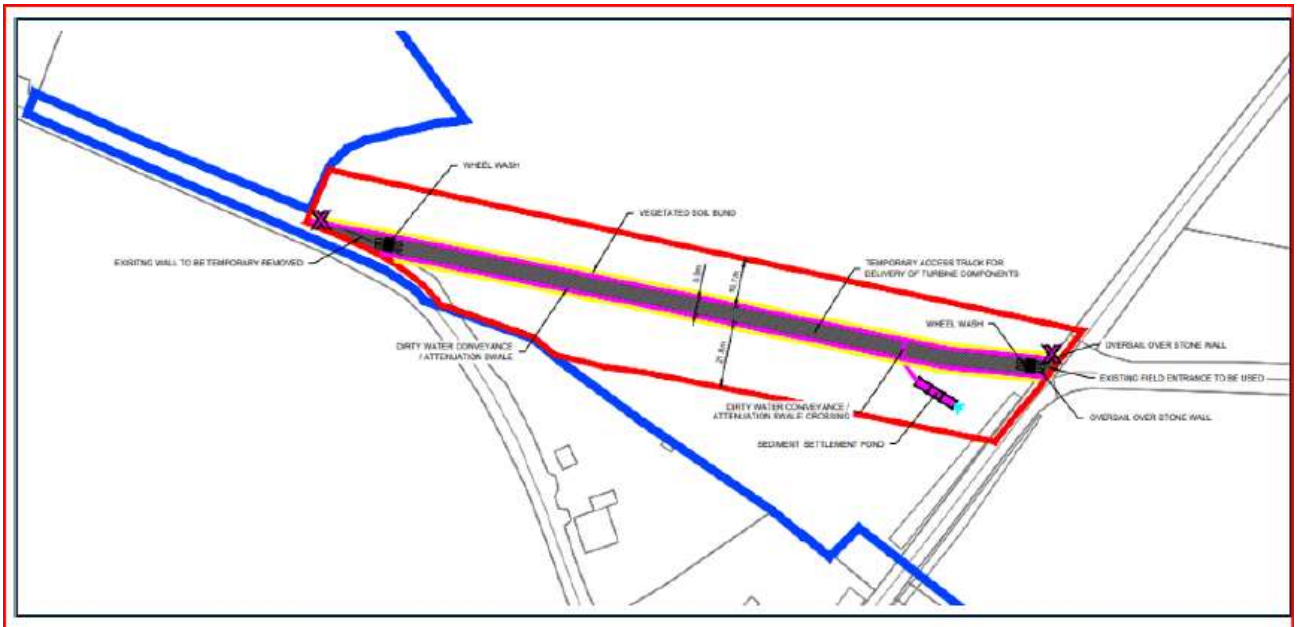
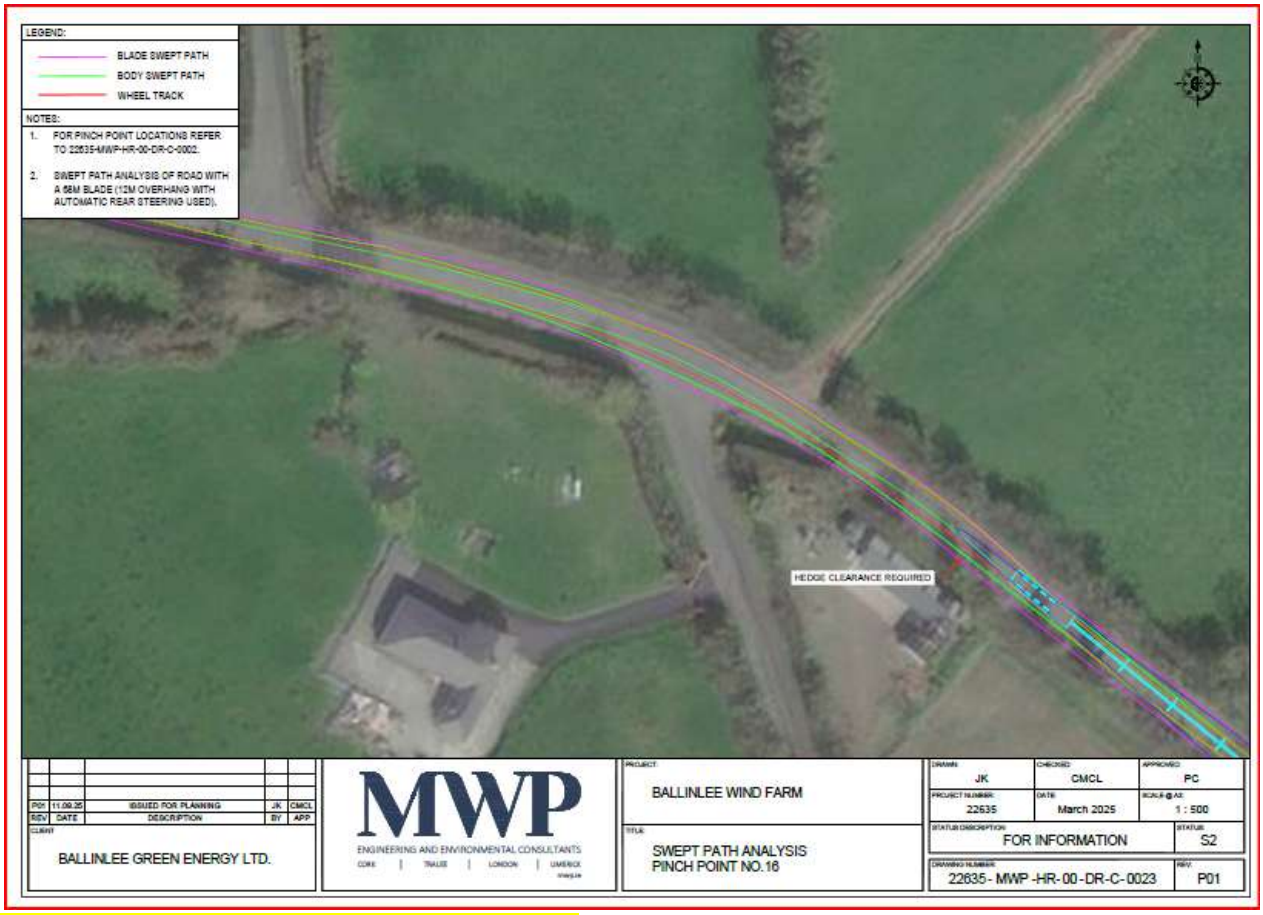


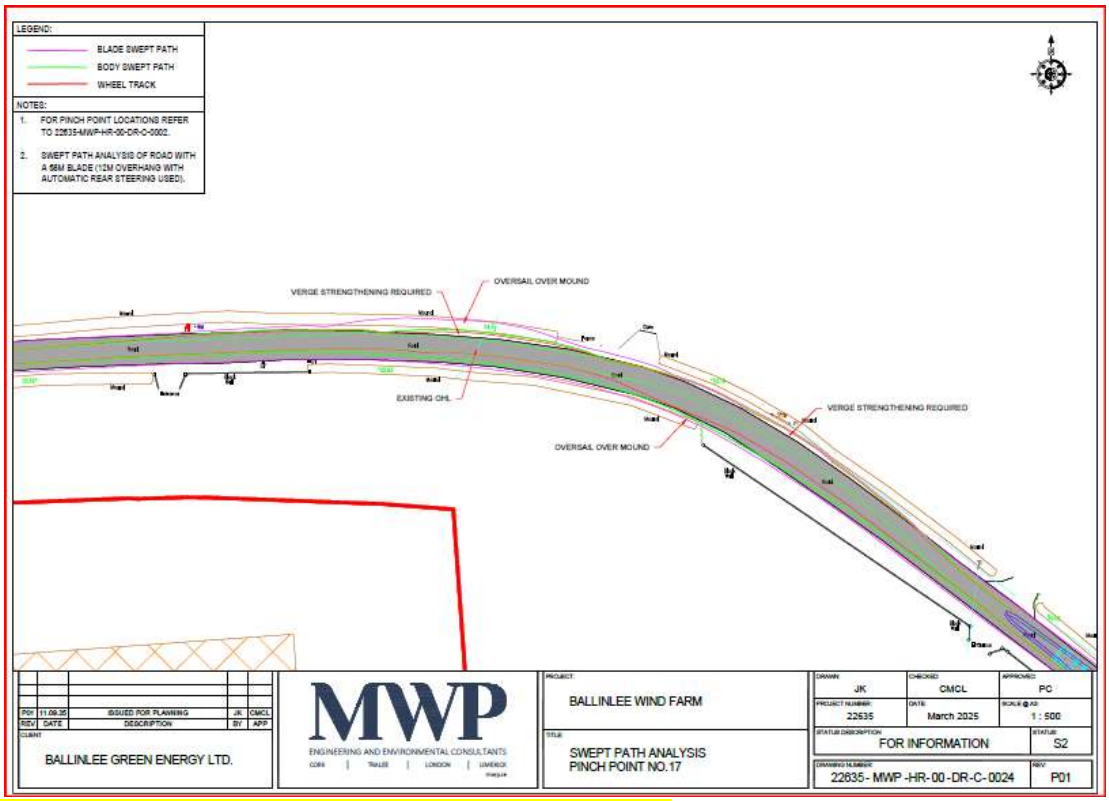

Figure 2-9: Extract from the planning drawings showing the Tullovin Temp Access track

Response: What do the blue lines on this Figure mean? Do they mean that the area is under the ownership/control of the applicant?

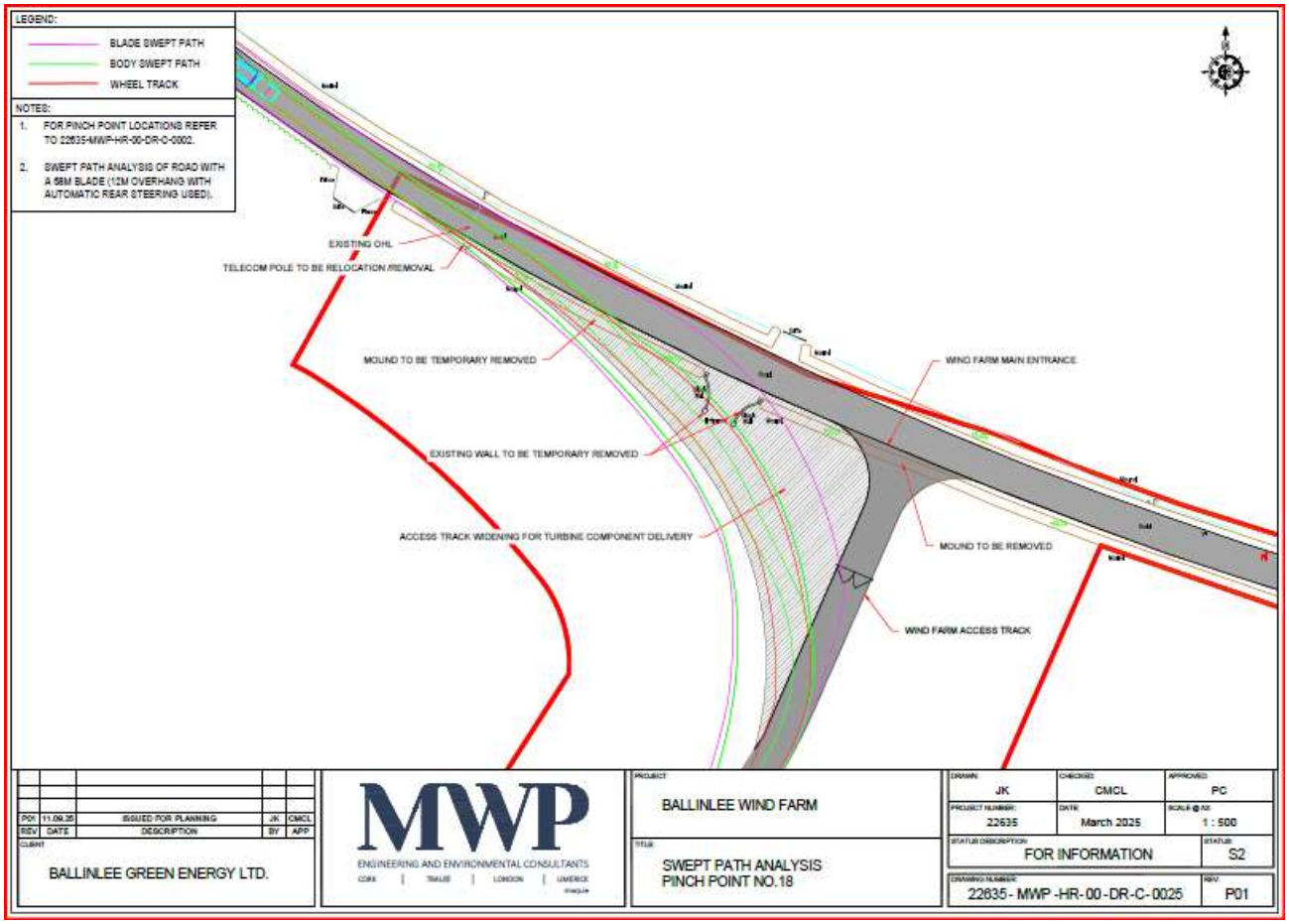





Response: No landowner consent to hedge clearance




Response: No landowner consent to verge strengthening or oversail




- Trespass on grass margin for grid connection & coloured red on application indicates an Invalid application: Dromada Windfarm (ROI) Ltd v Cremins. ACP cannot grant permission for trespass against the Law. The colouring of the grid connection in red on local roads indicates that the applicant has control or ownership of the road, which is an invalid statement.
- Typical Road diagrams to indicate minimum widths. These widths are not available on Regional/Local roads identified for deliveries.

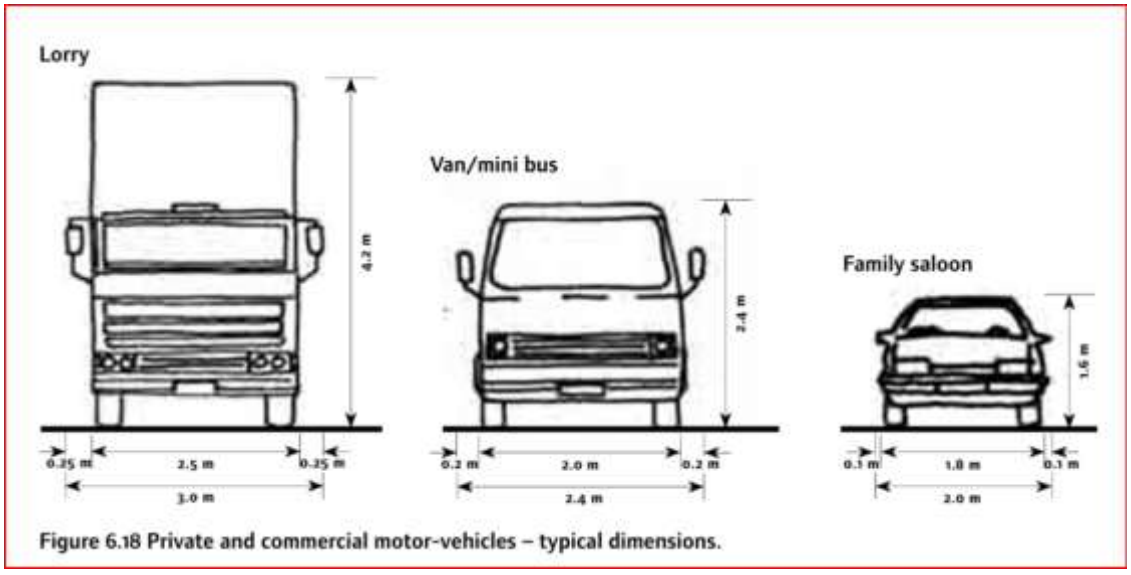



Figure 6.18 Private and commercial motor-vehicles – typical dimensions.

Manual for Streets UK

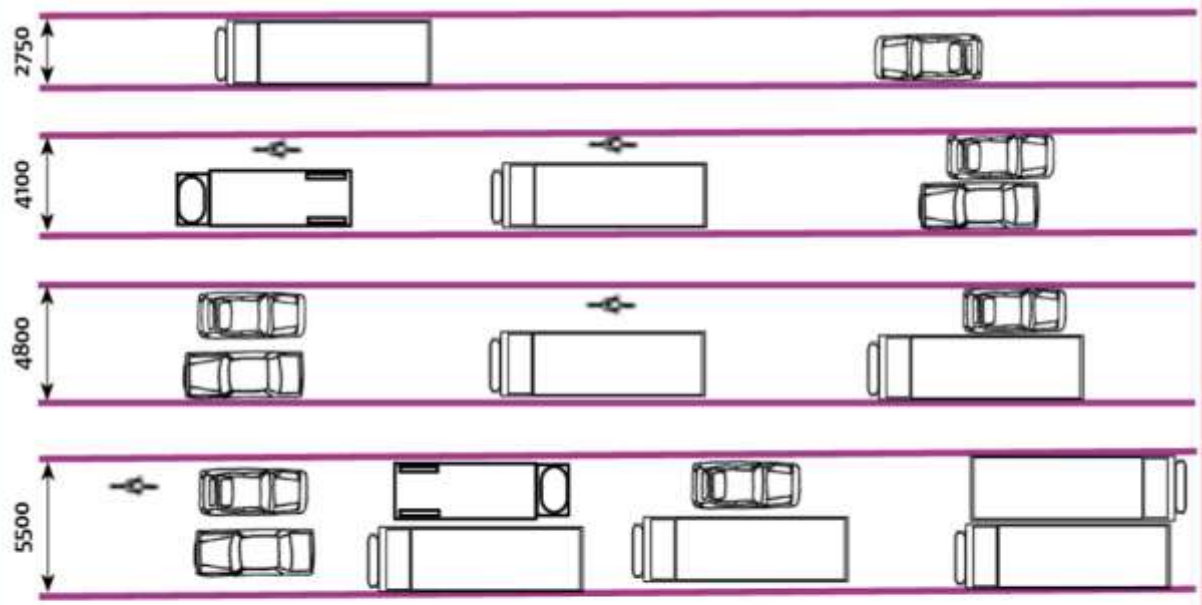



Figure 7.1 Illustrates what various carriageway widths can accommodate. They are not necessarily recommendations.

Manual for Streets

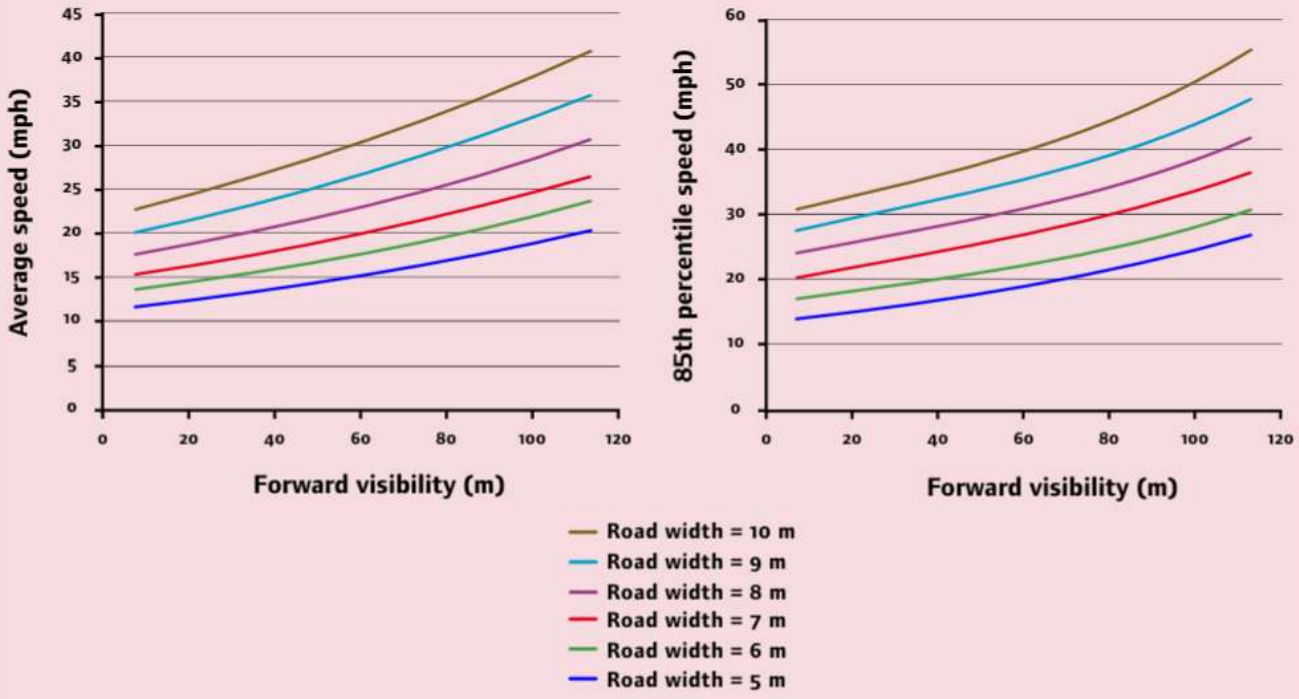


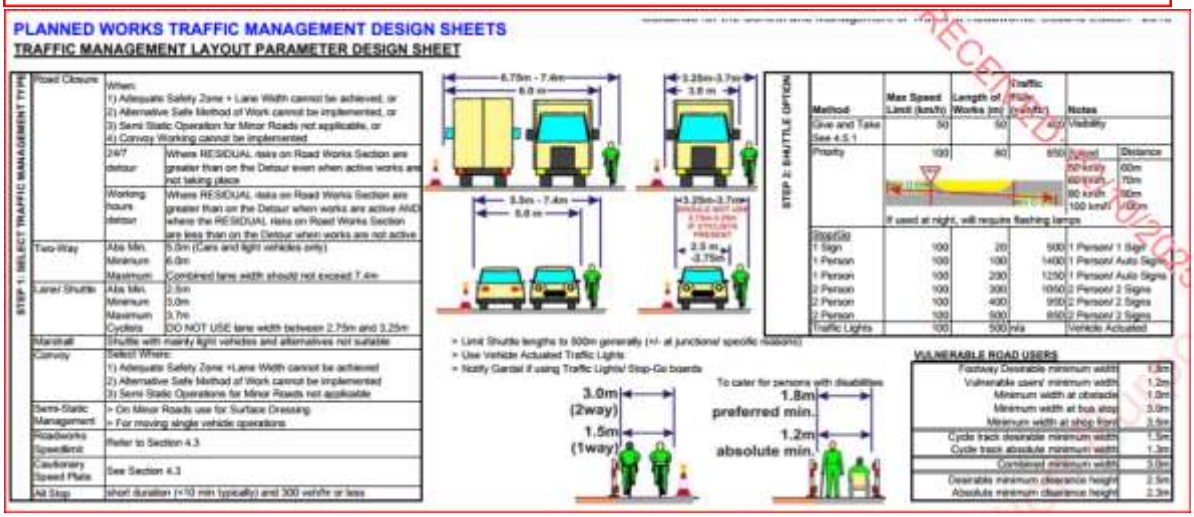

Figure 7.16 Correlation between visibility and carriageway width and vehicle speeds (a) average speeds and (b) 85th percentile speeds. These graphs can be used to give an indication of the speed at which traffic will travel for a given carriageway width/forward visibility combination.

Appendix A – HS2 Rural Road Design Criteria

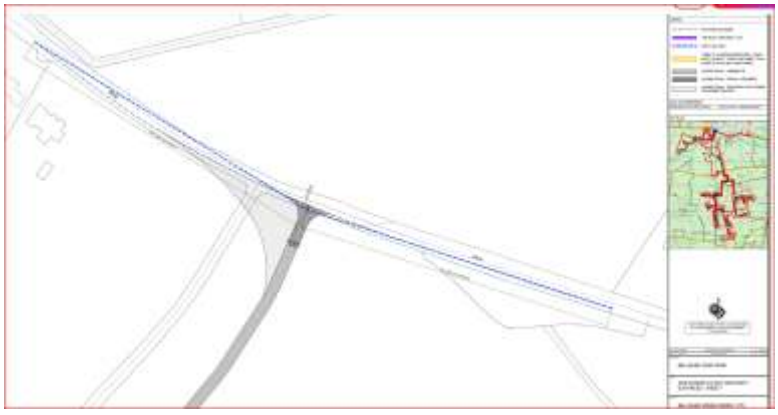
Design approach statement - Roads

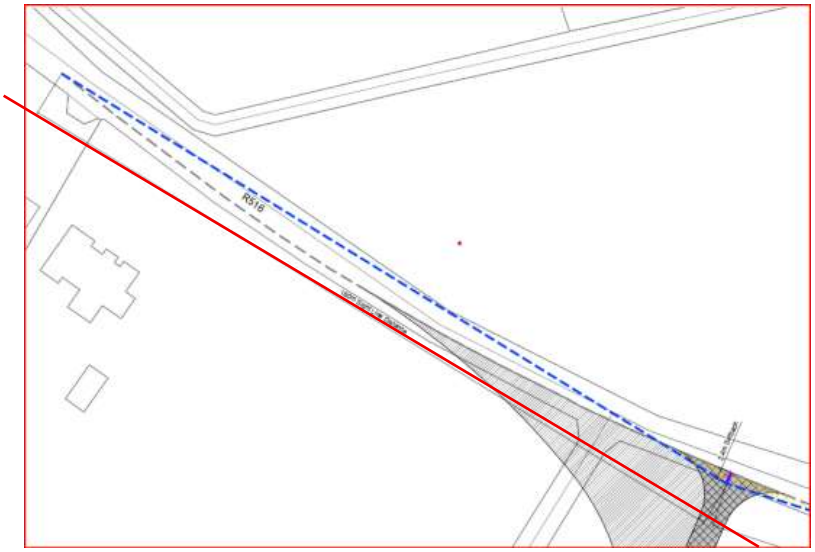
**Two-lane roads**

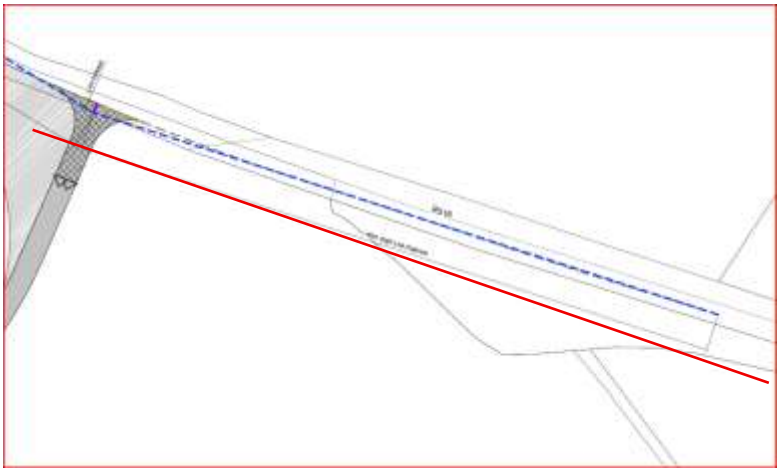
| | |
|---|---|
| A.6.3 | Rural road widths for diversions should generally match the existing, subject to a minimum of 5.5 metres (the minimum for two cars to pass in safety at low speed). This minimum width shall be increased to 6.0 metres for lengths with occasional use by buses or heavy goods vehicles and 6.8 metres for roads where buses or heavy goods vehicles are likely to pass each other on a regular basis. |
| A.6.4 | The need for any increased lane width at bends shall be determined on a case-by-case basis using vehicle tracking design tools. |
| A.6.5 | The maximum carriageway width for two-lane roads shall be 7.3 metres (plus any widening on bends that may be required). |
| A.6.6 | Hardstrips shall not be provided on minor two-lane rural roads. |



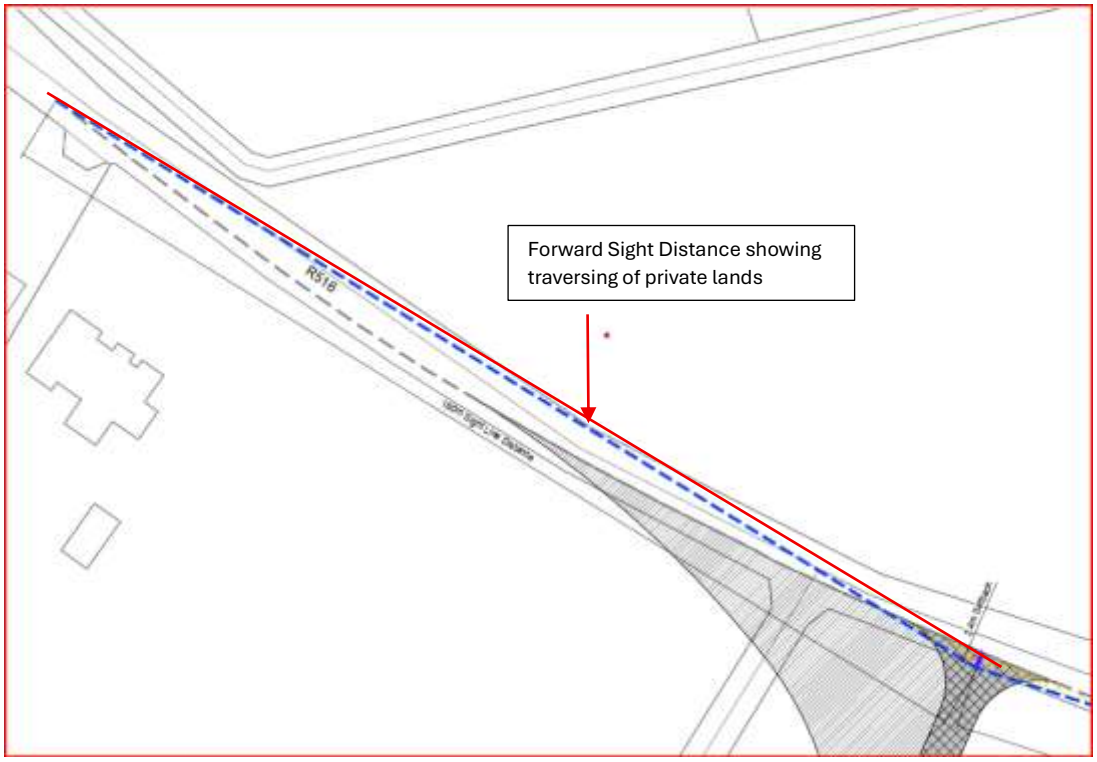

- County Development Plan Policy Objectives for Non National Roads. Not complied with in application
- No traffic count data provided with 85% speed as required. Using a 1-day traffic count in January 2025, which is not provided, when farming traffic would be at its lowest is totally unacceptable.
- No vertical Sight Distance Triangles provided or Forward visibility as required. Using a 2.4m setback for Abnormal loads & thousands of HGV loads is not compliant. This setback should be 9metres.



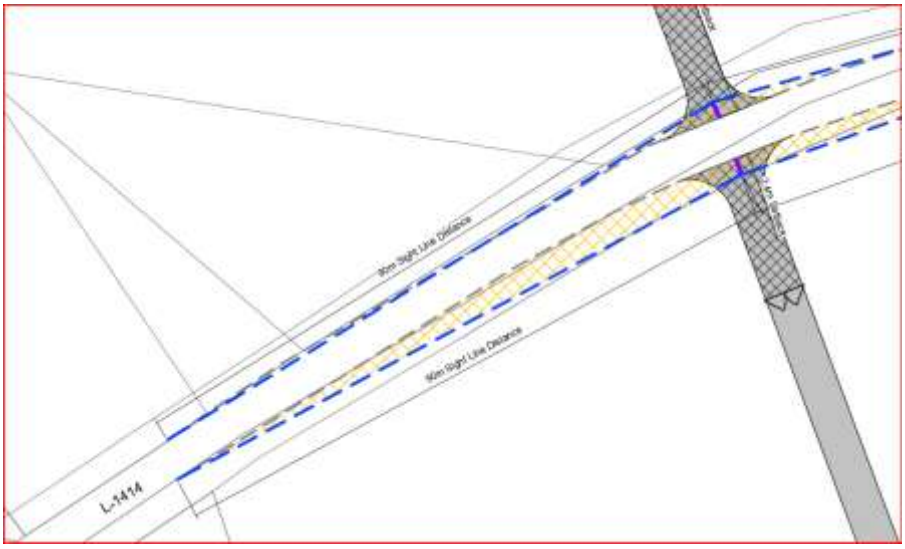


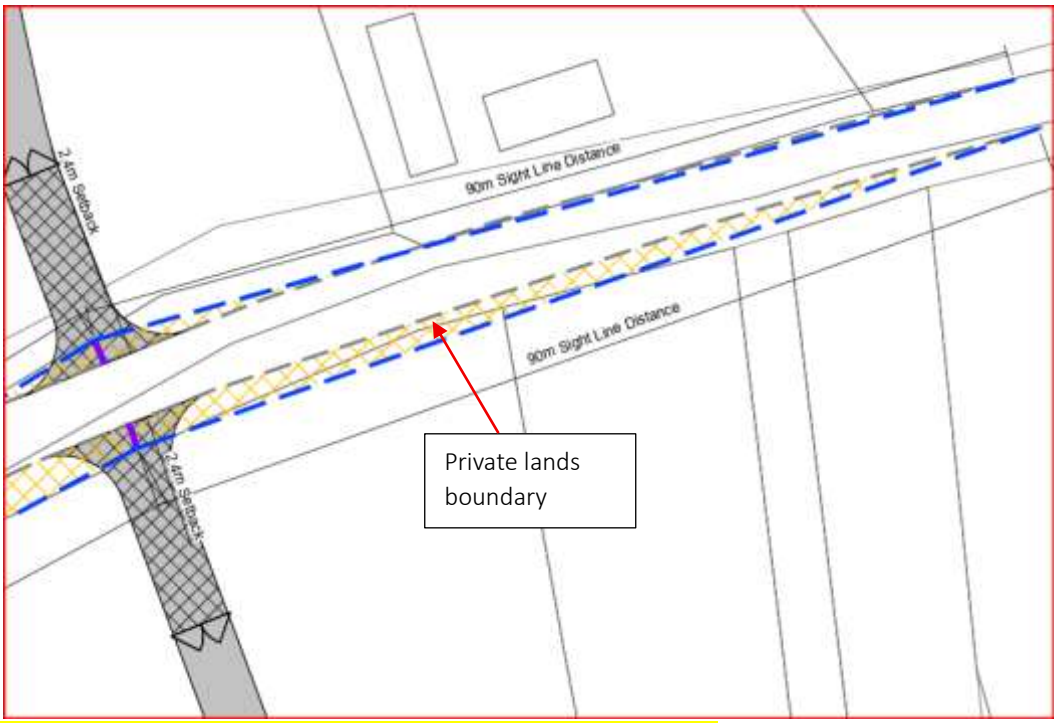


Response: Note Sight Distance Triangle indicated to centre of laneway & not nearside carriageway edge (line in red above) as required. This omission creates the image of compliance.
The Forward Sight Distance from the western approach in the centre of the left hand lane identifies a major issue with right turning vehicles entering the site. These right turning vehicles are not visible to western approach vehicles.

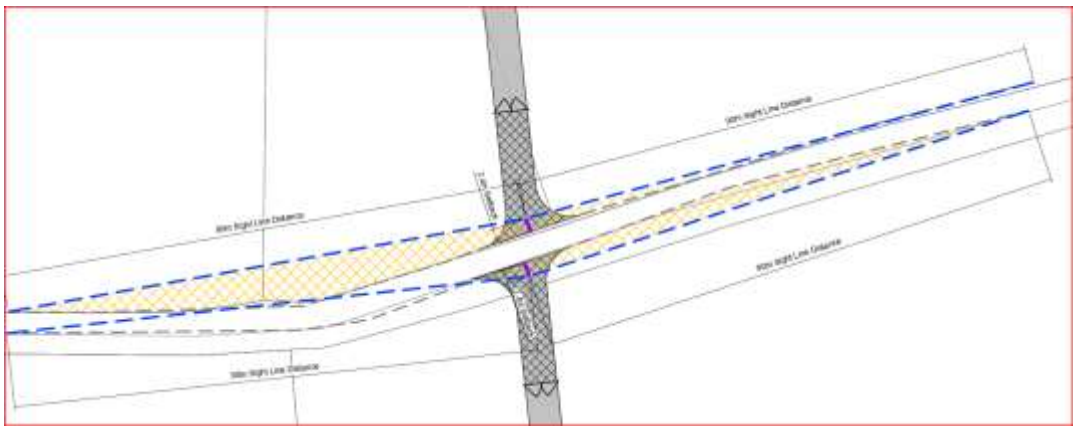

Forward Sight Distance showing traversing of private lands
R518


MWP




Response: Sight Distance Triangle traverses private lands without consent.



Response: Note Sight Distance Triangle traversing private lands

- No Road Safety Audit provided for 9 access points including Night-time audits for abnormal load or HGV deliveries.

- No TIA provided, where traffic increases on Regional & Local Roads are way over 5%.

- A visual inspection is not acceptable in the context that existing road, bridge & culvert destruction, which will be caused by the weight & number of HGV's & Abnormal loads of Nacelle, Blade & Tower. The developer should have conducted a structural assessment of the proposed haul routes which should have included the following:

a) Falling Weight Deflectometer (FWD) Testing and analysis.
b) Ground Penetrating Radar (GPR) and cores where required.
c) Road Condition Data (RCD) using a Road Surface Profiler (RSP) to include:
d) Digital video (chainage and GPS referenced).
e) Visual condition survey from video survey using pavement condition index (PCI).
f) Ride quality survey using international roughness index (IRI).
g) Transverse profile for rut depth.

Testing shall be conducted in accordance with:
- NRA "Guidelines for the use of the falling weight deflectometer in Ireland (July 2000).
- NRA HD 31/15 "Pavement assessment, repair and renewal principles (March 2015)."
- DTTAS "Guidelines on the depth of overlays to be used on rural regional and local roads (March 2014)."
- DTTAS/ RMO "Mechanical Road Condition Surveys- regional and local roads in Ireland (April 2015)."
The surveys shall be carried out in both traffic directions where the carriageway is greater than 5m. On narrow roads it is sufficient to carry out the survey in one direction only.

- Structural assessment of roads & bridges not provided.

- Oversail & overhang consents not provided. ACP cannot grant permission for trespass against the Law, which includes the Constitutional & EHCR Protocol 1 protection of private property.

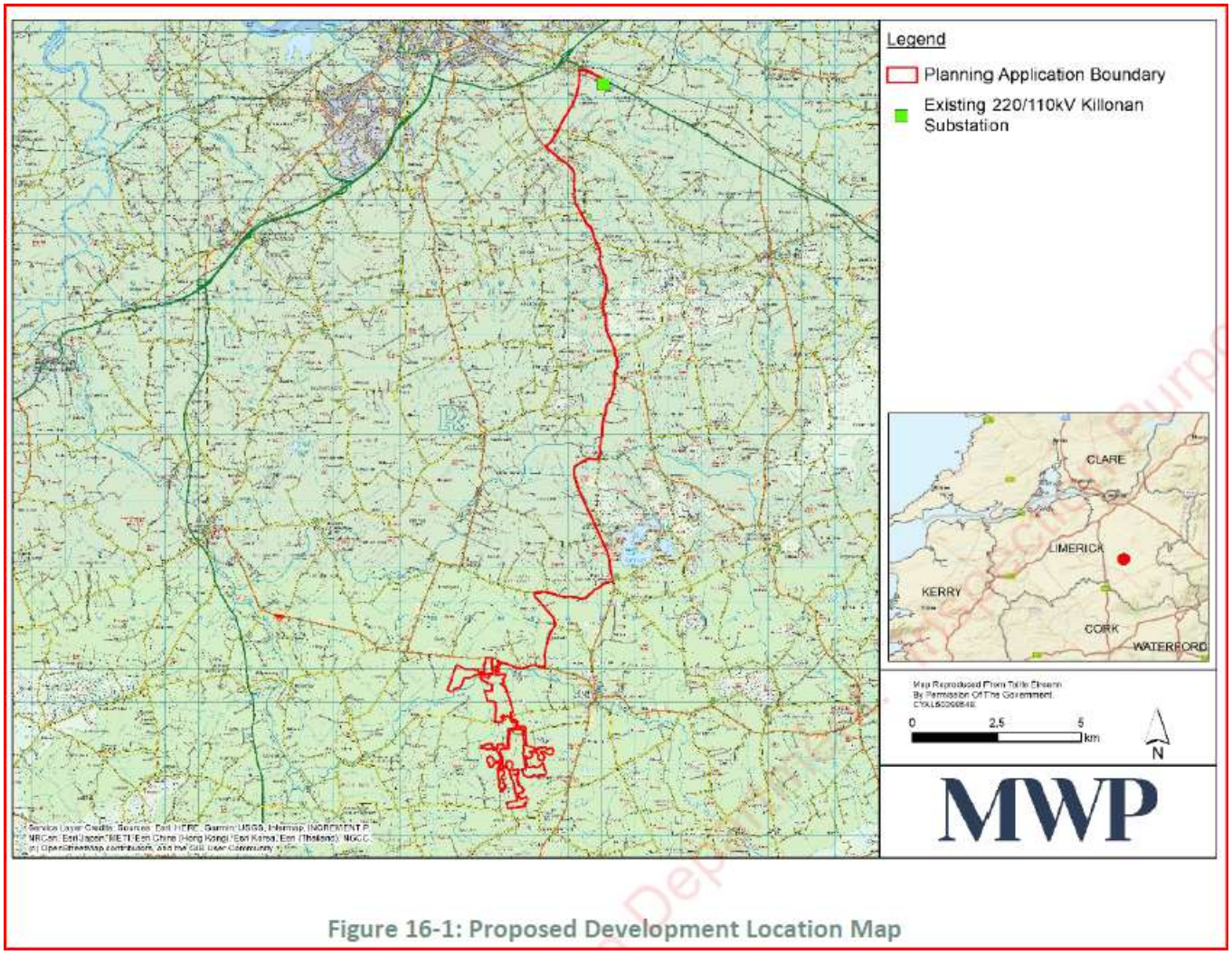



Figure 16-1: Proposed Development Location Map

- Existing Regional & Local Roads are not Type 3 carriageways. Therefore a 5,000AADT does not apply

EIAR Chapter 15: 16.3 Baseline Environment

16.3.1 Existing Roads and Transport Network

The proposed wind farm development and substation site is located on the south side of the R516 Regional Road, between Croom and Bruff, approximately 11km east of the N20 National Primary Road at Croom. The proposed development grid connection extends from the site on the R516 to the existing Killonan Substation on the south side of the N24 National Primary Road on the southeast side of Limerick.

Response: There are no landowner consents in place that allow use of this route. Without such consents, this amounts to trespass as per Cremins Dromada Windfarm 2023. ACP cannot be in breach of Constitutional property rights in granting such trespass.

The R516 rural road & turbine delivery route between Croom and Bruff has typical road carriageway widths of 4.9 metres to 5.3 metres, with local reduced widths of 4.6 metres. The R516 regional road has centreline and hard strip road markings, and an 80 km/hour rural speed limit. The R516 has an alternating one-way traffic yield system at its River Camoge bridge, located circa 1.5km east of Croom.

Response: It would seem this one-way yield involves the L1410 & the Ballymacsradeen East Local Roads. These roads are very narrow & totally unsuited for a one-way system through agricultural heart lands.




Response: This road is not suitable as a one-way traffic route

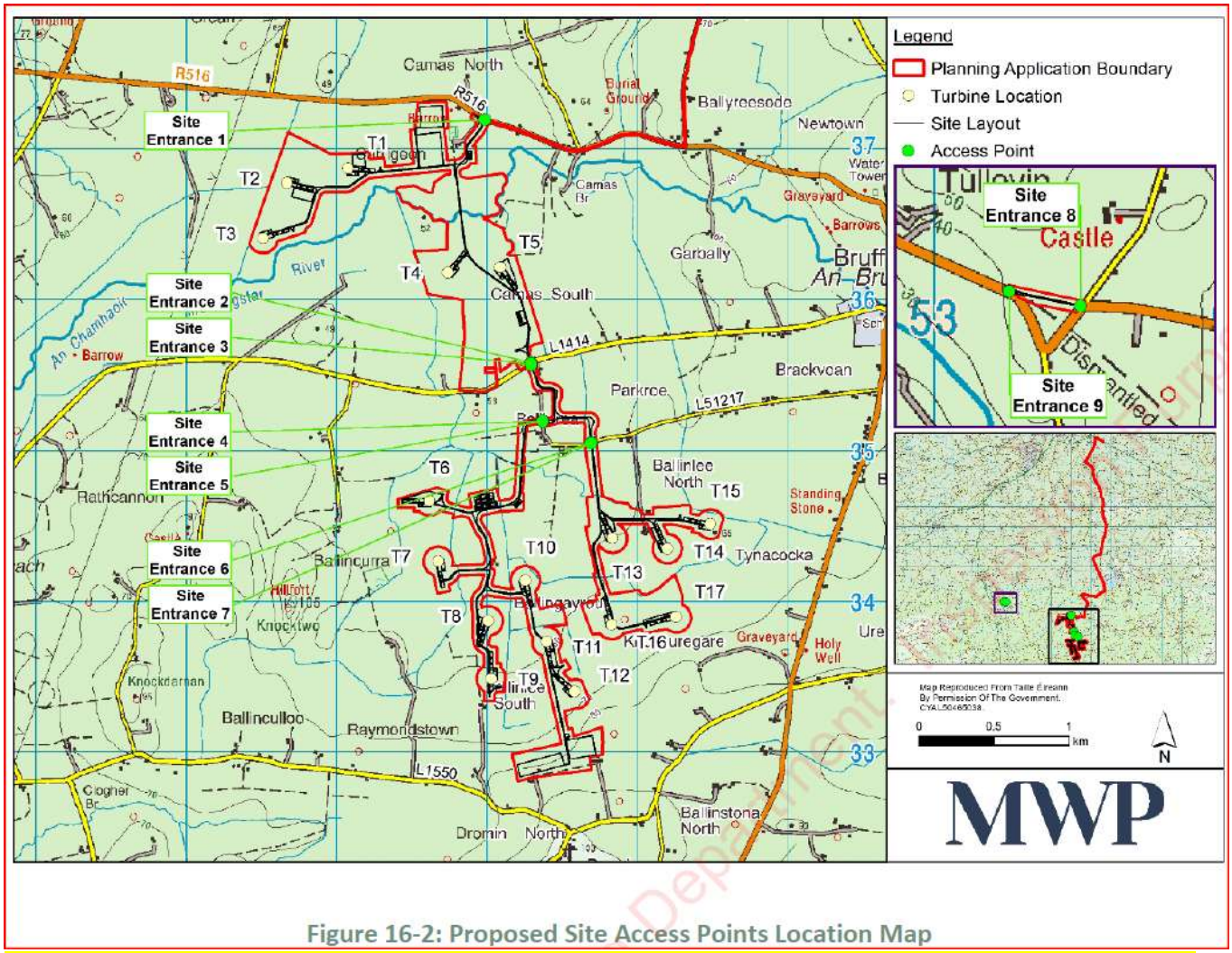



Figure 16-2: Proposed Site Access Points Location Map

Response: 9 Access points & using Regional/Local Roads plus junctions for Turbine delivery & Grid works with no Road Safety Audits is not compliant.

The R512 has a priority junction with the L1414 Local Road on the south side of Bruff town centre, within it 50 km/hour urban speed limit zone, with Zebra crossings. Scoil Dean Cussen is located on the southwest side of the junction, with defined school bus parking. Footways are provided along the west side of the R512 and the south side of the L1414. A traffic calming speed ramp is provided on the R512 adjacent to the school's south boundary and the Zebra crossing on the R512 at the school is a raised table surface.

In proximity to Bruff, the L1414 has an urban road carriageway width of **7.0 metres with a south side footway**. West of Bruff, **the L1414 has a rural road carriageway width of 4.3 metres** with no road markings, within its rural speed limit of 60 km/hour.

Response: Note the L1414 road width of 4.3m, which is totally inadequate for deliveries.

South of Bruff, the R512 has a priority junction with the cul-de-sac L51217 Local Road on its west side, within the Bruff 60 km/hour suburban speed limit zone. The R512 has a suburban road carriageway width **of 6.6 metres with a grass verge and footway along its west side**. The east section of the **L51217 has a road carriageway width of 4.0 metres with no road markings, and the west section has a 3.0 metre wide road carriageway.**

Response: Note the L51217 road width of 4.0m – 3.0m, which is totally inadequate for deliveries.

South of Bruff, the R512 has a rural road carriageway width of 7.0 metres, within it 80 km/hour rural speed limit zone and forms a priority junction on its west side with the L1550 Local Road. The L1550 has a rural road carriageway width of 3.8 metres with no road markings.
Response: Note the L1550 road width of 3.8m, which is totally inadequate for deliveries.

The existing roads along the proposed development grid connection are shown in the map provided in Figure 16-3. The proposed grid connection route extends along the R516 Regional Road; the L8012, L8011 and L1412 Local Roads; R512 Regional Road; the L1170 and L1171 Local Roads and the N24 National Primary Road. The grid connection extends north from the proposed windfarm and substation site through Holycross, Grange and Ballyneety to the existing 220/110Kv Killonan substation.

The L8012 Local Road has a typical rural road carriageway width of 3.7 metres, with no road markings and varying grass verges. The L8012 links with the L8011 Local Road at its north end. The L8011 has a rural road carriageway width of 4.2 metres with no road markings.
Response: Note the L8012 road width of 3.7m with the L8011 road width of 4.2m, which are totally inadequate for deliveries.

The L8012, L8011 and L1412 rural roads are located within the 60 km/hour rural speed limit zone. The L8011 links at its north end with the L1412, which has a rural road carriageway width of 4.6 metres, with varying width grass verges and no road marking, east of its L8011 junction.
Response: Note the L1412 road width of 4.6m, which is totally inadequate for deliveries.

The L1412 links with the R512 at Holycross, within its suburban speed limit zone of 60 km/hour. The R512 at Holycross has a 6.9 metre road carriageway width.

North of Holycross, the R512 regional road has a typical road carriageway width of 6.0 metres and an 80 km/hour rural speed limit, with varying width grass verges. The rural speed limit on the R512 is maintained at Grange.
A 50 km/hour urban speed limit is provided at Ballyneety, where the R512 has an urban road carriageway width of 7.0 metres, with an east side footway. A west side footway is also provided, locally, along the R512 within the Ballyneety urban centre, together with a Zebra crossing.

North of Ballyneety, the R512 regional road has a typical road carriageway width of 6.1 metres with hard strips, grass verges and an 80 km/hour rural speed limit.

The R512 has a priority junction with the L1170 within the 60 km/hour suburban speed limit on the south east environs of Limerick; with a 6.1 metre wide suburban carriageway, hard strips and west side footway along the R512 in the vicinity of its L1170 junction.

The L1170 links the R512 with the L1171 at Old Ballysimon Road, at its north end; and has a posted three tonnes' vehicle restriction, 60 km/hour suburban speed limit and suburban road carriageway width of 6.0 metres.

East of its junction with the L1170, the L1171 has a suburban road carriageway width of 6.8 metres, a south side footway and 60 km/hour suburban speed limit. The L1171 forms a suburban roundabout junction, at its east end, with the N24, approximately 180 metres east of its L1170 priority junction.

The existing 220/110kV Killonan substation access is located on the south side of the N24, approximately 650 metres east of its L1171 roundabout junction, within the 100 km/hour national speed limit zone on the N24, which

commences circa 200 metres east of the L1171 roundabout. Near Killonan substation, the N24 has a road carriageway **width of 7.0 metres, with 0.5 metre wide hard strips and circa 3.2 metre wide grass verges**.

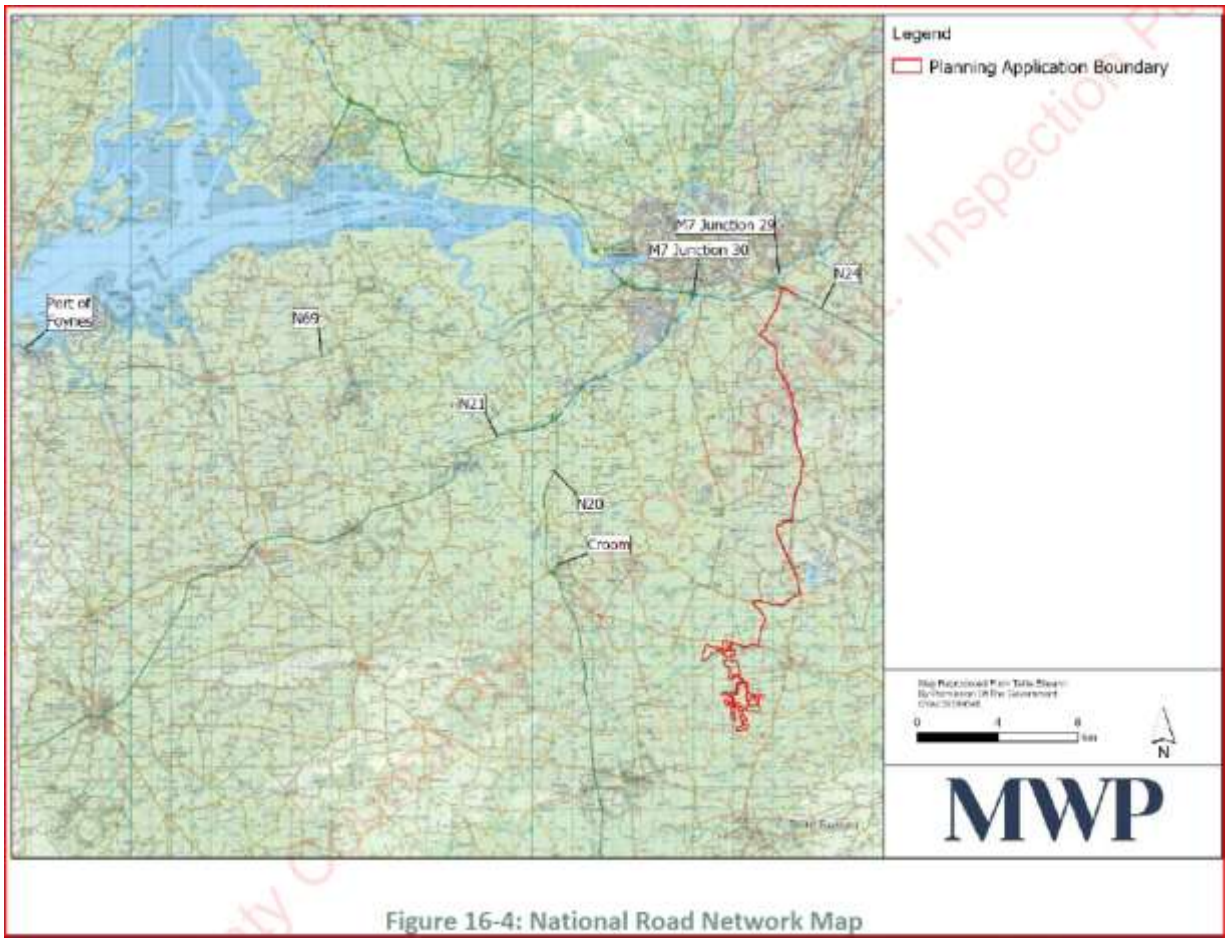



Figure 16-4: National Road Network Map

### 16.3.2 Existing Traffic Volumes

In accordance with best practice, the existing traffic volumes were determined as follows; On-site peak traffic hours' classified road traffic volumes were recorded by MWP on **Wednesday 15th January 2025**, on the existing local and regional public roads, in the vicinity of the proposed development site, including along the proposed underground grid connection route. The recorded peak traffic hour at each location occurred between the hours 4.00 p.m. to 6.00 p.m. The peak hour traffic volumes were factored based on TII's automatic traffic counter data, for the nearby N24 and N20, to establish typical Annual Average Daily Traffic (AADT) volumes for the latest full year, 2024, on the local road network. The equivalent TII automatic traffic counter data for the N24 and N20 are also provided. The existing baseline traffic volumes are provided in Table 16-1. These are total two-way vehicles at the road locations identified. The volumes of peak hour Heavy Goods Vehicles (HGVs) and the proportions (%) of AADT HGVs are also provided

Response: The traffic count data referenced has not been provided.

**Table 16-1: Existing Traffic Volumes**

| Road Location | Total Vehicles (HGVs) | |
|---|---|---|
| | 2025 PM Peak Hour | 2024 AADT (% HGVs) |
| N20 north of Croom (TII counter 20202) | 1,798 (33) | 16,224 (5.5%) |
| N20 south of Croom (TII counter 1202) | 1,035 (39) | 11,535 (8.4%) |
| R516 at Croom | 460 (9) | 4,508 (2.1%) |
| R516 between Croom and Bruff | 288 (6) | 2,822 (2.2%) |
| R512 @ Bruff | 454 (6) | 4,744 (1.6%) |
| L1414 @ R512 | 76 (2) | 794 (1.7%) |
| L51217 @ R512 | 27 (1) | 282 (1.4%) |
| L1550 @ R512 | 52 (1) | 543 (1.1%) |
| N24 @ Killonan (TII counter 20243) | 1,668 (147) | 17,441 (5.3%) |
| L1171 between N24 and L1170 | 668 (5) | 6,981 (1.5%) |
| L1170 between L1171 and R512 | 366 (0) | 3,825 (0.0%) |
| R512 south @ L1170 | 756 (8) | 7,900 (2.1%) |
| L1412 between R512 and L8011 | 44 (1) | 460 (2.2%) |
| L8011 between L1412 and L8012 | 34 (0) | 355 (0.5%) |
| L8012 @ R516 | 22 (0) | 230 (0.5%) |

Kerry County Council Planning Department - Inspection

Response: The figures for Regional &Local roads given for AADT 2025 & 2024 are guestimates. No count data has been provided.

The TII Rural Road Link Design DN-GEO-03031 rural road link capacities for road carriageway widths of 6.0 metres and 7.0 metres, respectively, are provided in Table 16-2. The TII rural road link capacities are an AADT capacity at Level of Service (LOS) D1. TII does not provide rural road link capacities for rural roads with road carriageway widths of less than 6.0 metres.

**Table 16-2: TII Rural Road Link Capacities**

| TII Rural Road Link | | |
|---|---|---|
| Type | Carriageway Width (m) | AADT Capacity (Vehicles) |
| Type 3 Single | 6.0 | 5,000 |
| Type 2 Single | 7.0 | 8,600 |

The estimated existing rural road link AADT volume/capacity ratios for the R516 and R512 rural roads in the vicinity of the proposed development, including along the proposed underground grid connection route and along the proposed turbine delivery route, are provided in Table 16-3, based on the TII Rural Road Link Design, for the latest full year, 2024.

Response: No data is provided to verify this “estimated existing rural road link AADT volume/capacity ratios” This Table 16.3 is just guesswork.

Table 16-3: Estimated TII Regional Rural Road Link 2024 AADT Volume/Capacity Ratios

| Rural Road with Rural Speed Limit | 2024 AADT Vehicles | AADT Capacity (Vehicles) @ LOS D | AADT Volume/Capacity Ratio |
|---|---|---|---|
| R516 between Croom and Bruff | 2,822 | < 5,000 | >57% |
| R512 north and south of Bruff | 4,744 | >5,000<br><8,600 | <95%<br>>55% |

The R516, between Croom and Bruff, is operating within its estimated rural road link AADT capacity, with a 2024 volume/capacity ratio of higher than circa 57%. The R512, north and south of Bruff, is operating within its estimated rural road link AADT capacity range, with a 2024 volume/capacity ratio of higher than 55% and less than 95%.

Response: This again is guesswork & not acceptable. The suggested Road types with a 5,000 AADT are not compliant with the definitions from TII below.

The urban road link capacity of the R516 at Croom and R512 at Bruff, within their 50 km/hour urban speed limit zones; and the suburban road link capacities of the L1170 and L1171 within their 60 km/hour suburban speed limit zones, estimated based on the Traffic Capacity of Urban Roads TA79/99, are provided in Table 16-4. The capacity has been assessed as per direction based on a 60/40 directional split.

Table 16-4: Estimated Urban and Suburban Road Link Capacity

| Urban/Suburban Road | Urban/Suburban Road Link | | | |
|---|---|---|---|---|
| | Type | Lanes | Carriageway Width (m) | Capacity/Hour/Direction (Vehicles) |
| R516 @ Croom | UAP4 | 2 | 6.1 | 750 |
| R512 @ Bruff | UAP4 | 2 | 6.1 | 750 |
| L1170 @ 60 km/hour zone | UAP2 | 2 | 6.0 | 1,020 |
| L1171 @ 60 km/hour zone | UAP2 | 2 | 6.8 | 1,260 |

The estimated existing urban and suburban road link peak hour volume/capacity ratios for the R516 at Croom, R512 at Bruff, the L1170 and the L1171, are provided in Table 16-5, based on the Traffic Capacity of Urban Roads TA 79/99.

WITHDRAWN

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DESIGN MANUAL FOR ROADS AND BRIDGES

**VOLUME 5** ASSESSMENT AND PREPARATION OF ROAD SCHEMES

**SECTION 1** PREPARATION AND IMPLEMENTATION

**PART 3**

**TA 79/99 AMENDMENT NO 1**

# TRAFFIC CAPACITY OF URBAN ROADS


**SUMMARY**

Advice Note TA 79/99, published February 1999, was wrongly placed in Section 2 of DMRB Volume 5. All users should arrange for the document TA 79/99 to be inserted in Volume 5, Section 1, Part 3 of DMRB. References within the document to Section 2, Part 2 should also be corrected accordingly.


**INSTRUCTIONS FOR USE**

1. Remove Advice Note TA 79/99 from Volume 3 of the DMRB.
2. Amend the volume references on all pages of TA 79/99 to read Volume 5, Section 1, Part 3 of DMRB.
3. Remove existing title page and insert amended title page and Note to Users in front of Contents sheet of TA 79/99.
4. Enter the details of the amendment on the Registration of Amendment sheet, sign and date to confirm that the amendment has been incorporated.

Note: A quarterly index with a full set of Volume Contents Pages is available separately from The Stationery Office Ltd.

**February 1999**



| Feature | ROAD TYPE | | | | |
|---|---|---|---|---|---|
| | Urban Motorway | Urban All-purpose | | | |
| | UM | UAP1 | UAP2 | UAP3 | UAP4 |
| General Description | Through route with grade separated junctions, hardshoulders or hardstrips, and motorway restrictions. | High standard single/dual carriageway road carrying predominantly through traffic with limited access. | Good standard single/dual carriageway road with frontage access and more than two side roads per km. | Variable standard road carrying mixed traffic with frontage access, side roads, bus stops and at-grade pedestrian crossings. | Busy high street carrying predominantly local traffic with frontage activity including loading and unloading. |
| Speed Limit | 60mph or less | 40 to 60 mph for dual, & generally 40mph for single carriageway | Generally 40 mph | 30 mph to 40 mph | 30mph |

Response: This Traffic Capacity of Urban Roads TA 79/99 is a withdrawn UK Document & should not be used as a reference. Urban Arterial Roads UAP2 & UAP4 have no relevance to Rural Roads in Ireland.

Table 16-5: Estimated Existing Urban and Suburban Road Link 2025 Peak Hour Volume/Capacity Ratios

| Urban/Suburban Road | Highest Direction Peak Hour Vehicles | Capacity/Hour/ Direction (Vehicles) | Volume/Capacity Ratio |
|---|---|---|---|
| R516 @ Croom | 276 | 750 | 37% |
| R512 @ Bruff | 273 | 750 | 37% |
| L1170 @ 60 km/hour zone | 220 | 1,020 | 22% |
| L1171 @ 60 km/hour zone | 401 | 1,260 | 32% |

The urban R516 at Croom and R512 at Bruff, within their 50 km/hour urban speed limit zones, are operating well within their estimated urban road link capacities, with highest volume/capacity ratios during the peak hour of 37% and 37%, respectively.
The suburban L1170 and L1171, within their 60 km/hour suburban speed limit zones, are operating well within their estimated suburban road link capacities, with highest volume/capacity ratios during the peak hour of 22% and 32%, respectively.
Response: These statements are based on the UK withdrawn document & are totally irrelevant & incorrect.

### 16.3.3 Future Conditions

The roads and transportation objectives and policies of Limerick City and County Council are set out in their Limerick Development Plan 2022-2028, including Chapter 7: Sustainable Mobility and Transport; and the Croom Local Area Plan 2020-2026.
Limerick City and County Council's Strategic Roads Infrastructure Objectives include the N/M20 Cork to Limerick Project and the Foynes to Limerick (including Adare Bypass) Road.
It is a policy of the Council to safeguard the carrying capacity and safety of the non-national road network throughout Limerick.
The Development Plan identifies a Strategic Regional Road Network that includes the R512. It is a policy of the Council to protect the investment in the Strategic Regional Road Network and maintain and improve road safety and capacity. The R516 is not included in the Development Plan Strategic Regional Road Network.
The Council's Development Plan Bruff Settlement Objectives include the improvement of the public realm in the village, especially along the Main Street; the preparation of a Traffic Management Plan for the Main Street; and to explore the potential for the development of a distributor road in Bruff.
The Council's Croom Local Area Plan 2020-2026 key developments include to rationalise the parking along Main Street and carry out junction improvement works between Main Street and High Street and the junction of Main Street and the L1408; and to promote the use of the Market Square as a Civic Plaza and gathering space.
Subject to planning permission, it is envisaged that work would commence at the proposed development site during Q1 2028, with a construction duration of approximately 24 months, followed by six months of commissioning. Accordingly, the proposed development is scheduled to be fully complete and operational during Q3 2030.
The TII Traffic and Transport Assessment Guidelines recommend that the opening year of a development proposal and plan years, five and 15 years after the opening year, should be considered for assessing a development proposal. In this case, the opening year is 2030 and the plan years are 2035 and 2045. The peak construction and commissioning year is 2029, which will align with concrete deliveries for turbine foundations and with turbine deliveries.
In order to establish future baseline traffic volumes, TII in their Project Appraisal Guidelines for National Roads Unit 5.3 – Travel Demand Projections October 2021 envisage that car and light vehicle volumes on Limerick national roads would increase by an annual factor of 1.0215 during the period to 2030, and by a factor of 1.0323 for heavy

vehicles, based on their central growth rates. The equivalent factors for the periods 2030 to 2040 and 2040 to 2050 are 1.0092 and 1.0130, respectively, and 1.0088 and 1.0177, respectively.
The predicted peak hour and AADT volumes on the existing local, regional and national roads in the vicinity of the proposed development site, including along the proposed underground grid connection route and the turbine delivery route, with the foregoing TII predicted traffic growth rates, are provided in Table 16-6.

Table 16-6: Predicted Traffic Volumes with TII Growth

| Road Location | Year | Total Vehicles (HGVs) | |
|---|---|---|---|
| | | Peak Hour | AADT (% HGVs) |
| N20 north of Croom (TII counter 20202) | 2029 | 1,960 (38) | 18,094 (5.8%) |
| | 2030 | 2,002 (39) | 18,496 (5.8%) |
| | 2035 | 2,095 (41) | 19,382 (5.9%) |
| | 2045 | 2,295 (48) | 21,272 (6.3%) |
| N20 south of Croom (TII counter 1202) | 2029 | 1,129 (44) | 12,885 (8.8%) |
| | 2030 | 1,154 (46) | 13,176 (8.9%) |
| | 2035 | 1,208 (49) | 13,814 (9.1%) |
| | 2045 | 1,325 (57) | 15,192 (9.6%) |
| R516 at Croom | 2029 | 501 (10) | 5,018 (2.2%) |
| | 2030 | 513 (11) | 5,128 (2.2%) |
| | 2035 | 536 (11) | 5,370 (2.3%) |
| | 2045 | 587 (13) | 5,880 (2.4%) |
| R516 between Croom and Bruff | 2029 | 314 (7) | 3,142 (2.3%) |
| | 2030 | 321 (7) | 3,210 (2.3%) |
| | 2035 | 336 (8) | 3,362 (2.4%) |
| | 2045 | 368 (9) | 3,681 (2.8%) |
| R512 @ Bruff | 2029 | 495 (7) | 5,280 (1.7%) |
| | 2030 | 505 (7) | 5,395 (1.7%) |
| | 2035 | 530 (8) | 5,648 (1.7%) |
| | 2045 | 579 (9) | 6,182 (1.8%) |
| L1414 @ R512 | 2029 | 83 (2) | 883 (1.8%) |
| | 2030 | 84 (2) | 903 (1.9%) |
| | 2035 | 89 (3) | 945 (1.9%) |
| | 2045 | 97 (3) | 1,035 (2.0%) |
| L51217 @ R512 | 2029 | 29 (1) | 314 (1.6%) |
| | 2030 | 30 (1) | 321 (1.6%) |
| | 2035 | 31 (1) | 336 (1.6%) |
| | 2045 | 35 (2) | 367 (1.6%) |
| L1550 @ R512 | 2029 | 57 (1) | 604 (1.2%) |
| | 2030 | 58 (1) | 617 (1.2%) |
| | 2035 | 60 (1) | 647 (1.2%) |
| | 2045 | 66 (2) | 707 (1.3%) |
| N24 @ Kilonan (TII counter 20243) | 2029 | 1,823 (167) | 19,450 (5.6%) |
| | 2030 | 1,863 (172) | 19,881 (5.6%) |
| | 2035 | 1,954 (184) | 20,832 (5.7%) |
| | 2045 | 2,150 (214) | 22,861 (6.1%) |
| L1171 between N24 and L1170 | 2029 | 728 (6) | 7,769 (1.6%) |
| | 2030 | 743 (6) | 7,938 (1.6%) |
| | 2035 | 778 (6) | 8,312 (1.6%) |
| | 2045 | 851 (7) | 9,097 (1.7%) |
| L1170 between L1171 and R512 | 2029 | 399 (0) | 4,253 (0.0%) |
| | 2030 | 407 (0) | 4,345 (0.0%) |
| | 2035 | 426 (0) | 4,548 (0.0%) |
| | 2045 | 466 (0) | 4,973 (0.0%) |
| R512 south @ L1170 | 2029 | 824 (9) | 8,684 (2.2%) |
| | 2030 | 841 (9) | 8,873 (2.3%) |
| | 2035 | 881 (10) | 9,288 (2.3%) |
| | 2045 | 964 (12) | 10,174 (2.5%) |
| L1411 between R512 and L8011 | 2029 | 48 (1) | 512 (2.3%) |
| | 2030 | 49 (1) | 523 (2.3%) |
| | 2035 | 51 (1) | 548 (2.4%) |
| | 2045 | 57 (2) | 600 (2.5%) |
| L8011 between L1411 and L8012 | 2029 | 37 (0) | 395 (0.5%) |
| | 2030 | 38 (0) | 403 (0.5%) |
| | 2035 | 40 (0) | 423 (0.7%) |
| | 2045 | 43 (0) | 462 (0.7%) |
| L8012 @ R516 | 2029 | 24 (0) | 256 (0.4%) |
| | 2030 | 25 (0) | 261 (0.4%) |
| | 2035 | 26 (0) | 273 (0.4%) |
| | 2045 | 28 (0) | 300 (0.7%) |

Response: All of this is guesswork while using UK Urban withdrawn documents.

The estimated rural road link AADT volume/capacity ratios for the existing R516 and R512 rural roads in the vicinity of the proposed development, including along the proposed underground grid connection route and along the proposed turbine delivery route, are provided in Table 16-7, on the basis of the TII Rural Road Link Design, for the predicted 2029, 2030, 2035 and 2045 AADT volumes, with the TII predicted traffic growth rates.

Table 16-7: Predicted TII Rural Regional Road Link AADT Volume/Capacity Ratios with TII Growth

| Rural Road with Rural Speed Limit | Year | AADT Vehicles | AADT Capacity (Vehicles) @ LOS D | AADT Volume/Capacity Ratio |
|---|---|---|---|---|
| R516 between Croom and Bruff | 2029 | 3,142 | < 5,000 | >63% |
| | 2030 | 3,210 | | >64% |
| | 2035 | 3,362 | | >67% |
| | 2045 | 3,681 | | >74% |
| R512 north and south of Bruff | 2029 | 5,280 | >5,000 <8,600 | <106% >61% |
| | 2030 | 5,395 | | <108% >63% |
| | 2035 | 5,648 | | <113% >66% |
| | 2045 | 6,182 | | <124% >72% |

Response: The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork.

The R516, between Croom and Bruff, would continue to operate within its estimated rural road link AADT capacity at Level of Service (LOS) D, in 2029, 2030, 2035 and 2045, with volume/capacity ratios of higher than circa 63%, 64%, 67% and 74%. The R512, north and south of Bruff, would operate with estimated rural road link AADT volume/capacity ratios of higher than 61% and less than 106% in 2029 – the proposed development peak construction year; and estimated rural road link AADT volume/capacity ratios of higher than 63% and less than 108% in 2030 – the proposed development operational opening year.

The predicted 2029, 2030, 2035 and 2045 urban and suburban road link peak hour volume/capacity ratios for the R516 at Croom, R512 at Bruff, the L1170 and the L1171 are provided in Table 16-8, based on the Traffic Capacity of Urban Roads TA 79/99, with the TII predicted traffic growth rates.

Response: The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork.

Table 16-8: Predicted Urban and Suburban Road Link Peak Hour Volume/Capacity Ratios with TII Growth

| R420 Urban/Suburban Road | Year | Highest Direction Peak Hour Vehicles | Capacity/Hour/ Direction (Vehicles) | Volume/Capacity Ratio |
|---|---|---|---|---|
| R516 @ Croom | 2029 | 301 | 750 | 40% |
| | 2030 | 308 | | 41% |
| | 2035 | 322 | | 43% |
| | 2045 | 352 | | 47% |
| R512 @ Bruff | 2029 | 297 | 750 | 40% |
| | 2030 | 303 | | 41% |
| | 2035 | 318 | | 43% |
| | 2045 | 348 | | 47% |
| L1170 @ 60 km/hour zone | 2029 | 240 | 1,020 | 24% |
| | 2030 | 244 | | 24% |
| | 2035 | 256 | | 25% |
| | 2045 | 280 | | 28% |
| L1171 @ 60 km/hour zone | 2029 | 437 | 1,260 | 35% |
| | 2030 | 446 | | 36% |
| | 2035 | 467 | | 37% |
| | 2045 | 511 | | 41% |

The urban R516 at Croom and R512 at Bruff, within their 50 km/hour urban speed limit zones, would continue to operate well within their estimated urban road link capacities, with the predicted 2029, 2030, 2035 and 2045 peak hour traffic volumes on the basis of the TII predicted traffic growth rates, with highest volume/capacity ratios during the peak hour of 47% and 47%, respectively, in 2045. The highest volume/capacity ratios during the proposed development peak construction year, 2029, would be 40% and 40%, respectively.
The suburban L1170 and L1171, within their 60 km/hour suburban speed limit zones, would continue to operate well within their estimated suburban road link capacities, with the predicted 2029, 2030, 2035 and 2045 peak hour traffic volumes on the basis of the TII predicted traffic growth rates, with highest volume/capacity ratios during the peak hour of 28% and 41%, respectively, in 2045. The highest volume/capacity ratios during the proposed development peak construction year, 2029, would be 24% and 35%, respectively.
Response: The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork.

### 16.4.1 Access

Construction access for the proposed windfarm and substation site, its temporary construction compounds, windfarm collector cable, and associated internal site access tracks, is via a proposed access on the south side of the R516, at the north of the site.
Public road crossings, with associated accesses, are proposed during construction at two locations on the L1414 and two locations on the L51217 as well as two entrances on the private laneway at the end of the L51217.

### 16.4.4 Staff

The expected peak staff would be up to 80 construction personnel, which would generate approximately 60 car and van trips, both to and from the site each working day, based on an average vehicle occupancy rate of 1.33 personnel per vehicle, including staff that travel in contractor vehicles.
Canteen facilities for personnel will be provided on-site. Site personnel would travel to site prior to 7.00 a.m. and depart from site from 7.00 p.m., on weekdays, outside the peak traffic hours.
It is envisaged that the construction crew for the proposed grid connection works would include 15 to 25 construction personnel, which are included in the foregoing expected peak construction staff.

### 16.4.5 Delivery Vehicle Volumes

The 24 months construction would require the **importation of a total of up to 14,714 loads of construction materials plus the removal of 3,105 loads from the grid connection works along the public road network to a licensed waste facility.** All construction materials would be transported using standard heavy vehicle delivery trucks with capacities of 8 m3 and 20 tonnes for aggregate, and 7 m3 for concrete trucks. The peak daily imported loads would occur during the hardstand formation and access tracks' works, and during the turbine bases' concrete works. The proposed on-site borrow pits will provide 99,852 m3 (61%) of aggregate materials required for the proposed development. Construction excavated material for the proposed windfarm and substation site and associated proposed access tracks will be retained on-site.
Response: Total volume of imported aggregate is 67,740$m^3$. On the basis of 7$m^3$ per load, this means 9,677loads. Total volume of concrete is 35,586$m^3$. On the basis of 7$m^3$ per load, this means 5,084loads. On the basis of 2882 tonnes of steel, a further 412 loads. A further 24,840$m^3$ will be excavated on the grid route & 3,549 loads. The total number of loads is 18,722 loads. Total truck movements is 37,444.

The proposed construction works heavy vehicle loads are provided in Table 16-9.

Table 16-9: Proposed Construction Works Heavy Vehicle Loads

| Works | Total Number of Heavy Vehicle Loads | | |
|---|---|---|---|
| | Total Construction (24 months) | Peak Daily | Highest Hour |
| Windfarm and Substation Site Works (24 months) | 11,405 | 142 | 16 |
| Public Roads' Grid Connection Works (6 months) | 6,414 | 42 | 6 |
| **Total (24 months)** | **17,819** | **142** | **16** |

Response: These figures are for deliveries, but the vehicle has also to return to base. These numbers do not indicate such movement.

The wind turbine abnormal loads would be delivered in consultation with Limerick City and County Council and An Garda Síochána, during off-peak traffic periods. A total of 170 delivery vehicles would be required for the seventeen turbines in delivery convoys during nights. This could result in temporary delays for other local traffic during the off-peak traffic delivery periods.

### 16.4.6 Delivery Vehicle Routes

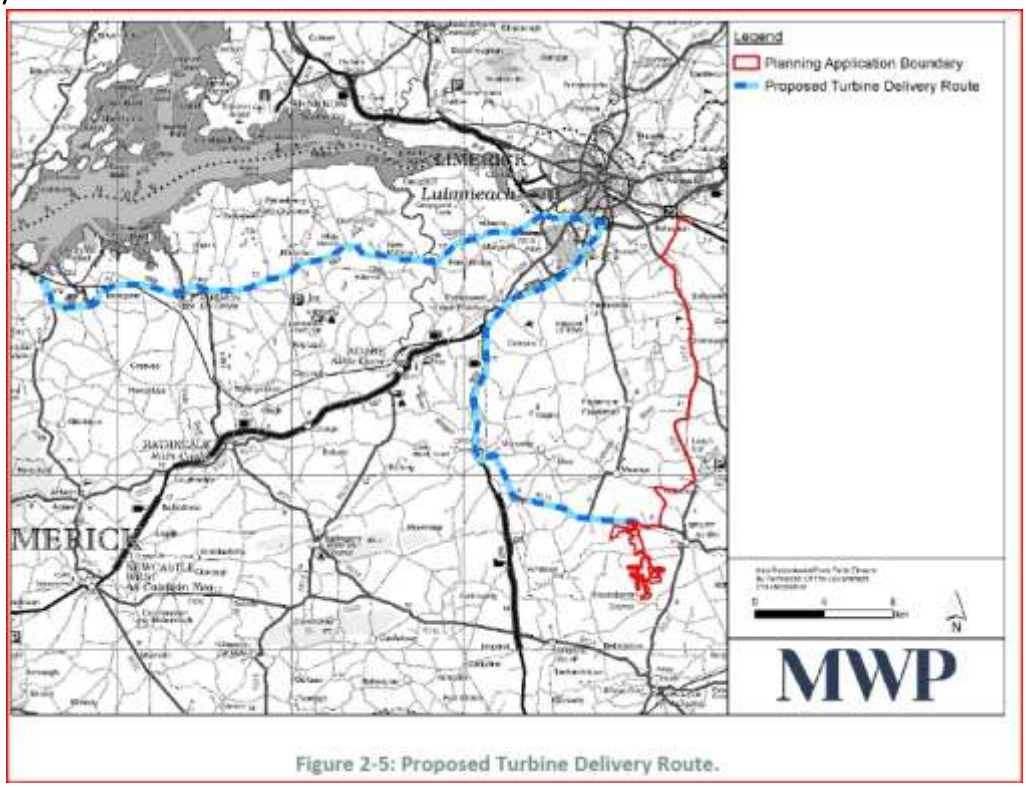



Figure 2-5: Proposed Turbine Delivery Route.

### 2.4 Swept Path Analysis

A vehicle swept path analysis (SPA) of a 68.0m blade on a vehicle with an overall length of 60.260m (truck only) was completed using Autodesk ® Vehicle Tracking software. Analysis from aerial photography, topographical survey, GIS and information from site visits for the proposed route highlighted pinch points that required a vehicle tracking model. The profiles of the blade lifter delivery vehicle outlined in Figure 2-7 were utilised for this turbine delivery route assessment, assessing the blade in the horizontal position.

Response: A sweptpath analysis was only provided for pinch points & not for the route.

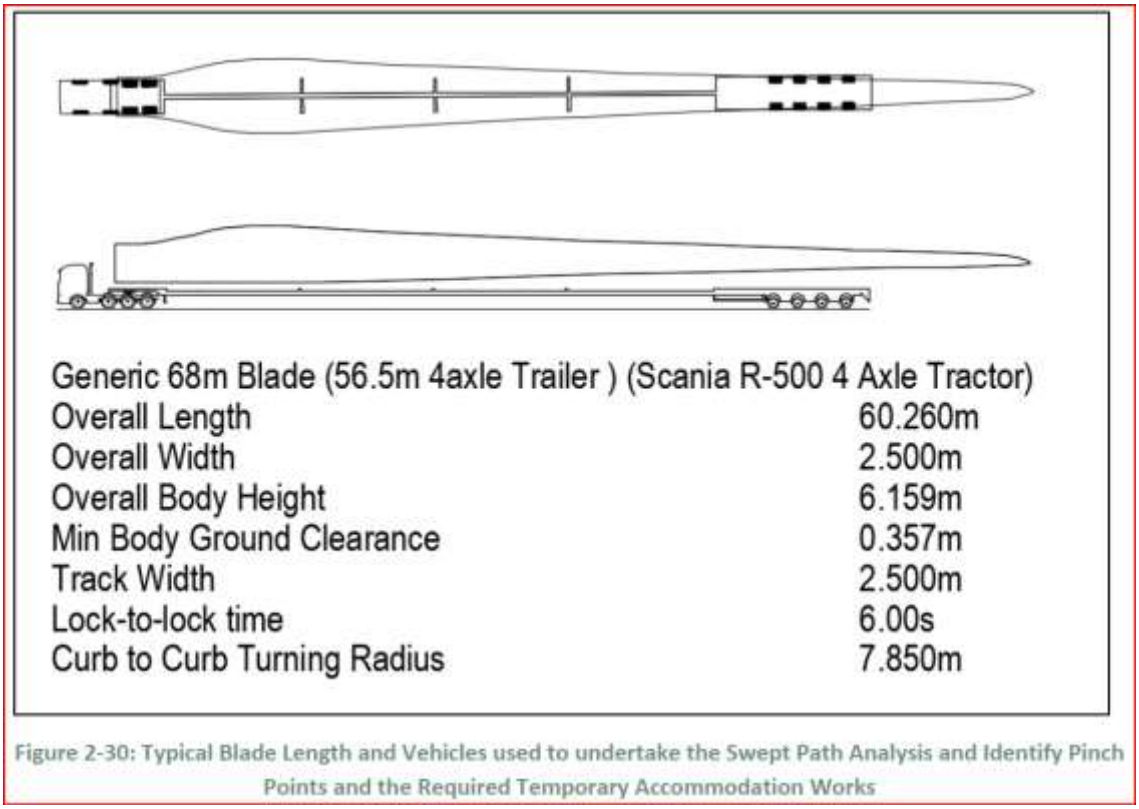



Figure 2-30: Typical Blade Length and Vehicles used to undertake the Swept Path Analysis and Identify Pinch Points and the Required Temporary Accommodation Works

The potential material sources for the proposed development construction are detailed in Volume II, Chapter 02 Description of the Proposed Development of this EIAR, and include suppliers located in the northeast, east, west and south of the proposed development site.

It is envisaged that the delivery of construction materials would be typically circa 50% via the R516 east of the proposed windfarm and substation site access, and circa 50% via the R516 west of the proposed windfarm and substation access but could be up to 100% via either direction during specific periods of construction (this worst case scenario is assessed).

The routing for the delivery of windfarm components is summarised in Volume II, Chapter 02 and detailed in Turbine Delivery Route Assessment Report (EIAR Volume III, Appendix 2C) and would be via the N69, N18, M20, N20 and R516.

All construction deliveries and construction traffic will access the windfarm and substation site via the proposed site access on the R516 at the north of the site; and use the public road crossings, and associated accesses, on the L1414 and on the L51217 from within the site, as required.

Construction access for the construction grid connection works along the R516, L8012, L8011, L1412, R512, L1170, L1171 and N24 public roads would be via the existing associated public roads' network.

### 16.4.7 Traffic Volumes

The predicted AADT volumes, peak daily traffic volumes and highest peak hour traffic volumes generated by the proposed development construction are provided in Table 16-10, including heavy vehicles (HGVs).

Table 16-10: Proposed Construction Works Traffic Volumes

| Total Two-Way Vehicles (HGVs) | | |
|---|---|---|
| AADT | Peak Daily | Highest Peak Hour |
| 154 (50) | 388 (284) | 32 (32) |

Response: These numbers are far too low and would seem to be based on incorrect load calculations for one way movements.

The predicted 2029 AADT, peak daily and highest peak hour traffic volumes, on the existing local, regional and national roads in the vicinity of the proposed development site, with the proposed construction works' traffic volumes are provided in Tables 16-11 and 16-12, respectively.

Table 16-11: Predicted 2029 AADT Traffic Volumes with Proposed Construction

| Road Location | Total Vehicles (HGVs) | |
|---|---|---|
| | AADT | Change (%) |
| N20 north of Croom | 18,133 (1,058) | +39 (13) (0.2%) |
| N20 south of Croom | 12,923 (1,148) | +38 (12) (0.3%) |
| R516 at Croom | 5,095 (136) | +77 (25) (1.5%) |
| R516 between Croom and Bruff | 3,219 (98) | +77 (25) (2.5%) |
| R512 @ Bruff | 5,319 (102) | +39 (13) (0.7%) |
| N24 @ Killonan | 19,470 (1,090) | +20 (7) (0.1%) |
| L1171 between N24 and L1170 | 7,795 (129) | +26 (6) (0.3%) |
| L1170 between L1171 and R512 | 4,279 (0) | +26 (0) (0.6%) |
| R512 south @ L1170 | 8,723 (208) | +39 (13) (0.5%) |

Response: The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork based on UK withdrawn document for Urban areas in UK & not Ireland..

Table 16-12: Predicted 2029 Peak Traffic Volumes with Proposed Peak Construction

| Road Location | Total Vehicles (HGVs) | | | |
|---|---|---|---|---|
| | Peak Daily | Change (%) | Peak Hour | Change (%) |
| N20 north of Croom | 18,191 (1,116) | +97 (71) (0.5%) | 1,968 (46) | +8 (8) (0.4%) |
| N20 south of Croom | 12,982 (1,207) | +97 (71) (0.8%) | 1,137 (52) | +8 (8) (0.7%) |
| R516 at Croom | 5,212 (253) | +194 (142) (3.9%) | 517 (26) | +16 (16) (3.2%) |
| R516 between Croom and Bruff | 3,336 (215) | +194 (142) (6.2%) | 330 (23) | +16 (16) (5.1%) |
| R512 @ Bruff | 5,377 (160) | +97 (71) (1.8%) | 503 (15) | +8 (8) (1.6%) |
| N24 @ Killonan | 19,499 (1,119) | +49 (36) (0.3%) | 1,827 (171) | +4 (4) (0.2%) |
| L1171 between N24 and L1170 | 7,800 (141) | +31 (18) (0.4%) | 732 (10) | +4 (4) (0.6%) |
| L1170 between L1171 and R512 | 4,266 (0) | +13 (0) (0.3%) | 399 (0) | +0 (0) (0.0%) |
| R512 south @ L1170 | 8,781 (266) | +97 (71) (1.1%) | 832 (17) | +8 (8) (1.0%) |

Response: The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork based on UK withdrawn document for Urban areas in UK & not Ireland.

During the proposed 24 months construction period, the proposed construction works would increase AADT volumes on the R516 by 77 vehicles, including 25 heavy vehicles, which equates to an AADT increase of up to 2.5%. Elsewhere, on other existing local, regional and national roads in the vicinity of the proposed development site, the proposed construction works would increase AADT volumes by up to 0.7%.
During the peak construction heavy vehicle traffic generation phase, the peak daily increase in daily traffic volumes on the R516 generated by peak construction would be up to 194 vehicles, including up to 142 heavy vehicles, which

equates to an increase of up to 6.2%. Elsewhere, on other existing local, regional and national roads in the vicinity of the proposed development site, the peak daily increase in daily traffic volumes during the proposed peak construction heavy vehicle traffic generation phase would be up to 1.8%.
During the grid connection route works along public roads, the grid connection construction works would generate up to 42 daily heavy vehicle loads to and from the works (as seen in Table 16-9), including on the R516, L8012, L8011, L1412, R512, L1170, L1171 and N24 public roads.
The predicted increases in traffic volumes generated during the proposed development construction could result in increased journey times for other road users, including at the alternating one-way traffic yield system at the River Camoge bridge on the R516, located circa 1.5 kms east of Croom.
Response: The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork based on UK withdrawn document for Urban areas in UK & not Ireland..

### 16.4.8 TII TTA Assessment Thresholds

The predicted increases in AADT volumes on the existing local, regional and national roads in the vicinity of the proposed development site, during the proposed development 24 months construction phase, are less than the volumetric threshold (5%) identified by TII in their TTA Assessment Guidelines for sensitive locations.
The predicted increases in peak daily and peak hour traffic volumes, during peak construction, would be highest on the R516 at up to 6.2% and 5.1%, respectively. However, the R516 is not considered a sensitive location based on the RRA Assessment Guidelines. There are increases of up to 1.8% and 1.6%, respectively, elsewhere, on other existing local, regional and national roads in the vicinity of the proposed development site.
Response: TII assessments only relate to National Roads & not Regional or Local Roads. The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork based on UK withdrawn document for Urban areas in UK & not relevant to Ireland.

### 16.4.9 Volume/Capacity Ratios

The estimated rural road link AADT volume/capacity ratios for the existing R516 and R512 rural roads in the vicinity of the proposed development, are provided in Table 16-13, based on the TII Rural Road Link Design, for the predicted 2029 AADT volumes, with the TII predicted traffic growth plus the proposed development construction.
Response: TII assessments only relate to National Roads & not Regional or Local Roads. The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork based on UK withdrawn document for Urban areas in UK & not relevant to Ireland.

Table 16-13: Predicted TII Rural Regional Road Link AADT Volume/Capacity Ratios with TII Growth Plus Proposed Construction

| Rural Road with Rural Speed Limit | Year | AADT Vehicles | AADT Capacity (Vehicles) @ LOS D | AADT Volume/Capacity Ratio |
|---|---|---|---|---|
| R516 between Croom and Bruff | 2029 | 3,336 | < 5,000 | >67% |
| R512 north and south of Bruff | 2029 | 5,377 | >5,000<br><8,600 | <108%<br>>63% |

Response: TII assessments only relate to National Roads & not Regional or Local Roads. The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork based on UK withdrawn document for Urban areas in UK & not relevant to Ireland.

The R516, between Croom and Bruff, would continue to operate within its estimated rural road link AADT capacity at Level of Service (LOS) D, in 2029, with the proposed development construction, with a volume/capacity ratio of

higher than circa 67%. This compares to a ratio of higher than circa 63%, in 2029, without the proposed development construction.
The R512, north and south of Bruff, would operate with an estimated rural road link AADT volume/capacity ratio of higher than 63% and less than 108%, in 2029, with the proposed development construction. This compares to an estimated ratio of higher than 61% and less than 106%, in 2029, without the proposed development construction.
The predicted 2029 urban and suburban road link peak hour volume/capacity ratios for the R516 at Croom, R512 at Bruff, the L1170 and the L1171 are provided in Table 16-14, based on the Traffic Capacity of Urban Roads TA 79/99, with the TII predicted traffic growth plus the proposed development construction.
Response: TII assessments only relate to National Roads & not Regional or Local Roads. The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork based on UK withdrawn document for Urban areas in UK & not relevant to Ireland.

Table 16-14: Predicted Urban and Suburban Road Link Peak Hour Volume/Capacity Ratios with TII Growth Plus Proposed Construction

| R420 Urban/Suburban Road | Year | Highest Direction Peak Hour Vehicles | Capacity/Hour/ Direction (Vehicles) | Volume/Capacity Ratio |
|---|---|---|---|---|
| R516 @ Croom | 2029 | 311 | 750 | 42% |
| R512 @ Bruff | 2029 | 302 | 750 | 41% |
| L1170 @ 60 km/hour zone | 2029 | 240 | 1,020 | 24% |
| L1171 @ 60 km/hour zone | 2029 | 440 | 1,260 | 35% |

The urban R516 at Croom and R512 at Bruff, within their 50 km/hour urban speed limit zones, would continue to operate well within their estimated urban road link capacities, in 2029, with the proposed development construction, with highest volume/capacity ratios during the peak hour of 42% and 41%, respectively. These compare to highest volume/capacity ratios without the proposed development construction, in 2029, of 40% and 40%, respectively as seen in Table 16-8.
The suburban L1170 and L1171, within their 60 km/hour suburban speed limit zones, would continue to operate well within their estimated suburban road link capacities, in 2029, with the proposed development construction, with highest volume/capacity ratios during the peak hour of 24% and 35%, respectively. These compare to highest volume/capacity ratios without the proposed development construction, in 2029, of 24% and 35%, respectively.
Response: TII assessments only relate to National Roads & not Regional or Local Roads. The AADT capacities do not meet the requirements for carriageway types below. All of this is unproven guesswork based on UK withdrawn document for Urban areas in UK & not relevant to Ireland.

Chapter 2 EIAR
2.10 The Use of Natural Resources
2.10.1 Aggregate, Concrete and Steel
Details of aggregates, concrete, and steel that will be used during construction are detailed in Table 2-8.
Sixty one percent of aggregate materials (circa 99,852m3) required for the construction of the access tracks, hardstands and the substation compound will come from aggregate (rock, stone, gravel, sand) extracted from the proposed on-site borrow pits. An additional 67,740m3 (39%) of material will be sourced from local quarries, this will mainly consist of higher-grade materials not available to be won on site, limestone capping material for tracks and hardstands, and concrete for the construction of the 17 No. turbine bases, permanent met mast foundation, underground cabling (on site and for grid connection), storage areas and substation infrastructure.

Table 2-8: Summary of Approximate Aggregate and Steel Quantities

| Item | Unit | Quantity |
|---|---|---|
| **Total volume of aggregate required (including site won and imported)** | **m3** | **164012** |
| Site won aggregate from onsite borrow pit | m3 | 99852 |
| **Total volume of site won aggregate required** | **m3** | **99852** |
| Imported stone for turbine bases | m3 | 16905 |
| Imported stone for turbine hardstand | m3 | 7548 |
| Imported stone for access tracks | m3 | 9801 |
| Imported stone for temporary compound | m3 | 1320 |
| Imported stone for substation area | m3 | 10362 |
| Imported stone for independent power provider | m3 | 5313 |
| Imported stone for met mast area | m3 | 532 |
| Imported stone for internal cable route | m3 | 1203 |
| Imported stone for external cable route | m3 | 14755 |
| **Total volume of imported aggregate required** | **m3** | **67740** |
| Concrete for turbine bases | m3 | 19097 |
| Concrete for substation | m3 | 63 |
| Concrete for independent power provider | m3 | 66 |
| Concrete for met mast | m3 | 12 |
| Concrete for internal cable route | m3 | 4922 |
| Concrete for external cable route | m3 | 11426 |
| **Total volume concrete required** | **m3** | **35586** |
| Reinforced steel for turbine bases | tonnes | 2865 |
| Reinforced steel for substation | tonnes | 8 |
| Reinforced steel for independent power provider | tonnes | 8 |
| Reinforced steel for met mast | tonnes | 1 |
| **Total volume of imported steel reinforcement required** | **tonnes** | **2882** |

Response: Total volume of imported aggregate is 67,740$m^3$. On the basis of 7$m^3$ per load, this means 9,677loads. Total volume of concrete is 35,586$m^3$. On the basis of 7$m^3$ per load, this means 5,084loads. On the basis of 2882 tonnes of steel, a further 412 loads. A further 24,840$m^3$ will be excavated on the grid route & 3,549 loads. The total number of loads is 18,722 loads. Total truck movements is 37,444.

Table 2-10: Excavation and Material Volumes

| Item | Unit | Quantity |
|---|---|---|
| **Total Excavation Volume** | **$m^3$** | **321,758** |
| Excavated Material from the Wind Farm Site | $m^3$ | 296,918 |
| Excavated Material from the External Grid Route | $m^3$ | 24,840 |
| **Total Aggregate Volume** | **$m^3$** | **167,591** |
| Imported Aggregate | $m^3$ | 67,740 |
| Site Won Aggregate | $m^3$ | 99,852 |
| **Total Concrete Volume** | **$m^3$** | **35,586** |
| **Total Reinforcement Volume** | **Tonnes** | **2,882** |

### 16.4.10 Temporary Traffic Management

A Traffic Management Plan for the proposed development is provided in Volume III, Appendix 16A of this EIAR.
A stop/go alternating direction temporary traffic management arrangement would be provided during grid connection works along the public road network, to facilitate the grid connection construction works. Local access will be maintained. Temporary traffic diversions on public roads are proposed for the grid connection works along the L8012 and L8011 public roads, via the R516, R512 and L1412.
The temporary construction traffic management arrangements would be provided in accordance with the DoT Traffic Signs Manual Chapter 8 Temporary Traffic Measures and Signs for Roadworks, with the prior approval of the planning authority.
The expected construction duration for the proposed grid connection works along the public road network, which will be carried out concurrently with the proposed substation works, is six months. The proposed grid connection works would be carried out on a linear basis, from the proposed windfarm and substation site to the existing Killonan substation, by a single construction crew.
The grid route along the public roads is approximately 24.4 kms long with an expected 165 metres of works to be completed each day.
The expected durations of the proposed grid connection construction works along the public road network are provided in Table 16-15.

Response: Grid connection works require landowner consents & ACP cannot facilitate trespass against HC decision in Cremins v Derrada Windfarm 2023, Constitutional & EHCR Article 1 property rights.

Table 16-15: Proposed Grid Connection Route Construction Durations Along Public Roads

| Grid Connection Public Road Section | Length | Construction Duration |
|---|---|---|
| Section within R516 to L8012 | 1.4 kms | 1-2 Weeks |
| Section within L8012 to L8011 | 1.4 kms | 1-2 Weeks |
| Section within L8011 to L1412 | 1.1 kms | 1 Week |
| Section within L1412 to R512 | 2.5 kms | 2-3 Weeks |
| Section within R512 to L1170 | 14.5 kms | 15 Weeks |
| Section within L1170 to L1171 | 2.6 kms | 3 Weeks |
| Section within L1171 to N24 | 0.2 kms | 2 Days |
| Section within N24 to Killonan Substation | 0.7 kms | 4-5 Days |
| **Total** | **24.4 kms** | **26 Weeks (6 Months)** |

Response: No details provided on road closures & diversion route lengths.

The temporary traffic management arrangements would increase journey times for users during the proposed construction working hours along the proposed grid connection route, for the predicted construction durations.
The proposed grid connection cable will extend across the L1414 public road at the proposed site public road crossing, during construction. The expected duration of the grid connection construction works at this public road crossing is one to two days.

### 16.4.11 Road Pavements Monitoring

Heavy vehicle traffic volumes generated by the proposed development construction could result in damage to existing and proposed road pavements on public roads, including at vehicle turning, accelerating and decelerating

locations. Road pavements would be regularly monitored and reinstated in accordance with the requirements of the planning authority.
Res;ponse: These assessments should be included with the application.

### 16.4.13 Cumulative Impacts and Effects

The grid connection and substation are included as elements of the project and have been assessed in this chapter assessment. Therefore they do not need to be considered again under cumulative effects.
The foregoing assessment includes TII's predicted traffic growth, which includes traffic generated by proposed other developments. No additional traffic volumes are expected to be generated by other developments during the proposed development construction. A detailed description of other developments, including other wind farm developments, is provided in Volume II, Chapter 01 Introduction of this EIAR.

The proposed Garrane Windfarm development, subject to planning permission, is located southwest of the proposed development adjacent to the east side of the N20, south of Bruree. It is envisaged that the turbine delivery periods for the developments would not coincide, as both would be delivered to the Port of Foynes during different periods. Other construction traffic generated along the N20 by both developments could coincide but would not be significant given the volume of traffic that currently use the road. The proposed development would increase predicted AADT traffic volumes along the N20 by up to 0.3%.
On the basis of the EPA EIAR Guidelines, the cumulative impacts with other proposed developments have been assessed as slight to moderate adverse effects and temporary to short term.

## 16.5 Assessment of Operational Phase Impacts and Effects

A detailed description of the proposed operational phase is provided in Volume II, Chapter 02 Description of the Proposed Development of this EIAR.
The proposed development will have up to two operational staff and will generate negligible operational traffic volumes. Occasional traffic will be generated by routine inspection and maintenance.
On the basis of the EPA EIAR Guidelines, the proposed development will have imperceptible to not significant long term to permanent neutral effects.

Table 16-16: Summary of the Potential Effects: Traffic and Transportation

| Phase | Impact | Quality of Effect | Significance | Spatial Extent | Duration |
|---|---|---|---|---|---|
| Construction Phase | Increased traffic volumes on local road networks | Adverse | Slight-moderate | local | Temporary-short-term |
| Operational Phase | Operational traffic | Neutral | Imperceptible – not significant | local | Long-term - permanent |
| Decommissioning Phase | Increased traffic volumes on local road networks | Adverse | Slight | local | Temporary-short-term |

Response: Predictions of impacts based on guesswork is nonsense.

## 16.7 Mitigation Measures

### 16.7.1 Construction Phase

All traffic management and road signage will be in accordance with the Department of Transport (DoT) Traffic Signs Manual Chapter 8: Temporary Traffic Measures and Signs for Road Works; and in agreement with Limerick City and County Council.
A pre-construction bridge and road survey will be carried out on the haul routes on the R516, which will be monitored on a regular basis and any damage rectified promptly. Once construction has been completed a post

construction road and bridge survey will be carried out. Any sections identified as damaged after the preconstruction survey will be reinstated.
Response: This should be included as part of the application.

A Traffic Management Plan outlining the required traffic management procedures to be implemented on the public roads during the construction of the proposed development is provided in Volume III, Appendix 16A of this EIAR. The Traffic Management Plan will be updated, as appropriate, following the proposed project detailed design/tendering stage, and submitted for the approval of Limerick City and County Council, prior to construction. The proposed grid connection will require a Road Opening License (ROL) prior to the commencement of any grid connection works on the public road. The road surface of the public roads will be reinstated to the standards set out by the Department of Transport (DoT) Guidelines on the Opening, Backfilling and Reinstatement of Trenches on Public Roads (April 2017). All road permanent reinstatement works will be in accordance with the requirements of Limerick City and County Council.
Response: The Traffic Management Plan does not deal with inadequate narrow legacy roads with no structure. It provides no details on passing bays, joint chambers, road closures or detours

Construction wheel wash facilities will be provided at the construction entrances to wash truck tyres leaving the construction site.

### 16.7.2 Operational Phase

The proposed development will not generate regular operational traffic, and no mitigation measures are required.

Table 16-17 Residual Effects: Traffic and Transport

| Phase | Quality | Significance | Spatial Extent | Duration |
|---|---|---|---|---|
| Construction | Adverse | Slight to Moderate | Local | Temporary to Short Term |
| Operational | Adverse | Imperceptible | Local | Long Term to Permanent |
| Decommissioning | Adverse | Slight to moderate | Local | Temporary to short term |

Response: Again this is based on incorrect unsubstantiated data & irrelevant.

### 16.9 Risk of Major Accidents and Disasters

Road traffic accidents on public roads used by traffic volumes generated by the proposed construction works, could result in delays to traffic generated by the proposed works and to other traffic. Traffic generated by the proposed works could be involved in road traffic collisions. Traffic subject to the proposed temporary traffic management measures along the grid connection construction works could be involved in road traffic collisions.
The risk of collisions will be minimised by the Traffic Management Plan for the proposed development. The risk of any occurrence is low, and the significance of any effect is imperceptible.

Further Information Query 15/5/2025 from An Coimisiún Pleanála related to

:

Laurclavagh Windfarm SID Reference 319307-24 : 1.1 refers

1.6 The proposed wind farm development would appear to adjoin/encroach onto third party lands adjoining the L61461, with existing dwellings not delineated on the site layout plans at this location. You are requested to provide clarification on same, and submit relevant consents if/where applicable, with plans revised to detail existing dwellings.

**Item 3. Bats (EIAR & NIS)**

3.1 In relation to the biodiversity sections of the EIAR including the survey work undertaken to inform the collision risk assessment for bats, the Bat Report (Appendix 6-2) outlines the calculated activity thresholds were adapted. Please clarify if the bat collision risk analysis was undertaken based on Table 3-6 or 3-7 of the Bat Report. Collision risk analysis should be based on worst case scenarios and the collision risk calculations should be revised, if/where applicable.

3.2 Consideration should be given to the potential for bat collision risk from insects being attracted to turbines.

4.4 Please clarify if wake effects will arise from the proposed development on habitats, badgers, species and insects. Consideration should be given to these issues.

**Item 9. Noise and Vibration (EIAR)**

9.1 You are requested to clarify if the wind farm noise calculations are based on collective / standalone turbines.

9.2 Consideration should be given to seismic effects, seismic effects and infrasound from the karstic limestone spindles vibration, impacts of vibration on property.

**Item 10. Wake effects (EIAR)**

10.1 Please clarify if turbine wake effects would arise at dwellings, lands downwind of site due to prevailing winds, and also give consideration to wake effects on yields, livestock, and local temperature effects arising.

Clonberne Windfarm SID 320089-24. Reference No. 1.2 refers.

6. You are requested to clarify if wake effects will arise from the proposed development on birds. Consideration to these issues should be given.

Abnormal Size Load Delivery Route

- An observation is on file from a landowner at the junction of the N83 and the L6466 (Junction 9a) stating that he has not given his consent to the inclusion of his land or to the lodgement of the application.
- Junction 9b (bend on L-6466) appears to require the removal of a stand of trees/vegetation on lands along northern side of the L-6466 and the run-over area for the turbine plant deliveries encroaches on lands on the southern side of the L-6466 (i.e. Figure 15-23b of Appendix 15-4). This location is not included within the application but is included in the EIAR for assessment.

You are requested to demonstrate that it has the consent of the relevant landowner(s) to include the land(s) within the proposed application. Details of alternative access arrangements should be provided should the relevant landowner(s) consent not be secured to allow for the works identified as necessary along the turbine delivery route. Alterations as necessary to the letter of consent to make the application should also be made and submitted.

Please ensure that all relevant drawings, maps and figures in the documentation accompanying the application accurately reflect the extent of the site to which the application refers and does not include lands where the consent of the relevant landowner(s) has not been secured to make the application. Any revisions/amendments to be detailed and submitted.

**Wake Effects**

Address the potential for wake effects including consideration of effects on agricultural lands.

6. You are requested to clarify if wake effects will arise from the proposed development on birds. Consideration to these issues should be given.

- Passing Bay consents not provided. The setback areas at existing rural houses that provide access & Sight Distance Triangles to the house are part of the Planning Approval & provided at the householder expense. These areas & sight distance triangles cannot be compromised. Limerick County Council cannot grant permission for trespass against the Law.

- Adverse impact on Traffic & Roads from a Nacelle weighing up to 400tonnes with dimensions 10.9m in length, 4.09m in width & 4.15m in height & on a 2-4 axle articulated flat-bed truck. With the weight of the truck included, the fully laden weight will be circa 450 tonnes. A 2-4 axle articulated flat bed truck is not capable of carrying this weight or permitted by law [S.I. No. 5 of 2003 Clause 13] & would severely damage roads, bridges & culverts.

- Hedge/Tree cutting consents in front of 3rd Party properties not included. The Applicant is required to submit letters from any landowner confirming agreement to accommodation works including hedge trimming and/or pavement works. Limerick County Council cannot grant permission for trespass against the Law.

- S.I. No. 5/2003 – Road Traffic (Construction and Use of Vehicles) Regulations 2003

| |
|---|
| 13. (1) Subject to Regulation 12 and to this Regulation, the weight laden of an articulated vehicle having a total of 4-axles shall not exceed 35 tonnes. |
| (2) The weight laden of an articulated vehicle having 4-axles may exceed 35 tonnes but shall not exceed 38 tonnes if the vehicle- |
| (a) consists of a 2-axle tractor unit and a 2-axle semi-trailer, |
| (b) is equipped with twin tyres and an air suspension system or an equivalent system on each driving axle, |

| |
|---|
| I is equipped with a brake system approved in accordance with the requirements of the Directive 71/320/EEC of 26 July 1971[4] as amended by Directive 98/12/EC of 27 January 1998 [5] which includes antilock devices in addition to any other devices necessary for the satisfactory operation of the service brakes under all conditions of loading, and |
| (d) is equipped with a plate complying with the requirements of the Regulations of 2000. |

- Road closures to connect grid is totally unreasonable for the local community commuting to Work & School..

## RESPONSE FROM MARTIN LAVELLE: INTRODUCTION

### Roads

The weight of the nacelle is c400tonnes & no assessments or knife edge load assessments are provided for the structural capacities of River, Stream or Culvert crossings plus watermain & gas pipeline crushing. The Applicant does not include the weight of the nacelle in his application. Bridge damage might not be immediate. This is similar to the ESB Generators locked in Dublin Port as the M50 Westlink bridge couldn't carry the weight.

The proposed development is located along a legacy narrow roadways with limited passing facilities. The granting of this industrial facility will negate the level of safety for the local residents. The additional development is likely to lead to an over intensification of traffic on a local road without footpaths. The proposed development is premature pending major road improvement works to allow lorries to pass each other. The proposed development may also need for third party cooperation to improve the road as the existing carriageway has an average width of less than 5 metres. The overuse of the substandard local road by commercial lorries has both the potential to endanger pedestrian safety & cyclists, due to the absence of a footpath, by reason of traffic hazard and create obstruction at times when two trucks are attempting to pass. The proposed development located on such narrow Local roads is likely to constitute a risk to pedestrian safety.

The proposed development is located on the Local Road, that is substandard in terms of width and alignment. The scale of traffic generated by the proposed development over the Local roads both at construction and operational stage would render the road unsuitable to carry the increased loads arising from the development, would endanger public safety by reason of traffic hazard and obstruction of road users, Children, Pedestrians & Cyclists, would be premature having regard to the deficiency in the road network serving the rural area within which the site is located, would set an undesirable precedent for similar development of this scale and nature elsewhere & would seriously injure the residential amenities of the area and would therefore be contrary to the proper planning and sustainable development of the area.

The Development would lead to an over intensification of traffic on substandard out of capacity Local Roads. It is, therefore, recommended that the development be refused due to the hazard and obstruction concerns outlined above.

The proposed development of a windfarm facility is not serviced by a suitable transportation network. The road network is not ideally suitable for the scale of construction traffic required to develop the Windfarm Facility.

The development is totally dependent on the transport of construction materials, labour and raw materials by substandard roads.

The road network is primarily a network of "legacy roads". These roads do not have a road structure as envisaged in the design standards. Rather the network depends on the periodic replacement of a thin road surface course or courses without the necessary road capping layer and sub-base being present beneath (directly on the subgrade). This renders the road liable to significant damage from HGV traffic

(especially over-weight vehicles) caused by the transfer of wheel loads to the subgrade at stress levels above that which the subgrade can support.

- Adverse impact on Traffic & Roads from a Nacelle weighing up to 400tonnes with dimensions 10.9m in length, 4.09m in width & 4.15m in height & on a 2-4 axle articulated flat-bed truck. With the weight of the truck included, the fully laden weight will be circa 450 tonnes. A 2-4 axle articulated flat bed truck is not capable of carrying this weight or permitted by law [S.I. No. 5 of 2003 Clause 13] & would severely damage roads, bridges & culverts

CJEU Case 258/11 at 44

"So far as concerns the assessment carried out under Article 6(3) of the Habitats Directive, it should be pointed out that it cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the works proposed on the protected site concerned."

Judgement of the Court Case 258/11

Article 6(3) of Council Directive 92/43/EEC of 23rd May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that a plan or project not directly connected with or necessary to the management of a site will adversely affect the integrity of that site if it is liable to prevent the lasting preservation of the constitutive characteristics of the site that are connected to the presence of a priority natural habitat whose conservation was the objective justifying the designation of the site in the list of sites of Community importance, in accordance with the Directive. The precautionary principle should be applied for the purposes of that appraisal.

Signed: 

Martin Lavelle, BE.
15th November 2025

Reference Number 1.1: Laurclavagh  Windfarm: Further Information Query from ACP

**Our Case Number:** ABP-319307-24

**Your Reference:** Laurclavagh Limited

An Bord Pleanála

MKO
Planning & Environmental Consultants
Tuam Road
Galway
Co. Galway
H91 VW84

**Date:** 05 March 2025

**Re:** Proposed no 8 wind turbines and associated works.
Laurclavagh and adjacent townlands, Co. Galway. (www.laurclavaghplanning.com)

Dear Sir / Madam,

I have been asked by An Bord Pleanála to refer further to the above mentioned proposed development which is before the Board for consideration.

Please be advised that the Board; in accordance with section 37F(1)(a) of the Planning and Development Act 2000, as amended, hereby requires you to furnish the following further information in relation to the proposed development:

**Item 1. Roads and Traffic (EIAR)**

1.1 The N83-L61461 junction layout as outlined in submitted plans, the traffic management plan and in your response to submissions do not appear to be consistent with the existing onsite arrangement. The existing junction layout appears to display restricted sightlines in both northerly and southernly directions onto the N83. Given the application details submitted to date and the existing junction layout, consultation should take place with the planning authority in order to clarify the status of the existing junction layout.

1.2 You are requested to submit a revised site layout plan at an appropriate scale indicating clear sightline triangles at the required standard including at the N83 & L61461 junction. This shall

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clearly dimension the extent of proposed boundary walls to be set back adjoining the L61461 and adjoining the N83. Sightlines at all entrances and junctions should meet required standards.

1.3 If required, submit any letter(s) of consent from any adjoining landowner consenting to set back their property in order to achieve sight distances where current sight distance y-splay traverses through adjoining third-party boundary.

1.4 Site layout plans should be revised to clearly detail the width of L-61461 and its proposed widened areas, at an increased scale, taking into account the width of 2 number passing HGVs.

1.5 The site layout plans should be revised to detail existing junction layouts at the N83-local roads.

1.6 The proposed wind farm development would appear to adjoin/encroach onto third party lands adjoining the L61461, with existing dwellings not delineated on the site layout plans at this location. You are requested to provide clarification on same, and submit relevant consents if/where applicable, with plans revised to detail existing dwellings.

1.7 The details outlined on material assets in your response to submissions including the management of HGV trips on the L-61461, swept path analysis, new temporary access roads access and egress restrictions, and items raised in items 1.1, 1.2, 1.4 & 1.5 above should be included in an updated Road Safety Audit for the construction stage. This should be outlined by way of an addendum to the EIAR.

1.8 A Traffic and Transport Impact Assessment for the N83-L61461 junction encompassing the N83, L61461 and L6146 should be submitted as a standalone document.

1.9 Details of the junction capacity test referenced as included as Appendix 15-3 of the EIAR should be submitted.

1.10 TII outline the proposals to lay the grid cable in the N83 national road reservation has a potential to impact on road authorities and TII in undertaking future maintenance and improvement requirements, and there also may be additional cost implications to improvements and maintenance resulting from the presence of high voltage cabling. Please outline if joint bays can be accommodated within the N83 carriageway, and their locations should be clearly outlined.

**Item 2. Ornithology (EIAR & NIS)**

2.1 In relation to **the methodology for potential bird mortality and the acceptability of same, the Department of Housing, Local Government and Heritage** consider that both the Ornithology chapter of the EIAR and the NIS do not accurately use the methodology outlined to determine the significance of the potential bird mortality caused by collisions with the proposed turbines. It is

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outlined that the EIAR and NIS make reference to the methodology outlined by Percival (2003) for determining the magnitude and significance of an effect on a given population (e.g. High = < 20% population remains, Negligible = < 1% population lost), and according to Percival (2003), the magnitude of impact on a species population as a result of collisions, would be negligible if the estimated mortality does not increase the natural mortality rate of the population by 1%. It is outlined however, Percival (2003) states that *'one issue in this process concerns the precise area or bird population against which the degree of impact should be judged, and for protected SPAs this is usually quite straightforward, comprising simply the populations for which that site has been designated'*. The Department outline the EIAR and NIS only make reference to national and county populations even when connectivity with Lough Corrib SPA has been identified in the reports. It is outlined for example, the reports establish potential connectivity between the proposed development and the Lough Corrib SPA in relation to potential collision mortality impacts on breeding Black-headed Gulls, which are a qualifying interest of the SPA, however, these impacts are then contextualised in terms of county population and not the SPA population as would be the case if the Percival (2003) methodology was used correctly. So instead of an increase of 0.26% mortality in relation to quoted county population there would be a 0.8% increase in mortality in relation to the SPA population. This change, while still resulting in an increase of mortality below 1%, may be important in relation to the assessment of in-combination effects with other wind farms with potential connectivity to the Lough Corrib SPA.

While the details set out in your response to the submissions are noted, having regard to the observations of the **Department Of Housing, Local Government and Heritage**, to enable a determination of the significance of the potential bird mortality caused by collisions with the proposed turbines on all relevant bird species, from both an individual project and cumulative perspective, collision risk impacts should be clearly contextualised in terms of the county and the SPA population, utilising the Percival (2003) methodology, as per the Departments observation.

2.2 In relation to **methodology and cumulative impacts, the Department of Housing, Local Government and Heritage** outlines the EIAR and NIS both use arbitrary reference areas for assessing the potential in-combination/cumulative effects of collision mortality impacts. It is outlined for example, when considering the potential for the in-combination effects of collision mortality on SCI's of the SPA, such as the Black-headed Gull, arbitrary buffers of 5km and 25km around the proposed development are referenced, and it is recommended that any wind farm with potential connectivity to the Lough Corrib SPA that has similar such impacts should be considered, should they occur, and these may occur at distances much greater than 5km/25km from the proposed development given the size of Lough Corrib SPA. It is outlined if such developments do

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not occur or occur but do not result in the mortality of the same qualifying interest species, this should be made clear. The Department also recommends that when considering in-combination effects of other wind farms with connectivity to the same SPA the EIAR and NIS should make reference to any relevant figures in the relevant reports for any such developments and not just their conclusions. It is stated for example if it is established that another wind farm has connectivity with the SPA and it was predicted that this wind farm would have collision mortality impacts on, for example Black-headed Gulls, the predicted number of this collision mortality should be referenced and not just the conclusion. The combined figure should then be interpreted in relation to the population of the relevant SPA.

While the details set out in your response to the submissions are noted, having regard to the observations of the **Department Of Housing, Local Government and Heritage**, to enable for a comprehensive cumulative and in combination assessment of collision risk impacts, details should be outlined for collision risk impacts for all relevant bird species in the county and SPA population, taking into account appropriate buffer distances and other wind farms, with reference also to be made to relevant figures from other wind farm reports, as per the Departments observation.

EIAR

2.3 Please outline the cumulative impact on red list species including Hen Harrier, Kestrels and other species using the site of the anthropocentric change of use of the lands over the decades, and this should be quantified.

2.4 Please clarify if the existing kestrels and their nesting within an observers lands (E, A, D, and M. Jennings), have been included in the surveys and assessments carried out. These should be revised, if/where applicable.

2.5. Please clarify the location of information in Appendices 6-5 and 7-5.

NIS

2.6 The NIS outlines that for collision risk estimates for Common Gull (Wintering), that due to the increased population sizes of the species during winter, the collision risk analysis will be **inflated** relative to potential impacts on the **breeding population** which is a designated SCI of the SPA. A collision risk analysis has not been identified for the Common Gull breeding population in tables, this statement should be clarified with details to be outlined in tables, where relevant.

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2.7 The revised NIS should clarify the potential for the proposed development to give rise to displacement or barrier effects on Common Gull (Breeding). Mitigation should be set out, if/where applicable.

2.8 The revised NIS should include an assessment of SCI "Wetlands and Waterbirds" A999 including in section 5.1.2.3.14.

2.9 Table 8-1 Wind farm projects within 25km of the Proposed Project should be revised to detail turbine dimensions.

2.10 The NIS should be revised to assess the potential impact of turbine obstacle lighting on the relevant European Sites Special Conservation Interests (SCI's).

**Mitigation**

2.11 A number of mitigation measures for key ornithological receptors set out in the EIAR relating to construction timing, the requirement for further surveys for breeding birds, and the fencing off of habitat areas utilised by certain bird species, do not correspond to the mitigation for the same species identified as Special Conservation Interests (SCI's) in the NIS. The revised NIS should include these mitigation measures.

2.12 You are requested to clarify if the correct methodology and matrices needed to inform mitigation, have been carried out in the cumulative impact assessment for the EIAR and NIS. Consideration should be given to this issue, with regard given to C-392/96.

**Item 3. Bats (EIAR & NIS)**

3.1 In relation to the biodiversity sections of the EIAR including the survey work undertaken to inform the collision risk assessment for bats, the Bat Report (Appendix 6-2) outlines the calculated activity thresholds were adapted. Please clarify if the bat collision risk analysis was undertaken based on Table 3-6 or 3-7 of the Bat Report. Collision risk analysis should be based on worst case scenarios and the collision risk calculations should be revised, if/where applicable.

3.2 Consideration should be given to the potential for bat collision risk from insects being attracted to turbines.

3.3 Clarity should be outlined on if the Lesser Horseshoe Bat roosts c.2.3km from Turbine 5 at Caltragh, Belcare. The EIAR outlines the project is outside of the 2.5km foraging range for the species. Clarification should be provided in relation to the presence of any roost site for the species within the foraging range, including within caves, and environmental assessments should be updated, if/where applicable.

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3.4 An assessment of the potential for the proposal to give rise to effects on **the Lesser horseshoe bat, a QI for the Lough Corrib SAC (000297)** has not been identified in the NIS and this should be addressed.

**Item 4. Protected Species, Protected Habitats and Plant Species, Local Species (EIAR)**

4.1 Clarification should be provided as to whether the site and area includes for any species protected under the flora protection order, and in the event of these species existing, protection measures should be outlined.

4.2 The habitat mapping Figure 6-5 (at a scale of 1:23,000) is not clearly legible. Mapping should be outlined at a scale of 1/1250 to enable an assessment of the proposed developments impact on habitats.

4.3 Please clarify if there will be any turbine over sailing protected habitats areas. In the event of this occurring an assessment of this impact on protected habitats should be carried out. Mitigation measures should be outlined, if/where applicable.

4.4 Please clarify if wake effects will arise from the proposed development on habitats, badgers, species and insects. Consideration should be given to these issues.

4.5 The site and its vicinity may include for a range of species, including pine martin, shrews, dormouse, hedgehogs, cuckoo, bull finches, butterfly and larvae, bees, wasps, snails, worms. While the EIAR details the potential for impacts on fauna, e.g. Irish hare, Fox, Irish Stoat, consideration of the effect of the project on the above listed species should be outlined. This should also consider the proposed and revised Biodiversity Management and Enhancement Plan, in Item 5.

4.6 You are requested to outline the cumulative impact of the proposed development with the anthropogenic effects of noise on biodiversity.

**Item 5. Biodiversity Management and Enhancement Plan (BEMP) – (EIAR)**

5.1 The referenced Figure 1-1 of the Biodiversity Management and Enhancement Plan (BEMP) which includes habitats clearance areas has not been identified and this should be outlined. The clearance areas should be clearly outlined in the context of existing hedgerow, treelines and woodland, and proposed hedgerow and woodland replanting, on mapping scale of 1:2500.

5.2 You are requested to detail the removal of vegetation proposed, including woodland and hedgerow species, which may include hazel groves, oak, ash, hawthorn. Please clarify the specific species to be removed, and the specific replanting to occur in relation to any species removal. This should be clearly outlined on site layout plans and in BEMP mapping.

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5.3 The EIAR makes reference to the BMEP entailing native woodland planting and these areas should be outlined in the BEMP.

5.4 You are requested to clarify if there are ancient woodlands within the site and these and treatments of same should be outlined in the BEMP. This should be outlined on plans and in the BEMP mapping.

5.5 Clarity should be outlined on the removal of vegetation and its carbon storage provision. Calculations should be outlined in relation to the carbon storage lost from the proposed removal of vegetation, and from carbon storage anticipated to be attained at the post consent stage following proposed replanting. *Mitigation measures should be outlined for the above Biodiversity items, if/where applicable.*

**Item 6. Grid Connection (EIAR & NIS)**

6.1 The design methodology for the grid connection crossings in the EIAR is not consistent with that set out in the NIS. The EIAR outlines the River Clare crossing at the site of the Lough Corrib SAC will be via Horizontal Directional Drilling (HDD), with the NIS outlining the River Clare crossing is via an existing bridge crossing. Clarification is sought on the river crossings proposed, and this should be addressed in environmental assessments, where appropriate, and in relevant drawings, sections.

6.2 Site layout plans should be revised to detail the location of all HDD locations, and these should be outlined relative to local drainage and water courses.

6.3 Potential noise and vibration effects of the HDD on all relevant species should be outlined for any HDD crossing.

6.4 A schematic of Water Crossing WC1 Type A using standard trefoil formation for the Claretuam Bridge on the N83 should be outlined, if /where applicable.

6.5 Cross profiles of all water crossing locations indicating watercourses, riverbanks should be outlined.

6.6 Clarify if any instream works are proposed.

6.7 Please be advised that TII have made an observation on the design methodology on water crossings for the proposed grid connection. TII recommends for water crossing WC1 (Claretuam Bridge) the existing freeboard should be preserved to allow for increasing the size of drainage culverts to provide additional capacity and accommodate additional water flows as required, and consider a HDD crossing (Option D) of WC1 should be deployed as opposed to Option A. While your response to submissions outlines the proposed watercourse crossing methodologies are deemed appropriate, given the design methodology concerns of TII a detailed response for the proposed water crossing at WC1 should be outlined.

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**Item 7. Shadow Flicker (EIAR)**

7.1 You are requested to provide clarification on the shadow flicker calculations for dwellings presented in the EIAR given the details outlined for dwelling H075 in Table 5-10 Maximum Potential Daily & Annual Shadow Flicker. Calculations should include all dwellings within the study area including H213.

7.2 Please confirm if the shadow flicker software utilised in the EIAR has been validated.

**Item 8. Water (EIAR & NIS)**

8.1 You are requested to outline the design capacity of the attenuation and infiltration devices for the management of construction waters and storm water management. Calculations addressing storm water runoff should be clearly outlined.

8.2 The NIS outlines the same mitigation to prevent significant impacts on water quality during construction is likely to be applicable to the decommissioning phase. The NIS should be revised to outline the mitigation measures that shall apply at decommissioning stage.

**Item 9. Noise and Vibration (EIAR)**

9.1 You are requested to clarify if the wind farm noise calculations are based on collective / standalone turbines.

9.2 Consideration should be given to seismic effects, seismic effects and infrasound from the karstic limestone spindles vibration, impacts of vibration on property.

**Item 10. Wake effects (EIAR)**

10.1 Please clarify if turbine wake effects would arise at dwellings, lands downwind of site due to prevailing winds, and also give consideration to wake effects on yields, livestock, and local temperature effects arising.

**Item 11. Cultural Heritage (EIAR)**

11.1 The Department of Housing, Local Government and Heritage outline underwater cultural heritage represented within the proposed development area may encompass riverine heritage structures and features that lie within rivers/streams and on their banks. In light of potential for the

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development to have adverse effects on underwater cultural heritage, a programme of pre-construction underwater archaeological assessment should be undertaken as follows:

Submit an Underwater Archaeological Impact Assessment (UAIA) to include:

11.2 A desktop assessment that addresses the underwater cultural heritage (including wrecks, archaeological objects, built heritage, riverine and industrial heritage) of the proposed development area.

11.3 The UAIA shall include a licensed dive/wade assessment accompanied by handheld metal detection survey centred on any area where works are proposed to the foreshore, to be undertaken by suitably licenced and experienced underwater archaeologist.

**Item 12. Landscape (EIAR)**

12.1 You are requested to consider the impact on historical landscape value and the proposals compatibility with the European Landscape Convention 2004, with attention paid to the Landscape Directive.

**Item 13. Other Matters (EIAR & NIS)**

13.1 In relation to blasting, the Noise and Vibration, and Land, Soil and Geology chapters of the EIAR, and the AA Screening Report and NIS should be updated to confirm no blasting is to occur at construction stage, as outlined in your response to the submissions.

EIAR

13.2 Relevant EIAR chapters including Noise and Vibration, Land, Soil and Geology, Water should be updated, by way of addendum to the EIAR, to clearly detail the proposed developments compliance with Gas Networks Irelands guidelines given the siting of the proposed development relative to the gas pipeline.

13.3 Clarity should be outlined on the weight of the transportation loads traversing the gas pipeline at construction stage. While details submitted outline the internal roads which will cross over the pipeline have been designed in accordance with the GNI Code of Practice and design specifications requested, these GNI design specifications requirements should be clearly outlined on plans, and the proposed vehicle weight loadings to be accommodated at these locations relative to GNI required specifications should be outlined.

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13.4 Treatments /recycling of turbine blades at post decommissioning stage should be outlined.

13.5 Technical chapters of the EIAR should be updated by way of an addendum to detail the volumes of wastes arising, where applicable.

13.6 Clarify if SF6 gas is to be used as in insulant for electrical equipment. Relevant safeguards should be outlined, if/where applicable.

13.7 The grade of aggregate, steel and concrete utilised should be outlined for the proposed development.

13.8 All EIAR chapters should clearly outline the indirect/potential indirect effects arising, which should be addressed by way of an addendum.

13.9 The Interactions chapter, EIAR Non-Technical Summery, CEMP and relevant plans should be updated by way of an addendum to take the request for further information into account, where applicable.

13.10 Please clarify details in relation to the project site size (in hectares) and proposed turbine co-ordinates outlined.

13.11 Consideration should be given to potential impacts on equine facilities/businesses/breeding operations, arising from the construction stage impacts and siting of the wind farm. Please provide a map delineating existing equine facilities/businesses/breeding operations in the vicinity of the proposed wind farm site. You are requested to also provide an assessment as to whether significant impacts will arise from the proposed development on such facilities, which is to include horse and Connemara Pony breeding operations, and this should take into account guidance in British Horse Society 'Wind Turbines and Horses – Guidance for Planners and Developers' 2015

13.12 Please clarify if the proposed development would impinge on access to lands under folio GY45478. Mapping and ownership details for this area of the site/lands under the control of the applicant should be outlined. In the event of any access being impinged, relevant consents should be outlined, if/where applicable.

**NIS**

13.13 The NIS has referred to Appendix 6-1 of the EIAR which relates to a botanical survey. This appendix should be included within the NIS appendices. EIAR documentation referenced within the NIS should be included in the NIS documentation.

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**Item 14. Response Format & Timeframe**

14.1 The above points of further information should be addressed by way of an addendum to the EIAR, and a revised NIS including the AA Screening Report as relevant and should clearly indicate where changes to the original documents are made. The Traffic and Transport Impact Assessment should comprise a standalone document.

The further information referred to above should be received by the Board within 6 months from the date of this notice **(i.e. no later than 5.30pm on the 6th of September 2025)**

In this regard, please submit 2 hard copies and one electronic copy of the above information.

Please note that following its examination of any information lodged in response to this request for additional information, the Board will then decide whether or not to invoke its powers under section 37(F)(2) of the Planning and Development Act 2000, as amended, requiring you to publish notice of the furnishing of any additional information and to allow for inspection or purchase of same and the making of further written submissions in relation to same to the Board.

If you have any queries in relation to the matter, please contact the undersigned officer of the Board. Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Raymond Muwaniri
Executive Officer
Direct Line: 01-8737125
PA11

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1.2: Clonberne ACP FI request

**Our Case Number:** ABP-320089-24

**Your Reference:** Hessian

An Bord Pleanála

MKO
Planning & Environmental Consultants
Tuam Road
Galway
Co. Galway
H91 VW84

**Date:** 15 May 2025

**Re:** Wind Farm Comprising of 11 Wind Turbines and Associated Infrastructure.
Located at townlands of Killavoher, Gortagarraun, Cloonarkan, Lomaunaghroe, Clonberg, Ballagh West, Carrowntryla & Lissybroder, Co Galway
(https://www.clonbernewfplanning.com/)

Dear Sir / Madam,

I have been asked by An Bord Pleanála to refer further to the above mentioned proposed development which is before the Board for consideration.

Please be advised that the Board, in accordance with section 37F(1)(a) of the Planning and Development Act 2000, as amended, hereby requires you to furnish the following further information in relation to the proposed development:

**Procedural/Administrative Issues**

1. The pre-application consultation undertaken under file ref. ABP 307058-20 provided for consideration of 11 no. 4.8MW turbines with a tip height of 170 metres. The tip height of the 11 no. turbines subject of this application is stated to be 180 metres.

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In this regard you are requested to submit a statement setting out your opinion as to the validity of the application in the context of the development as presented in the pre-application application.

2. Point (iii) of the public notices which sets out the nature and extent of the development for which permission is being sought refers to the provision for the undergrounding of a section of 38kV overhead electrical cabling (as proposed under Galway County Council planning ref. 24/60230) including the provision of 2 no. 38kV Line to Cable Interface End Masts up to a height of 16.2 metres and associated cable ducting to facilitate the undergrounding of the proposed 38kV cabling.

   The said planning application as detailed in the public notices has been withdrawn.

   Revised public notices with the necessary revisions made to provide for the accurate nature and extent of the development for which permission is being sought are required.

   The necessary revisions to the plans and details accompanying the application are also required.

3. Sections 8.3.1 and 9.3.1 of the EIAR notes that 40% of the site is bog where peat cutting in the form of private turbary plots is widespread, with some peat harvesting to the west and southeast of the site. Reference to peat harvesting throughout the Peat Stability Assessment Report is noted.

   Turbines and ancillary development are proposed to be located within the area(s) subject of this peat harvesting.

   (a) You are required to clarify the nature and extent of the peat harvesting area(s) within the site. The extent of the area(s) should be calculated and delineated on an appropriately scaled map(s).

   (b) Confirm whether the proposed development is to utilise the drainage network installed for the purposes of this peat harvesting.

   (c) Confirm whether peat harvesting is to continue during the lifetime of the wind farm and clarify that the proposed drainage plan can be effectively implemented whether or not peat harvesting is taking place.

   (d) Confirm that should peat harvesting continue during the lifetime of the wind farm that it has been appropriately included and assessed in the EIAR and AA.

4. Confirm that all existing and permitted dwellings and other sensitive receptors within 1.62 km of the proposed turbines for the shadow flicker assessment and 2km of proposed turbines for the noise assessment are accounted for and delineated on the relevant plans and drawings that accompany the application.

   Should additional properties be identified for inclusion, details of their location and numbering to be provided.

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5. Table 0-1 of the Non-Technical Summary which provides details of the proposed wind turbine locations, their grid reference coordinates and proposed top of foundation levels is incorrect and does not refer to the development subject of the application. The table should be rectified and the document amended accordingly.

6. Submit a detailed response to the submissions received from observers, prescribed bodies and the local authority to the application.

**Biodiversity**

1. Section 7.2.4.2.6 (waterbird distribution and abundance surveys) of Chapter 7 (Ornithology) of the EIAR states that "significant wetland sites" were surveyed for waterbird populations. Please provide a scaled map showing the locations of the "significant wetland sites" (labelled). Please provide a table showing the distance of each of the "significant wetland sites" to the EIAR site boundary and to the turbine locations.

2. Please provide a scaled map showing the locations of turloughs/loughs (labelled) in the surrounding area of the proposed development (to at least 8km radius of EIAR boundary). Please provide a table showing the distance of each of the turloughs/loughs to the EIAR site boundary and to the turbine locations.

3. Kilmurray turlough is identified as a "significant wetland site" in Chapter 7 (Ornithology) of the EIAR. An assessment of the likely effects on Kilmurray turlough in terms of hydrology/hydrogeology does not appear to have been included in Chapter 9 (Hydrology and Hydrogeology) of the EIAR. Please provide an assessment of the likely effects from the proposed development on Kilmurray turlough and potential indirect effects on the bird species that it supports. You are requested to also clarify that all other turloughs/loughs/significant wetland sites in the surrounding area have been considered in the assessment (including indirect effects on birds).

4. Please provide details of the ornithology surveys which were undertaken at the proposed borrow pit location, including survey types, dates of surveys and results.

5. Section 7.10.1 of Chapter 7 notes that assessment material for the ornithology cumulative assessment was compiled and verified on 23/11/2023. The cumulative effects assessment (ornithology) should be updated to include any more recent developments, including but not limited to those where the status has since changed from pre-application stage to submitted for consent and/or permitted. Aside from wind energy developments, the

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cumulative effects assessment (ornithology) should also include other plans or projects in the area which could result in significant habitat loss, increased mortality or displacement/disturbance, including but not limited to overhead line developments.

6. You are requested to clarify if wake effects will arise from the proposed development on birds. Consideration to these issues should be given.

7. Please update the following figures/tables related to Chapter 7 (Ornithology) of the EIAR:

- Figure 7.3 (Breeding walkover transects) – transect locations need to be specifically labelled (e.g. 1,2,3, T1, T2 etc) to match information in Appendix 7-2.
- Figure 7.4 (Breeding Raptor Survey Areas) – label 2018/2019 areas to match information in Appendix 7-2.
- Figure 7.5 (Winter walkover transects) - transect locations need to be specifically labelled to match information in Appendix 7-2.
- Figure 7.6 (HH Roost Survey Areas) – add HHVP3 and HHVP4 to match information in Appendix 7-2.
- Figure 7.8 (Connectivity VP Survey Location) – add Kilmurray turlough location.
- Table 8 Appendix 7.2 (Breeding Red Grouse survey effort) – add transect locations to the table for the two 2023 surveys.
- Please provide figures to accompany the waterbird distribution surveys and incidental observations that are presented in Appendix 7.4.

8. Table 6-3 of the EIAR indicates that a pathway for likely significant effects on the Kiltullagh Lough pNHA has been identified and is therefore determined to be within the proposed development's Likely Zone of Impact. However, this site has been omitted from further assessment in the remainder of Chapter 6. If a pathway is confirmed, the Chapter should be updated to identify Kiltullagh Lough pNHA as a Key Ecological Receptor (KER).

9. As per Table 6-20 (Key Ecological Receptors identified during the assessment) of the EIAR, it is indicated that the site surveys did not identify any other protected faunal species (i.e. 'Additional protected fauna') with the potential to be significantly affected by the proposed development at the population level. For this reason, no additional species have been included as KERs. It is noted that Pine Marten (Martes martes), Irish Hare (Lepus timidus) and the Common frog (Rana temporaria) were recorded on the site. Observations on the application received by the Board detail other species such as the Irish Stoat (Mustela erminea subsp. Hibernica), Common lizard (Zootoca vivipara), and smooth newt (Lissotriton vulgaris) as being documented on the site. You are requested to set out its rationale for the exclusion of the forementioned species as KERs. Should the EIAR be revised to include any of the relevant species as KERs, suitable mitigation measures should be outlined.

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10. Clarify the extent of habitat loss required from the provision of the 3 no. passing bays on the L-22321.

11. Stands of mature trees line either side of the eastern extent of the L-22321. The road is to be used by HGVs accessing the site from the proposed borrow pit. You are requested to provide its rationale for the exclusion of this section of the L-22321 from the surveys which have informed both the Bat Survey Report (Appendix 6-2) and Chapter 6 of the EIAR. You are invited to undertake surveys at this location if lacunae is identified and to submit the results. If necessary, the Bat Survey Report and EIAR should be amended accordingly.

12. It is noted that there are 2 no. watercourses (Levally Stream) crossings on the L-22321. Outline suitable mitigation measures to prevent sediment laden surface water run-off from entering the existing watercourses along this access route. Section drawings of the watercourses with the proposed mitigation detailed thereon to be submitted.

13. It is outlined within the Peat and Spoil Management Plan (Appendix 4-3 of the EIAR) that controlled quantities of peat and spoil shall be side-cast adjacent to access roads, i.e. 17,990m3 as per Table 8-2 (Summary of preliminary peat reinstatement volumes). Given the location of the existing and proposed internal roads relative to on-site watercourses, you are requested to identify the locations where it is proposed to side cast peat and soil and provide suitable mitigation measures, where necessary, to avoid the siltation of nearby drainage ditches or watercourses.

14. It is noted that it is proposed to upgrade a section of the internal access road between watercourse crossing no. C4 and C5. Given the location of this access road relative to the Levally Stream, you are requested to submit section drawings to illustrate the relationship between the upgraded access road and the existing watercourse and include the mitigation (silt fences etc.) as proposed to prevent direct surface water runoff. A section drawing should also be submitted of watercourse crossing no. C5.

15. Confirm whether it is necessary to backfill an existing drainage ditch to provide for the proposed spoil storage area. The proximity of the proposed spoil storage area to Levally Stream and the Annex I habitat 'Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430)' is noted. Consideration to be given to additional mitigation measures to prevent silt laden surface water run-off from entering the nearby watercourses at this location. Section drawings showing the relationship between the spoil storage area and the nearby watercourse and drainage ditches to be submitted.

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**Roads and Traffic**

1. Abnormal Size Load Delivery Route

   - An observation is on file from a landowner at the junction of the N83 and the L6466 (Junction 9a) stating that he has not given his consent to the inclusion of his land or to the lodgement of the application.
   - Junction 9b (bend on L-6466) appears to require the removal of a stand of trees/vegetation on lands along northern side of the L-6466 and the run-over area for the turbine plant deliveries encroaches on lands on the southern side of the L-6466 (i.e. Figure 15-23b of Appendix 15-4). This location is not included within the application but is included in the EIAR for assessment.

   You are requested to demonstrate that it has the consent of the relevant landowner(s) to include the land(s) within the proposed application. Details of alternative access arrangements should be provided should the relevant landowner(s) consent not be secured to allow for the works identified as necessary along the turbine delivery route. Alterations as necessary to the letter of consent to make the application should also be made and submitted.

   Please ensure that all relevant drawings, maps and figures in the documentation accompanying the application accurately reflect the extent of the site to which the application refers and does not include lands where the consent of the relevant landowner(s) has not been secured to make the application. Any revisions/amendments to be detailed and submitted.

2. The proposed development in its current form fails to accord with Development Management Standard 28 of the Galway County Development Plan given the restricted eastern visibility splay from the construction entrance on the R328 (Junction A). Notwithstanding the mitigation measures proposed, you are requested to install an Automatic Traffic Counter (ATC) to determine the 85th percentile (design speed) at this location. Demonstrate the vertical envelope of visibility (i.e. intervisibility in relation to crest/sag road profile) onto the R-328 in accordance with the relevant TII standards.

3. Submit a proposed boundary treatment plan for the access with the R329 (Junction A) following the completion of the abnormal load delivery phase and following completion of the overall construction phase of the development.

4. Submit revised drawings which shows the current extent of hedgerow and/or boundary walling setback for all entrances in order to achieve clear and unobstructed sightlines in both directions. If necessary, letter(s) of consent from any adjoining landowner(s) shall be provided, consenting to set back of their boundary in order to achieve clear and

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unobstructed sight distances. The applicant shall also demonstrate that any adjoining lands to achieve required sight distance triangles are within their control.

5. The design information examined as part of the Road Safety Audit detailed in section 1.4 is noted. This does not include proposed roadside interventions on the turbine delivery route. You are requested to submit an updated Road Safety Audit to include their consideration.

6. Quantify the daily number of HGV traffic movements on local roads L2232 and L-22321 to be generated by the borrow pit.

7. Since the lodgement of the application Galway County Council has granted permission for a quarry with an area of c.6.2ha on the opposite side of local road L2232 to the proposed borrow pit (file reference number 24/60013). The permission provides for reprofiling works on the L2232. It is noted that the development as permitted is subject of a current appeal with the Board under ref. ABP 321022-24. Please address the cumulative impacts on the receiving road network should the borrow pit and quarry be worked in parallel and revise the EIAR and supporting documentation accordingly.

**Cultural Heritage**

Recorded Monument GA030-073 ---- (Enclosure) is located c. 22m to the east of the hardstand for T2. While this monument is partially upstanding and visible in the landscape, it may have a larger sub-surface extent. You are requested to undertake an archaeological geophysical survey at the location for T2, its associated infrastructure and general environs and provide a report on the findings.

**Landscape and Visual Assessment**

Provide a photomontage from the following viewpoint: Clonberne graveyard and protected structures Clonbern Old Graveyard (RPS.41) and Dennis Mausoleum (RPS 40)

**Wake Effects**

Address the potential for wake effects including consideration of effects on agricultural lands.

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**General**

Having regard to this further information request, you are requested to provide a summary of all amendments to the EIAR, NIS and other supporting information. All changes are to be clearly identified. You are invited to submit any errata/corrections to the EIAR, NIS and any other supporting information with your response to this further information request. As above, all changes are to be clearly identified.

The further information referred to above should be received by the Board within 6 months from the date of this notice (i.e. no later than **5.30 p.m. on the 17th November 2025**).

In this regard, please submit 2 hard copies and one electronic copy of the above information.

Please note that following its examination of any information lodged in response to this request for additional information, the Board will then decide whether or not to invoke its powers under section 37(F)(2) of the Planning and Development Act 2000, as amended, requiring you to publish notice of the furnishing of any additional information and to allow for inspection or purchase of same and the making of further written submissions in relation to same to the Board.

If you have any queries in relation to the matter please contact the undersigned officer of the Board. Please quote the above mentioned An Bord Pleanála reference number in any correspondence or telephone contact with the Board.

Yours faithfully,

Raymond Muwaniri
Executive Officer
Direct Line: 01-8737125

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Reference Number 1.3: Dromada Windfarm (ROI) V Denis Cremins, HC. (2023)IEHC 417

# THE HIGH COURT

[2023] IEHC 417

[Record No. 2021/3588P]

BETWEEN

DROMADA WINDFARM (ROI) LIMITED

PLAINTIFF

AND

DENIS CREMINS

DEFENDANT

**JUDGMENT of Mr Justice Mark Sanfey delivered on the 14th day of July 2023.**

## Introduction

1. This case concerns an issue in relation to high voltage cables servicing the plaintiff's windfarm which have been laid in the grass verge alongside a public road which abuts the defendant's land. The plaintiff now accepts that the cables are in fact laid on ground which is the property of the defendant. Put at its simplest, the main issue this Court has to decide is whether orders should be made preventing the defendant from interfering with the cables, and allowing them to remain in situ – in which case the plaintiff accepts that the defendant would be entitled to monetary compensation for what is in effect a trespass on his land – or whether the court should order the plaintiff to remove the cables, which the plaintiff submits would result in it incurring a wholly disproportionate loss in circumstances where it alleges that the

cables do not interfere with the defendant's present use of the land in any material way.

2. The cables were laid in or about 2009. The question of trespass by the plaintiff on the defendant's land was first raised by solicitors acting on the defendant's behalf in November 2016. The trespass was denied by the plaintiff, and this led to proceedings entitled "The High Court, Record No. 2017/8323P, between Denis Cremins plaintiff and Dromada Windfarm (ROI) Limited defendant" ('**the 2017 proceedings**') being issued by the defendant. These proceedings were not progressed by the defendant. However, the defendant from June 2019 onwards mounted what could justly be described as a campaign of correspondence, mainly with the plaintiff's parent company, in which he threatened to remove the cables himself, repeatedly pointing out to the plaintiff that if injuries or fatalities occurred as a result, such occurrences would be the responsibility of the plaintiff or its parent.

3. Prolonged correspondence and meetings between representatives of the plaintiff and the defendant did not resolve the matter, and ultimately the present proceedings were issued on 5 May 2021. There was an immediate application for an interim injunction, the court (Allen J) granting an order which effectively restrained the defendant from interacting with the cables. An interlocutory order in the same terms was made on 18 May 2021 by Allen J with the acquiescence of the defendant, who represented himself in court.

4. Mr Cremins delivered a document that he drafted himself on 31 August 2021 by way of response to the plaintiff's statement of claim. It is effectively a defence and counterclaim, in which he seeks orders for the removal of the cables and damage for "interference with my land". The court must now decide what is to be done with the

cables, and what consequences must flow from them either remaining where they are, or being removed.

**5.** Fortunately, there was no material dispute between the parties as to the facts of the matter, although it will be necessary to set them out in some detail, so that the exercise of the court's discretion can be seen in context. Likewise, the parties are generally agreed as to the legal principles which govern the dispute. There is however major divergence between the parties as to the inferences to be drawn from the facts, and as to the appropriate course of action the court should take.

**Background**

**6.** The plaintiff is a company incorporated in the State, and is part of the SSE group of companies. The plaintiff is one hundred percent owned by SSE Renewables Wind Farms (Ireland) Limited which is one hundred percent owned by SSE Renewables Holdings Limited. That company is in turn a subsidiary of SSE plc. The court was told in evidence that SSE entities operate 26 windfarms in Ireland.

**7.** The defendant is a farmer and, together with his wife Sheila Cremins, is the registered owner of lands comprised in folio 3305F County Limerick ('**the lands**'). The defendant acquired the lands in or around 2006.

**8.** The plaintiff is the operator of Dromada Windfarm ('**the windfarm**'), which comprises of 19 turbines and ancillary developments located at lands at Clash South, Athea, County Limerick. Planning permission was obtained for the windfarm in 2004, but on the basis that twenty-three wind turbines would be erected, along with the substation, including a control building, the construction and upgrading of site entrances, site tracks and associated works. Permission was subject to 17 conditions.

**9.** When planning permission was obtained, it was on the basis that three of the 23 permitted turbines would be constructed on lands now owned by the defendant and

the defendant's wife, pursuant to a lease arrangement. In that regard, the plaintiff's predecessor in title had entered into an option agreement ('**the option agreement**') with the previous owners of the lands for the construction of part of the windfarm on their lands, and those lands were included in the planning application on that basis.

**10.** The defendant acquired the lands in folio 3305F subject to the option agreement for the construction of the turbines and in knowledge of that agreement. When purchasing the lands, the defendant entered into an agreement to be bound by the terms and conditions of the option agreement.

**11.** It was contended by the plaintiff, and in fact confirmed by the defendant in his evidence before the court, that he has significant experience of dealing with windfarm developments and entering into commercial arrangements regarding the use of lands for windfarm turbines. The defendant has been involved in litigation with another windfarm operator, apparently in relation to the proper construction of an option agreement relating to other lands owned by him. This case was heard in this Court and on appeal in the Court of Appeal. While it appears that Mr Cremins was unsuccessful in those outings, he acknowledged in cross-examination during the hearing that he told Mr Ciaran Maguire, a representative of the plaintiff who spent some time in negotiation with Mr Cremins, that he had obtained compensation of €4m from one windfarm and €6m from another windfarm.

**12.** The Athea holding of the defendant consists of approximately 150 acres, 50 of which are afforested and the remaining 100 of which have no particular use or function at the moment. It is some significance to note that Mr Cremins resides at some distance from the Athea holdings in Knocknagoshel, Co. Kerry.

**13.** The option agreement expired in or around May 2007, but negotiations continued between the plaintiff and the defendant with a view to putting a new lease

option in place. However, no agreement was reached, and the windfarm was constructed without the intended three turbines on the defendant's lands being constructed before planning permission expired.

**The laying of cables**

**14.** The windfarm has been operational since February 2010 and supplies electricity to the national grid pursuant to contractual arrangements which exist between the plaintiff and EirGrid. This is done *via* 110 KV high voltage cables which connect the windfarm to the national grid.

**15.** Mr Ciaran Maguire is onshore wind operations manager of SSE Renewables. Mr Maguire swore the grounding affidavit on behalf of the plaintiff for the interim and interlocutory injunction applications, and gave evidence on behalf of the plaintiff before this Court. Mr Maguire indicated in evidence that he has overall responsibility for the 26 windfarms in Ireland owned by SSE entities. In his evidence to the court, Mr Maguire referred to maps and photographs of the area in question. His evidence was that cables connecting nine of the windfarm's turbines to the national grid pass along a section of the public road. He stated that approximately 3km of cable was laid adjacent to the public road, and that 250m of this distance was at or outside Mr Cremins' lands [Transcript, Day 2 pp 12-13].

**16.** The road is a small rural road with a grass verge on either side. The photographs show that Mr Cremins' land is fenced off with wire and fence posts. From this "fence" the grass verge extends to the edge of the road, and the evidence of Mr Maguire was that the cable was laid between the "fence" and the edge of the road. One might have thought that the "fence" erected on Mr Cremins' lands marked the boundary of those lands, and that therefore cable laid in the grass verge between the fence and the roadway would not have impinged upon those lands. However, as we

shall see, the plaintiff now accepts that the cables are in fact laid in ground which belongs to Mr Cremins. The evidence of Mr Maguire is that the plaintiff had originally intended running the cables through the defendant's lands, but when the defendant refused to agree commercial terms to allow the three turbines to be built on his lands, the plaintiff took the decision to lay the cables in the grass verge alongside the public road.

17. By letter of 9 February 2009, Limerick County Council wrote to Roadbridge Limited, a contractor which had applied for a road opening licence to facilitate the installation of the cables, indicating that the Council had no objection providing there was compliance with an attached list of conditions. The application form indicates the exact location of the proposed opening as "CoolEast/Clash South, Dromada, Athea, County Limerick", and suggests that the length over which the cables were to be installed was in excess of 3,000m, with 2,630m of cabling to be installed in a "grass verge". The average depth of the pipe was expressed to be 1.5m.

18. Mr Maguire stated that the thinking in relation to running the cable alongside a road was that a road was an "ideal avenue to run a cable along…the road was an artery through the countryside where…a cable could be laid properly and without problem". [Transcript, Day 2, p.15, lines 16-23]. He stated that SSE believed that it was entitled to do this at the time. SSE's position as regards planning permission is set out at para. 22 of the statement of claim, which is as follows:

> "22. When the cables were laid in 2009, it was the plaintiff's understanding that planning permission was not required for the laying of electricity cables and that same were exempted development, having regard to class 26 of the First Schedule, Second Part of the Planning and Development Regulations 2001 (as amended). The general understanding in that regard changed

following the decision of the High Court in *O'Grianna v An Bord Pleanála* and in subsequent court decisions, culminating in a decision of *Daly v Kilronan Windfarm Limited*. However, from a planning perspective, the development would have been immune from attack under s.160 of the Planning and Development Act 2000 (as amended) when the Defendant's proceedings issued in 2017, and certainly, by the time the Defendant's letter dated 13 June 2019 was sent".

19. Mr Maguire stated in his evidence to the court that his concern was "to provide sites where people can go to work safely and come home from work to their family safely…". He was unequivocal in his evidence that the cables on the defendant's lands were safe:

> "…[F]irst of all, they are designed safely. Second of all, we maintain them, like we look after them. We carry out maintenance, we carry out surveys, you know, we have a schedule of maintenance to ensure that the balance of plant network, which includes the cable, is being looked after correctly and it will operate as required. And specifically in the case of the cables and the condition they were in, the cables were buried…they were covered". [Day 2, p.17, lines 20-29].

**The 2017 proceedings**

20. By a letter of 24 November 2016, Messrs O'Connell & Clarke, the firm of solicitors on record for the defendant in the present proceedings, wrote to the plaintiff raising various points in relation to the development of the windfarm. In particular, the letter stated that "our client has carried out searches and has been unable to identify any grant of planning permission in respect of the grid connection works. Accordingly the grid connection and internal [cabling] works are unauthorised

development as these works do not benefit from the exempted development provisions…". Significantly, the letter went on to state that "…we are instructed that the [cabling] works trespass on our client's lands. Our client has not provided any consent to the laying of cables on or over his lands and he has instructed us to request that same are removed forthwith…". The letter pointed out that "T14 and T23 are in immediate proximity to our client's boundary and are interfering with our client's ability to use and development [sic] his own lands".

**21.** A substantive response was sent by an in-house lawyer for SSE on 1 February 2017 by email. In particular, the email stated that "…my client has confirmed that there are no cables for Dromada Windfarm located on your client's land and there is no trespass on your client's land…". In response to a reply from O'Connell & Clarke, by email of 16 February 2017, the same author stated "…regarding the alleged trespass, we are satisfied from our inspections that there is no such trespass…".

**22.** A plenary summons on behalf of Mr Cremins against Dromada Windfarm (ROI) Limited issued on 18 September 2017. The general endorsement of claim, which was signed by counsel, sought:

> "1. A declaration that the plaintiff owns land comprising of folio LK3305F at Dromada, County Limerick and that the defendant has no estate or interests in the said lands and, in particular, has no entitlement to lay pipes, cables or conduits in the lands comprising the said folios.
>
> 3. [sic] An order, restraining the defendant its servants or agents from the laying of underground cables/ducting/or other equipment on the plaintiff's lands at Dromada, County Limerick without his consent or otherwise;
>
> 4. Damages for nuisance and trespass…".

**23.** An appearance was entered on 20 September 2017 by solicitors representing Dromada Windfarm (ROI) Limited. However, it is accepted by the defendant herein that he did not advance these proceedings, and no statement of claim was ever served.

**Correspondence from June 2019 to date**

**24.** Mr Cremins appears to have written the following letter on 13 June 2019:

> "To whom it may concern, I, Denis Joseph Cremins, am giving SSE Airtricity Dromada Windfarm until 15 July 2019 to remove the cable that is buried on my lands. Folio no: LK3305F. If the cable is not removed by this date I will have it removed myself. Should any injuries or fatalities occur to either me or my workers as a result of your failure to remove the cable, that you installed by trespassing on my land, you will be held responsible. I will be forwarding a copy of this warning letter to my family and solicitor, should I have to remove the cable myself. You, Airtricity, buried the cable on my lands without planning permission. I am again warning you, Airtricity Dromada Windfarm, should any loss of life occur after 15-07-2019 as a result of your failure to remove the cables my family and solicitor will be able to hold you responsible as you have been put on notice by this official warning letter. I can guarantee the cable, which is buried on my lands, will be removed regardless.
>
> Yours faithfully,
>
> Signed.
>
> Denis Cremins".

**25.** A further letter from Mr Cremins suggests that this letter was "posted to Airtricity on 13 June 2019", and to "Mr Philips-Davies CEO of SSE (the parent company for Airtricity)" by the said letter of 4 July 2019.

**26.** A letter was written on behalf of SSE to Mr Cremins on 8 July 2019. The letter stated as follows:

> "Dear Mr Cremins,
>
> We refer to the above matter and to your letter of 13th June 2019 in which you state that you intend to remove the underground electrical cable which you state is buried on your lands. The health, safety and welfare of staff and the general public is of paramount importance to SSE. The cable you refer to is a live cable and contact with this cable may cause electrocution and result in fatal injuries. Please find attached a copy of the Code of Practice for Avoiding Danger from Underground Services. This code of practice is a result of a joint initiative between the Health and Safety Authority, the Construction Industry Federation, Irish Congress of Trade Unions, key utilities companies/service providers and local authorities that are involved in the provision and maintenance of vital underground services.
>
> SSE takes any claim or intention to interfere with electrical plant and equipment extremely seriously. We urge you not to take any such action given the extreme danger involved in interfering with live underground cables. In addition to risking your own life and the lives of contractors with any such interference you would also be endangering the safety of members of the public and of SSE staff. In this regard please note that SSE has notified the Gardaí of the contents of your letter.
>
> SSE has investigated the claim in your letter that the cable which you refer to is buried on your lands and is satisfied that the cable is not located on your lands but located under the public road. We further note that you have, through your solicitors O'Connell Clarke, issued High Court proceedings against SSE

under record 2017/8323P in respect of this cable and any issues or concerns which you may have in respect of the location of the cable should be raised in the context of those proceedings. In this respect we have copied both your solicitor and the solicitors acting for SSE in these proceedings."

**27.** Over the course of the next two years, the parties exchanged correspondence in relation to the removal of the cables. The plaintiff's position was that any issues would be determined in the course of the 2017 proceedings, and emphasised the risk inherent in any attempt to remove the cables by Mr Cremins. Mr Cremins however continued to intimate his intention to remove the cables himself, and continually raised the prospect of injury or loss of life occurring as a result. By way of example, in his letter to Mr Alistair Philips-Davies, CEO of SSE, of 23 October 2019 Mr Cremins indicated that, if the cables were "not removed by 10 November 2019 then I will remove them after this date and SSE Dromada Windfarm and the Health and Safety Authority will be held responsible should any danger or even death happen to me as a result of your failure to act. I would rather take that chance than have somebody like SSE trespass on my title without my consent. So please have the cable removed by the above date otherwise any fatality will be in the hands of SSE and the Health and Safety Authority. You have been warned."

**28.** It then transpired that, in December 2020, the defendant exposed some of the plaintiff's cable ducting on the grass verge of the public road, having used a digger to access the area from his lands. When it learnt of this event, the plaintiff sent operatives out to the road to cover the exposed section of cable ducting with stone chippings and to put up additional marker posts to warn road users of potential danger. By letter of 16 December 2020, SSE wrote to Mr Cremins indicating that, "interfering with live cables…is extremely dangerous and could cause serious injury

to you or any person undertaking such works…", and stated that "…[i]t is imperative that you cease any such works immediately for your own safety and the safety of others. In the event that you cause any further interference with the cable we will be left with no option but to proceed to make an application to the High Court for an injunction to prevent you from interfering with these cables. We urge you to bring this matter to the immediate attention of your solicitors".

**29.** Mr Maguire then organised a meeting with Mr Cremins on the site on 7 January 2021. By a letter of 22 January 2021, Mr Maguire wrote to Mr Cremins setting out the plaintiff's position, which in essence was that any issues Mr Cremins had with the cable should have been raised in the 2017 proceedings. The response to this was a further letter from Mr Cremins of 1 February 2021 to senior officials of SSE giving until 14 February 2021 to either remove the cables or switch off the power to them, failing which Mr Cremins would be "left with no alternative but to undertake these works myself. SSE Airtricity will be held responsible for any and all injuries, up to and including death, that might ensue as a result of your failure to remove or cut the power to this cable…".

**30.** Mr Maguire met Mr Cremins on site on a number of occasions in February and March 2021 with a view to attempting to resolve the differences between the parties. However, there were further intimations in April 2021 by Mr Cremins and a firm of solicitors acting on his behalf that he would remove the cable himself if certain requirements of his were not met. By a letter of 19 April 2021, a firm of solicitors – not O'Connell & Clarke – wrote to "SSE Airtricity" enclosing a copy of an engineer's report by Ms Nora Curtin indicating the cables were laid on Mr Cremins' lands. This met with a robust response from the plaintiff's solicitors of 20 April 2021. The letter stated, inter alia, that …[i]n respect of the cables which you

state have been built on your client's lands, these cables were in fact laid in the verge of the public road, some 12 years ago…". The letter did not however go so far as to deny that trespass had taken place, and made "an offer suggesting mediation to your client in respect of all claims arising out of the [2017 proceedings] …".

31. Ultimately, a meeting with the defendant took place at Barack Obama Plaza carpark – due to pandemic restrictions – on 29 April 2021, attended by Mr Maguire and another representative of SSE. The statement of claim in the present proceedings records that:

> "Safety markings to identify the location of the cables, which the Plaintiff's workmen had put over the cables after the defendant attempted to interfere with the cables in December 2020 had been removed. The Defendant confirmed that he had removed the safety markings the previous week. The Defendant demanded that (i) the Plaintiff either remove the cables from the lands, (ii) pay him compensation of €4.5m to leave the cables where they were or (iii) go through a fresh planning process to move the cables to the other side of the road but to de-energise the cables during the currency of that process". [Paragraph 35].

32. It appears that the plaintiff's counterproposals were unacceptable to Mr Cremins, who sent further emails to senior executives of SSE plc confirming his intention to remove the cables himself.

**The present proceedings**

33. It was in these circumstances that the plaintiff issued the plenary summons in the present proceedings on 5 May 2021. Mr Maguire swore a grounding affidavit, and an application for an interim injunction was made to Allen J who made the following order:

"IT IS ORDERED that the Defendant his servants or agents or any persons aiding abetting or acting in concert with him and any person having notice of the making of the Order be restrained until after 18th day of May 2021 or until further order in the meantime from interfering with and/or digging up and/or accessing in any way (whether with machinery or otherwise) the Plaintiff's electrical plant and equipment including high voltage cables which are connected to the Dromada Windfarm which were laid in the verge of the public road abutting the Defendant's lands at Keale Athea County Limerick in or around 2009".

34. The hearing of the interlocutory application took place on 18 May 2021. Due to the Covid-19 Pandemic, the plaintiff's lawyers attended remotely, but Mr Cremins, who was not represented by lawyers, attended in person. It appears from the order of the court of that date that Mr Cremins did not object to the continuance of the order made on an interim basis against him.

35. Mr Cremins continued to assert that the cables were laid on his property, and to this end swore an affidavit on 14 May 2021 attaching a report by an engineer, Nora Curtin, of 19 April 2021, in which Ms Curtin asserted that "the grid cable is laid within the folio lands of Denis Cremins LK3305F".

36. Mr Maguire swore two affidavits in the matter on behalf of the plaintiff. The first affidavit of 4 May 2021 sets out the background to the matter in detail much as I have set it out above, emphasising the necessity to prevent unauthorised interference with potentially lethal cables, while maintaining that any issues in relation to location of the cables could be dealt with in the 2017 proceedings. It is notable that neither of Mr Maguire's affidavits asserts unequivocally that the cables are not situated on Mr Cremins' land, although there is a passing reference at the start of para. 41 of Mr

Maguire's grounding affidavit to the grass verge being "outside the defendant's lands". At para. 48 of that affidavit, he avers as follows:

> "I say that the balance of convenience clearly favours the granting of an interlocutory injunction. *If the Defendant is correct in asserting that he is suffering a trespass by reason of the installation of the cables some 12 years ago, any wrong which he has suffered is capable of being compensated in monetary terms for the reasons already outlined.* Having regard to the terms of the Defendant's correspondence dated 24 February 2021, which I set out above, it is clear that the Defendant's real motivation is to obtain monetary compensation from the Plaintiff. There are legal proceedings in being in which those issues may be determined. However, if the Defendant interferes with the cables and suffers injury or even death, the consequences to the Defendant will be irreparable". [Emphasis added].

37. Mr Maguire swore a second affidavit on 17 May 2021, the day before the hearing of the interlocutory injunction. At para. 24 of that affidavit, he avers as follows:

> "...The Plaintiff is of the view that even if the Defendant is correct in establishing that he owns the lands on which the cables are laid and that he did not give permission for their installation, his remedy is limited to damages for reasons including the length of time the cables are in situ, the failure of the Defendant to raise any complaint about the cables for eight years after their installation, the fact that the cables are laid on the public road and that any trespass that the defendant might establish is technical in nature and the fact that the Plaintiff's prejudice in having to remove the cables is significantly

greater than any prejudice to the Defendant if the cables remain where they are".

38. This theme is continued in the statement of claim which was delivered on 9 August 2021. The plaintiff alleges at para. 44 that the defendant is estopped by a number of matters from seeking the removal of the cables, and the succeeding paragraph is as follows: -

"45. In any event, if the Defendant has suffered an alleged trespass as a result of the cables being laid in the grass verge outside the lands, same is capable of being compensated in monetary terms".

39. Mr Cremins delivered what is in effect a defence and counterclaim on 31 August 2021 at a time when he did not have legal representation. In the reliefs he claims, he seeks "damages for interference with my land" at para. 6. In its reply and defence to counterclaim, the plaintiff responds to this claim as follows:

"8. With regard to the reliefs sought at para. 6, the Plaintiff's position is (as pleaded in the statement of claim) that if this Honourable Court determines that the Plaintiff's cables are laid under the Defendant's lands, albeit that such lands form part of the public road, and this Honourable Court determines that the Defendant should be compensated in that regard, this Honourable Court should assess the compensation to which the Defendant is entitled on the basis that the cables are to remain in situ".

**The legality of the laying of cables**

40. The hearing of the matter took three days. During a lengthy opening in which the background to the matter was set out at length, the question of the ownership of the land adjacent to Mr Cremins' fenced-off land along which the cables had been laid was addressed. The plaintiff's counsel, Rossa Fanning SC, in addressing the reliefs

sought by the plaintiff, referred to the third paragraph of the reliefs in the statement of claim, which is as follows: -

> "3. A declaration that if the defendant is entitled to any relief as a result of the plaintiff's electrical plant and equipment, including high voltage cables connected to the windfarm, being laid in the verge of the public road abutting the lands at Keale, Athea, County Limerick in or around 2009, same is limited to damages in the High Court proceedings which he has commenced, by reason of his delay in seeking any equitable relief and, if appropriate, measuring such damages (if any) to which the defendant may be entitled in that regard".

41. Mr Fanning commented on this relief in his opening to the court as follows:

> "And that's a central issue, Judge, now, that the court will have to take a view on. That to the extent that we have trespassed, and there is no longer any contest in truth that we have as a result of our reading of Ms Justice Baker's judgment in Daly v Kilronan, which is referred to in my submissions and in the book of authorities, we accept there is a technical trespass here." [day 1, p99, lines 18-25]

42. Counsel for the defendant, Oisin Collins SC, immediately interjected to complain that the defendant had come to court to "defend his ownership of the lands and to establish a trespass". Counsel submitted that the proceedings were based on an entitlement to lay the cables in the grass verge; if counsel for the plaintiff was "…now conceding [that the plaintiff] has no entitlement to be there, it is difficult to see what future his case has at all" [day 1, p.99, line 26 to p.100, line 16].

43. In answer to a direct question from the court, counsel for the plaintiff confirmed that the plaintiff had resiled from the position that it had expressed in

correspondence. Counsel accepted that the laying of the cables on Mr Cremins' land was a "technical trespass", but one that "doesn't actually prejudice Mr Cremins in any respect…[Mr Cremins] can't, as a matter of law…dig [the roadway] up himself…it is a criminal offence to dig up a public road, other than with a licence, which we did have in 2009 when we did these works, but which Mr Cremins has never had…[the plaintiff's] objective in these proceedings…consistent with the reliefs I have sought, is to ensure that Mr Cremins cannot interfere with my cable and to obtain a court order to that effect" [day 1, p.132, lines 17 to p.134, line 25].

**44.** The legal principles in relation to ownership of the public road are set out at some length in the written submissions of the plaintiff, which were delivered on the first day of the hearing, *i.e.*, not in advance of the trial. The plaintiff notes, *inter alia*, a number of cases establishing the principle that the owner of land beside a public road or river "owns the soil to the middle part of the road or river unless the soil has been acquired by the local authority…" [Kenny J in *Holland v Dublin County Council* [1979] 113 ILTR 1 at 2: see para. 44 of written submissions]. The plaintiff now accepts that the application of this principle confirms that Mr Cremins "owns the soil to the middle part of the road", and that accordingly in the present case, the grass verge between the fence posts and the middle of the road is part of Mr Cremins' lands.

**45.** The plaintiff's submissions also note that s.13(10) of the Roads Act 1993 provides, *inter alia*, that a person who damages or excavates a public road "without lawful authority or the consent of a road authority…shall be guilty of an offence". The submissions note the requirement, pursuant to s.254 of the Planning and Development Act 2000 for a licence granted by a planning authority for the placement of a "cable, wire or pipeline…under, over or along a public road…"; it is contended however that

the plaintiff is a "statutory undertaker" as defined in s.2 of the Planning and Development Act 2000, to which s.254 does not apply.

**46.** The plaintiff however suggested that a significant change in the legal position had occurred with the delivery of the judgment of Baker J in *Daly v Kilronan Wind Farm Limited* [2017] IEHC 308. As the plaintiff put it at para. 49 of the written submissions:

> "49. The judgment of Baker J in *Daly v Kilronan Wind Farm Limited*, [2017] IEHC 308, clarified that a road opening licence does not confer a right or interest in the soil, as the purpose of the licence is to provide consent for an action which would otherwise be an offence under the Roads Act 1993. In that case, which involved an application under s.160 of the PDA, Baker J held that even though it formed part of the public road, the grass verge was *prima facie* the property of the applicant and no consent to enter had been given. Thus, *prima facie*, there was a trespass, and the road opening licence did not of itself amount to authorisation or permission to enter upon private land. In the event, Baker J proposed making a limited order prohibiting the continuation of the laying of cables, but she made no order that the works already completed be removed or that the land be restored."

**47.** Having quoted excerpts from the judgment, the plaintiff went on to state as follows:

> "51. Until this judgment, it had not generally been understood that the road opening licence, coupled with the fact that the laying of cables was exempted development, was not all that was required. Indeed, it might be suggested that the defendant himself laboured under this mistake, given that the judgment of Baker J was delivered on 11 May 2017 and the defendant's 2017 proceedings

subsequently issued on 19 September 2017, when the cables had by that point already [been] in place for eight years. The applicant in Daly and the Defendant were both represented by O'Connell & Clarke Solicitors. It may be that the Defendant had the good fortune to be advised by solicitors who became alive to the point at some stage in 2016, as it was in their letter of 24 November 2016 that they first made the complaint of trespass on behalf of the Defendant."

48. The plaintiff then went on in the written submissions to contend that s.48 of the Electricity Regulation Act 1999 "would have provided a mechanism whereby the plaintiff would have been able to lay the cable without the defendant's consent". Under that section, "[t]he power to lay electric lines…, may, with the consent of the Commission [for the Regulation of Utilities], also be exercised by the holder of an authorisation" within the meaning of the section. The plaintiff contended that it was the holder of such an authorisation in respect of a generating station connected with the windfarm. The plaintiff also submitted that it might have been possible to apply to the Commission for the Regulation of Utilities for an order providing for the compulsory acquisition of the land.

49. Mr Fanning accepted that "the issue fundamentally really is whether the remedy for Mr Cremins ought to sound in damages or whether it ought to sound in removal of the cable" [day 1, p.146, lines 6 to 8]. It was suggested that this issue should be determined first, with the question of compensation of the defendant by the plaintiff – if it were decided that the cables should stay in the ground – to be the subject of a further module. Counsel also said that the plaintiff would in that event agree to an arbitral process to decide the issue of compensation.

**50.** Mr Collins accepted that the first issue to be resolved was whether the cables should remain in the ground, submitting that they "should be removed forthwith". He made sustained complaint about the way in which the plaintiff had approached the proceedings, stating that it was "absolutely clear that the plaintiff has approached this on the basis that the cable is not in fact on my lands" [day 1, p.151, lines 3 to 5]. Counsel also submitted that "the interlocutory injunction that was obtained in this case was obtained on the basis that this cable was laid outside my client's lands", pointing to para. 41 of Mr Maguire's grounding affidavit, which commences with the averment "…the cables located in the grass verge *outside the defendant's lands* serve nine of the turbines in the windfarm…" [emphasis added]. Mr Collins accepted that "some level of modularisation" was required "…because the [plaintiff's] case has changed so fundamentally from the case that was brought, that it needs now to be reconstituted and brought properly…" [day 1, p.155, lines 7 to 14].

**51.** In addressing the way in which the plaintiff had approached the present proceedings in general and the injunctive applications in particular, Mr Fanning stated that the plaintiff wasn't "overly keen to acknowledge a trespass…we were perhaps a little bit coy in the way we were putting it". He submitted however that the way the case was being presented at hearing could not be seen as constituting "a significant change of position", pointing out that s.48 of the grounding affidavit referred to the possibility that the defendant "is correct in asserting that he is suffering a trespass by reason of the installation of the cables…", in which case "…any wrong he has suffered is capable of being compensated in monetary terms for the reasons already outlined".

**52.** Counsel also points to letters written by the plaintiff's solicitors to Mr Cremins suggesting arbitration in relation to compensating him. In its letter of 12 May 2021, in

between the grant of the interim injunction and the hearing of the interlocutory application, Messrs Mason Hayes & Curran on behalf of the plaintiff stated as follows:

> "However, given the long history of the matter and the numerous failed negotiations between the parties, we are of the view that the best way to proceed would be to appoint an independent arbitrator to determine the issue of compensation on the basis that the electrical cables remain where they are. The arbitrator's decision on compensation would be a legally binding decision on both parties. The advantages of arbitration is [sic] that it would be conducted in private and it is capable of facilitating a speedy decision making process in order to bring this matter to a close. As a gesture of good faith, our client has offered to reimburse reasonable legal fees incurred by you during the course of the arbitration process, to ensure that you would have adequate legal advice and that you are fairly represented".

**53.** This offer was repeated by the plaintiff's solicitors in letters of 18 May 2021 – the date of the grant of the interlocutory injunction – 28 May 2021 and 16 September 2021. The letters do not concede that there had been a trespass; counsel submits however that it is clear that the plaintiff's approach was to accept that Mr Cremins was entitled to compensation as the price of the cables being left in the ground, the position that it ultimately adopted at the hearing.

**Mr Maguire's evidence**

**54.** Mr Maguire gave evidence in relation to the matter generally and in particular in relation to a series of meetings he had with Mr Cremins in early 2021, after Mr Cremins had excavated the grass verge in December 2020, thereby removing the markers and exposing the cable. At that time, it appears that Mr Cremins was still

hopeful that the three turbines which were originally to be built on his land could still be erected. At a meeting on 25 March 2021, Mr Maguire confirmed to Mr Cremins that this could not be done. Mr Maguire stated that Mr Cremins told him that, in that case, the plaintiff had two choices: "You compensate me or you take the cable out of the ground". The quantum of the compensation was then discussed, with Mr Cremins estimating damages in the region of €7m, and explaining the basis for the calculation [see day 2, pp. 39 to 41].

**55.** The negotiations were conducted without rancour or the aggressive tone adopted by Mr Cremins in his correspondence. In fact, Mr Cremins went out of his way in his evidence to compliment Mr Maguire on his approach to the negotiations. However, they did not bear fruit, and the plaintiff ultimately applied for injunctive relief in May 2021 as we have seen.

**56.** On cross-examination, Mr Maguire accepted that "it was only…during the creation of the affidavit that technically [sic] trespass was discussed …up to that point, I didn't know whether it was a trespass or not a trespass. I knew there was greyness now because of the case in 2017, but my understanding of what trespass was or wasn't in this case, I didn't know" [day 2, p.122, lines 3 to 9]. However, Mr Maguire subsequently acknowledges that "…[o]n advice, it was decided that this is a technical trespass and it needs to go into the affidavit" [day 2, p.122, lines 15 to 19].

**57.** Mr Maguire stated that he had informed Mr Cremins at their third meeting in March 2021 that the cable could be removed, but that this would involve obtaining planning permission, an environmental impact study would probably have to be commissioned, and that legal advice in relation to the entire operation would have to be procured. He states that Mr Cremins' reaction was to say "…and I'll object, I'll object…" [day 2, p.138, line 25 to p.139, line 3]. Mr Maguire stated that removal of

the cable would "disrupt the operation of the windfarm", and referred to figures relating to the disruption set out at para. 41 of his grounding affidavit. He also referred to the possible "knock-on" effect of other landowners insisting on removal of the cable from their lands, not only in the 3km along which this particular cable was laid, but potentially in respect of cables laid along the roadside in every windfarm operated by the plaintiff.

**Mr Cremins' evidence**

**58.** Mr Cremins gave evidence in relation to his involvement with Mr Maguire ("a lovely person to deal with") and to his correspondence in which he constantly sought an acknowledgement that trespass had taken place. He stated that the first time that this was acknowledged to him was on the first day of the hearing. He referred in detail to an email he sent to Mason Hayes & Curran on 6 May 2021 – the day after the grant of the interim injunction – which summarised Mr Cremins' position at the time. As it is of some significance, and essentially represents Mr Cremins' current position, I will quote it in full:

> "1. I want SSE Airtricity to admit the grid cable under dispute, part of the Dromada Wind farm at Keale, Co. Limerick, is in Denis Cremins' land. Mason Hayes & Curran Solicitors who represent Dromada Windfarm have already, inadvertently, admitted this by putting the subject of their correspondence to me as 'lands at LK3305F at Keale, Athea, County Limerick. This land folio title is under my name, Denis Cremins.
>
> 2. I want SSE Airtricity to confirm that they will immediately seal off the grid cable situated on my land, with my permission of course, either with high security fencing or by having a security firm engaged on the site so that no one gets injured or killed. As you can see from my engineer's report yesterday

(5/5/21) which I have already emailed to you, she says this is an extremely dangerous site as a result of the live cables.

3. I would like you to confirm that you will immediately apply for planning for these grid cables on my land. However, should Dromada Windfarm fail to receive such a planning within twelve months (up until the end of April 2022) I want you to promise that you will remove the cables from land folio LK3305F.

If your answer is yes to the above three questions then we will secure the site immediately, you will apply for planning and subsequently remove the grid cable if the planning has not been granted on or before the 30th April 2022.

**Provided that we are in agreement with all the above then:**

1. I, Denis Cremins, will give permission for Dromada Windfarm to enter my land, folio no.: LK3305F to erect security fencing. A copy of the indemnity insurance will be required before entering.

2. I give my word that I will not object to any planning application for the grid cable that is on my land to any relevant authority, including but not limited to Limerick County Council and An Bord Pleanála.

3. I also give my word that I will not interfere with the grid cables located on my land (folio no.: LK3305F) and I will make this clear to the court as well.

As my engineer reported on 5 May 2021, this is an extremely dangerous site and it needs the full cooperation of both myself, Denis Cremins [sic] and SSE Airtricity to make it safe as soon as possible. Therefore, to protect the lives of people who may be coming on to the site now, partly as a result of the publicity this injunction has caused, please try to have the answers to the above three questions answered by the end of today, the 6th of May 2021. This

is not a time for playing games because I am getting extremely worried that someone might get killed as a result of this unauthorised grid cable. Again, I beg of you, Dromada Wind Farm Ltd to switch off the power, immediately, while we await a satisfactory outcome to the worrying ordeal that you have brought upon me.

Regards"

[Emphasis in original]

**59.** On cross-examination, it was put to Mr Cremins that the existence of the cable had no impact whatsoever on how he chose to use his lands between 2009, when they were laid, and 2016, when Mr Cremins discovered their existence. Mr Cremins stated that, had he known in 2009 that the cables were there, "…we'd have been probably in the courts in 2009 in relation to this" [day 3, p.54, lines 1 to 6]. He accepted that complaints he had made to Limerick County Council in 2012 in relation to the planning situation were for the purpose of bringing the plaintiff back to the negotiation table. He also agreed that "section 160 proceedings" had never been brought by him in relation to any perceived breach of planning laws, nor had the Council ever commenced any such action against the plaintiff.

**60.** Mr Cremins was asked about the 2017 proceedings. He accepted that the reliefs included a claim for damages, that the plenary summons did not seek an order that the cables be removed, and that the proceedings have not been progressed in any way. He accepted that he "took [matters] into his own hands" by writing letters rather than getting on with the 2017 litigation. However, he did not agree that his threats to dig up the cable were "unnecessary and inappropriate, or intended to escalate matters to put pressure on the plaintiff…" [day 3, p.83, lines 3 to 23]. He accepted that he was

trying to get the plaintiff's attention in the correspondence ("of course I wanted attention").

**61.** Towards the end of the cross-examination of Mr Cremins, counsel specifically asked Mr Cremins whether his "repeated threats to personally dig up the cable were 'unnecessary and unsafe and inappropriate'". Mr Cremins said "…they were unsafe but they weren't unnecessary because I was left with no other option to bring you to the table…" [day 3, p.109, lines 1 to 13].

**Evidence of Nora Curtin**

**62.** Ms Nora Curtin gave evidence on behalf of Mr Cremins. She stated that she was a civil engineer in Newmarket, County Cork, and had been in private practice for "about eighteen years". Ms Curtin averred that she had a "planning business" which she had operated for eighteen years, submitting planning applications on behalf of individuals to planning authorities.

**63.** She averred to having attended the property in October 2016 and to having seen the cable. She stated that Mr Cremins wanted her to confirm that the cable was within his folio. Her evidence was that she had ordered Land Registry maps and satisfied herself that these maps gave ownership to Mr Cremins "to the centre of the public road". It is notable that the first allegation of trespass on the part of the plaintiff came in a letter from O'Connell & Clarke Solicitors of the following month on behalf of Mr Cremins.

**64.** Ms Curtin was again instructed in 2021, at which point she caused a satellite survey to be carried out. In a report of 19 April 2021 which was exhibited to Mr Cremins' affidavit in opposition to the interlocutory injunction application, she expressed herself as "extremely taken aback when [Mr Cremins] informed me he had exposed the electric cable and that SSE Airtricity had come back to his property and

unloaded stone on top of the recently exposed high voltage cable without his consent".

**65.** In truth, Ms Curtin's evidence was adduced primarily for the purpose of establishing that the cables were laid within Mr Cremins' lands, a matter which had been conceded by counsel for the plaintiff in his opening of the case. Her report is quite cursory, and it does not seem to me that it is of much assistance to the court in relation to the issue of whether or not the cables should be removed.

**Legal principles**

**66.** The facts give rise to an important and interesting issue: where a party has tortiously interfered with the land of another, is it ever appropriate to grant the tortfeasor injunctive relief to preserve the effect of the tort, and if so, in what circumstances?

**67.** In *Patterson v Murphy* [1978] ILRM 85, the plaintiffs, who were musicians, instituted proceedings for damages and an injunction arising from the operation of a nearby quarry. Having heard the evidence, Costello J (as he then was) found that the plaintiffs had established acts of nuisance to a serious degree arising from the emanation of noise and dust from the quarry and from the emanation of noise and dust from a laneway along which lorries travelled to and from the quarry. The plaintiffs "were, in effect, driven out of their home"…and "were not displaying any exaggerated degree of sensitivity in acting as they did" [p. 95].

**68.** The defendants contended that, even if the plaintiffs' rights had been infringed, the court had a discretion to award damages in lieu of an injunction, and should do so in that case. Costello J accepted that the court had a discretion whether or not to grant relief by way of injunction, but stated that there were "well established principles" in this regard, which he summarised as follows:

"1. When an infringement of the plaintiffs' right and a threatened further infringement to a material extent has been established the plaintiff is *prima facie* entitled to an injunction. There may be circumstances however, depriving the plaintiff of this prima facie right but generally speaking the plaintiff will only be deprived of an injunction in very exceptional circumstances.

2. If the injury to the plaintiff's rights is small, and is one capable of being estimated in money, and is one which can be adequately compensated by a small money payment, and if the case is one in which it would be oppressive to the defendant to grant an injunction, then these are circumstances in which damages in lieu of an injunction may be granted.

3. The conduct of the plaintiff may be such as to disentitle him to an injunction. The conduct of the defendant may be such as to disentitle him from seeking the substitution of damages for an injunction.

4. The mere fact that a wrong-doer is able and willing to pay for the injury he has inflicted is not a ground for substituting damages. (See: *Shelfer v City of London Electric Lighting Company* [1895] 1 Ch 287; and Kerr on Injunctions 6th Edition pp. 656, 657)."

69. In *Shelfer v City of London Electric Lighting Company* [1895] 1 Ch 287, to which Costello J made reference, an electric lighting company erected powerful engines and other works on land near a house which was subject to a lease. Due to excavations for the foundations of the engines, and to vibration and noise emanating from them, structural injury was caused to the house, and annoyance and discomfort to the lessee, who brought an action against the company for an injunction and damages. The trial judge accepted that there was a continuing nuisance as regards the

lessee, and structural injury to the house, but he held that the lessee – and the reversioners, who also sued – were entitled to damages but not an injunction.

**70.** The plaintiffs appealed, and the Court of Appeal held that the refusal of the injunction by the trial judge was unwarranted, and that the appeal must be allowed. In his judgment Lindley LJ referred at p.315 to Lord Cairns' Act (21 & 22 Vict C27) – an Act of 1858 which conferred on the Court of Chancery in Ireland the jurisdiction to award damages in lieu of specific performance: in this regard see the dicta of Laffoy J. in *McGrath v. Stewart* [2016] 2 IR 704, para. 31 – s.2 of which "conferred upon the Court of Chancery jurisdiction which it had not before to award damages in lieu of an injunction". In relation to the exercise of the jurisdiction, Lindley LJ commented as follows (at pp.315-316):

> "The jurisdiction to give damages instead of an injunction is in words given in all cases…there appears to be no limit to the jurisdiction. But in exercising the jurisdiction thus given attention ought to be paid to well settled principles; and ever since Lord Cairns' Act was passed the Court of Chancery has repudiated the notion that the legislature intended to turn that court into a tribunal for legalising wrongful acts; or in other words, the court has always protested against the notion that it ought to allow a wrong to continue simply because the wrongdoer is able and willing to pay for the injury he may inflict. Neither has the circumstance that the wrongdoer is in some sense a public benefactor (e.g., a gas or water company or a sewer authority) ever been considered a sufficient reason for refusing to protect by injunction an individual whose rights are being persistently infringed…[w]ithout denying the jurisdiction to award damages instead of an injunction, even in cases of continuing actionable

nuisances, such jurisdiction ought not to be exercised in such cases accept under very exceptional circumstances…".

**71.** In his judgment, AL Smith LJ commented at p.321 of the judgment that "…there is no suggestion of any conduct on the Plaintiff's part depriving him of his prima facie right to an injunction". He went on to state as follows (at p.322):

> "Many judges have stated, and I emphatically agree with them, that a person by committing a wrongful act (whether it be a public company for public purposes or a private individual) is not thereby entitled to ask the Court to sanction his doing so by purchasing his neighbour's rights, by assessing damages in that behalf, leaving his neighbour with the nuisance, or his lights dimmed, as the case may be.
>
> In such cases the well-known rule is not to accede to the application, but to grant the injunction sought, for the plaintiff's legal right has been invaded, and he is prima facie entitled to an injunction.
>
> There are, however, cases in which this rule may be relaxed, and in which damages may be awarded in substitution for an injunction as authorised by this section.
>
> In any instance in which a case for an injunction has been made out, if the plaintiff by his acts or laches has disentitled himself to an injunction the court may award damages in its place. So again, whether the case be for a mandatory injunction or to restrain a continuing nuisance, the appropriate remedy may be damages in lieu of an injunction, assuming a case for an injunction to be made out.
>
> In my opinion, it may be stated as a good working rule that –
>
> (1) if the injury to the plaintiff's legal rights is small,

(2) and is one capable of being estimated in money,

(3) and is one which can be adequately compensated by a small money payment,

(4) and the case is one in which it would be oppressive to the defendant to grant an injunction:

then damages in substitution for an injunction may be given…

It is impossible to lay down any rule as to what, under the differing circumstances of each case, constitutes either a small injury, or one that can be estimated in money, or what is a small money payment, or an adequate compensation, or what would be oppressive to the defendant. This must be left to the good sense of the tribunal which deals with each case as it comes up for adjudication…".

72. Reference was also made to *Shelfer* in the judgment of Feeney J in *McKeever v Hay & Ors.* [2008] IEHC 145. In that case, pipes had been laid across the verge of a public road off the main Carrickart to Downings road in County Donegal which cut across the plaintiff's lands. The purpose of the pipes was to provide a water supply to houses on Island Roy, a small island off the coast of County Donegal. The plaintiff was an owner of one of the folios in "The Commonage", the name under which the land along which the pipes were laid was locally known, and she issued proceedings seeking an injunction and damages in respect of what she alleged was a trespass upon her lands without her consent.

73. At p.15 of the judgment, Feeney J commented that "…the plaintiff…created a situation where the group [of which the defendants were representatives] was able to proceed on a misapprehension that all consents could be obtained. The facts of this case do not demonstrate a wanton interference with the plaintiff's rights nor were the

group's actions oppressive or vindictive. They carried out the works at a time when they truly had a belief that the plaintiff would ultimately consent".

**74.** However, it was clear that the placing of the waterpipes resulted in a continuing trespass, notwithstanding that the pipes were laid on behalf of Donegal County Council. The Council had instituted compulsory purchase procedures that would result in the land where the pipes were situated being acquired compulsorily. Accordingly, Feeney J awarded damages for €7,500 for trespass up to the date of compulsory acquisition. Feeney J stated at p.31 that the court

> "…is satisfied that no injunction should be granted until the final completion of the compulsory purchase process and then only if that process does not result in final orders. That process has the capacity to ensure that legal permission and authorities in place for such pipes to remain and that appropriate and proper compensation has been identified and paid. This Court is satisfied that the implementation of any injunction must be postponed to allow and permit that process proceed to completion…if the compulsory purchase order process does not result in the way-leaves being obtained then a period of time would still be required to ensure that the residents of the Island Roy could arrange alternative water supply. This Court must recognise that to grant an injunction which would come into effect without providing adequate time to provide alternative water supplies would be oppressive".

**75.** In his judgment, Feeney J cited the principles set out by Costello J in *Patterson* set out at para. 68 above, and confirmed that, notwithstanding that *Patterson* was a nuisance case, those principles were "also relevant for the purpose of this case". The court confirmed that "…the starting point for consideration by this Court is that the plaintiff is *prima facie* entitled to an injunction. In such

circumstances the plaintiff will only be deprived of her entitlement to such injunction if very exceptional circumstances are identified. This is particularly so where the infringement is in the form of trespass rather than nuisance". [p. 25].

**76.** In addressing the principle enunciated by Costello J that if the injury to the plaintiff's rights is small and is capable of being estimated in money and can be adequately compensated by a small payment, Feeney J – significantly in the context of the present case – stated as follows: -

> "…However, the mere fact that damage is small is not of itself decisive. If a court comes to the conclusion that the plaintiff's property will remain substantially as useful to the plaintiff as before the act complained of, and does not take the property away from him and the injury can be compensated by money, then an injunction need not necessarily be granted. The court may still grant an injunction if the facts are such as to indicate that the court should exercise its discretion to do so…" [pp. 26-27].

**77.** Feeney J indicated his intention to follow "the well-established principles" identified by Costello J in *Patterson v Murphy* and reiterated by Millett LJ in *Jaggard v Sawyer & Anor* [1995] 1 WLR 269:

> "When the plaintiff claims an injunction and the defendant asks the court to award damages instead, the proper approach for the court to adopt cannot be in doubt. Clearly the plaintiff must first establish a case for equitable relief, not only by proving his legal right and an actual or threatened infringement by the defendant, but also by overcoming all equitable defences such as laches, acquiescence or estoppel. If he succeeds in doing this, he is prima facie entitled to an injunction. The court may nevertheless in its discretion withhold injunctive relief and award damages instead" [p.287].

78. There is no significant disagreement between the plaintiff and the defendant in the present case that the principles set out above govern their dispute, although they differ as to the application of those principles. There is therefore a roadmap for this Court as to the factors to be considered as to what should be done with the cables. However, the plaintiff draws attention to the following dicta of Millett LJ in *Jaggard v Sawyer*:

> "Reported cases are merely illustrations of circumstances in which particular judges have exercised their discretion, in some cases by granting an injunction, and in others by awarding damages instead. Since they are all cases on the exercise of a discretion, none of them is a binding authority on how the discretion should be exercised. The most that any of them can demonstrate is that in similar circumstances it would not be wrong to exercise the discretion in the same way. But it does not follow that it would be wrong to exercise it differently…" [p. 288]

**Analysis**

79. In the plaintiff's statement of claim, the plaintiff claims declaratory relief that the defendant be prevented from interfering with or damaging the plaintiff's plant and equipment (reliefs 1 and 2), and reliefs 4 to 6 seek injunctive relief in this regard. The third paragraph of the reliefs is as set out at para. 40 above, *i.e.*, a declaration that, if the defendant is entitled to relief in relation to the cables, that the relief be limited to damages.

80. The defendant drafted his own defence which, as I have previously commented, is effectively a defence and counterclaim. While expressed as "declarations", the first three reliefs clearly seek injunctive relief directed at the removal of the cables from the defendant's land:

"1. A declaration that the plaintiff removes the 20000 KV live cable within my land in folio No.: LK3305F immediately as these live 20000 KV cables were laid on my land without my knowledge or permission.

2. A declaration that the plaintiff will reinstate my land to its original habitat.

3. A declaration that the plaintiff will reapply for planning for the Drommada windfarm [sic] as a number of the turbines built are as a result of having an option over my lands at the time when planning was granted in 2003. These turbines are now only 60 metres from my boundary. This would not have been possible without my land being a part of the original planning permission. These turbines are causing massive noise and shadow flicker as a result of being so close to my property."

**81.** The plaintiff has now accepted that the cables are laid in the plaintiff's land, and that it has committed what it calls a "technical trespass". Applying the principles approved by Costello J in *Patterson*, the defendant is therefore *prima facie* entitled to the injunction he seeks. It falls to this Court however to determine whether there are circumstances which should cause this Court to exercise its discretion to refuse the defendant an injunction. As the third principle set out by Costello J makes clear, the conduct of both parties must be examined in the exercise of the court's discretion.

**The Conduct of the Parties**

**82.** The defendant appears only to have become aware of the existence of the cables in 2016, some seven years after they had been installed. He instructed solicitors who, from their first letter of 24 November 2016, clearly intimated that the cabling works constituted trespass. When the trespass was repeatedly denied by the defendant, the defendant issued proceedings in September 2017: see paras. 20 to 23 above. If those proceedings had been prosecuted by the defendant, the issues in the present

proceedings might well have been resolved, whether by agreement or order of the court, by this stage.

83. However, for whatever reason, having issued the 2017 proceedings, the defendant made no attempt to progress them, and there does not appear to have been any significant contact between the parties until June 2019, when Mr Cremins wrote the letter of 13 June 2019, the text of which is at para. 24 above. This was followed by repeated emails to the plaintiff and to officials of its ultimate parent company in which the defendant repeatedly threatened to remove the cables, and stated that the plaintiff or its affiliates would be responsible for any injuries or fatalities that would occur.

84. What might have seemed an idle threat on the part of the defendant took on a different aspect when, in December 2020, the defendant excavated the verge using a digger and exposed some of the plaintiff's cable, so that the plaintiff had to send out operatives to cover up the cable with stone chippings and erect additional marker posts. This led to a number of meetings between representatives of the plaintiff and Mr Cremins until Mr Cremins renewed his threats to remove the cables, which in turn lead to the plaintiff's application for injunctive relief.

85. At the point of issue of the proceedings in 2017, Mr Cremins' conduct had been appropriate and even commendable. He correctly asserted that the plaintiff was trespassing on his land; when this was denied by the defendant, he issued proceedings, although it is notable that the 2017 proceedings did not seek the removal by the plaintiff of the cables. However, instead of progressing these proceedings, he embarked, from June 2019 onwards, on a campaign of emails which did him no credit. His evidence in court was that he wanted to get the plaintiff's attention; it is very clear that what he was trying to do was to avoid the legal process altogether, and

to force the defendant to negotiate with him on his terms. He did so by means of threats to remove the cables in the knowledge that such a manoeuvre was extremely dangerous, and would be seen as such by the plaintiff; that he acknowledged in his emails the possibility of injury or fatality arising, yet repeatedly asserted his intention to go ahead with the removal, shows his intention to intimidate and coerce the plaintiff into negotiation. The threats became all the more serious when he exposed the cables in December 2020.

**86.** This course of action ultimately forced the plaintiff into seeking the injunctive relief it was granted by Allen J. As counsel for the plaintiff pointed out, the plaintiff is not a "natural" plaintiff in the current circumstances, having committed trespass; the 2017 proceedings more accurately reflect the respective positions of the parties. However, it is difficult to criticise the decision of the plaintiff to seek injunctive relief, given the actions of the defendant.

**87.** Although the defendant did not seek removal of the cables by the plaintiff in the 2017 proceedings, seeking "damages for nuisance and trespass" instead, he now seeks an order in this regard by way of counterclaim. Whether the defendant actually wants the cables removed, and perhaps re-routed in another direction, must be open to doubt. The defendant has consistently attempted to agree monetary compensation with the plaintiff, and his contention is that compensation would amount to a substantial seven-figure sum. It is difficult to avoid the conclusion that money is what the defendant wants, particularly given the complete lack of evidence that the installation of the cables has impeded his use or inhibited his enjoyment of the lands in any way. An order that the plaintiff remove the cables – a situation which would cause serious problems for the plaintiff – would improve his bargaining power considerably.

88. However, as Costello J pointed out in *Patterson*, the conduct of both parties must be taken into account. There are reprehensible aspects to the conduct of the plaintiff also. It is not known whether the plaintiff sought legal advice on receipt of the correspondence, from November 2016 onwards, from O'Connell & Clarke, a well-known firm of solicitors specialising in environmental matters, intimating that Mr Cremins owned the land in which the cables were laid. One would have thought that the receipt of the 2017 proceedings at least would have caused it to do so. Likewise, one assumes that the legal position would have been reviewed on the receipt of a barrage of emails from Mr Cremins from mid-2019 onwards, asserting that the plaintiff had trespassed on his lands. In particular, the receipt of Ms Curtin's report by a solicitor's letter of 19 April 2021, to which I have referred at para. 30 above, must have caused the plaintiff to review its position, if it had not done so already.

89. By the time the plaintiff initiated the present proceedings, it is in my view clear that the plaintiff was aware that the cables constituted a trespass on Mr Cremins' lands. Mr Maguire all but acknowledged this in his oral evidence: see para. 56 above. While his affidavit did not explicitly address the question of ownership, the averment at para. 41 of the grounding affidavit of Mr Maguire, to which I have referred above, suggested that Mr Cremins did not own the grass verge. It set out all the steps taken by the plaintiff to prepare for the installation, and gave a clear impression that all appropriate steps had been taken by the plaintiff. The farthest the affidavit went as regards acknowledging a possible right on the part of Mr Cremins was in para. 48 of Mr Maguire's first affidavit, and para. 24 of his second affidavit: see paras. 36 and 37 above.

**90.** Counsel for the plaintiff conceded that the approach of the plaintiff in relation to the question of ownership was "coy" and "jesuitical"; counsel attributed this attitude to the fact that "Mr Cremins is the sort of litigant, unfortunately…if you give him an inch he tends to take a mile…" [day 1, p.159, lines 14 to 17]. In fairness to the plaintiff, the correspondence in which Mr Cremins vigorously asserted that a trespass had occurred was exhibited to Mr Maguire's first affidavit, and the court was therefore apprised by the plaintiff of Mr Cremins' position that a trespass had taken place. While it was perhaps understandable for tactical reasons to wish not to make concessions to Mr Cremins until it was absolutely necessary to do so, this led to an approach in the affidavits grounding the injunction which, it must be said, did not "front up" about the position regarding ownership, was less than frank, and skirted the boundary of misleading the court. Indeed, it seems extraordinary that the first occasion on which the plaintiff conceded that it had trespassed on Mr Cremins' lands was the first day of the hearing before this Court.

**Are the plaintiff's proceedings still viable?**

**91.** As the open concession that trespass had in fact occurred was made by the plaintiff for the first time at the hearing, counsel for the defendant submitted vehemently that the plaintiff's proceedings, which he contended were based on the plaintiff's entitlement to lay the cables in the grass verge, could not now be maintained and would have to be "reconstituted and brought properly": see para. 50 above.

**92.** The first two reliefs sought in the plaintiff's plenary summons and statement of claim are for declaratory reliefs in relation to the issue of whether or not the defendant should be prevented from interfering with or damaging the cables. The third relief, set out at para. 40 above, sought a declaration that any claim the plaintiff might

have be limited to damages. The fourth, fifth and sixth reliefs sought specific injunctive orders restraining interference with the cables or the windfarm generally.

**93.** Paragraphs 7 and 8 of the statement of claim – corresponding to para. 8 and 9 of the plenary summons, which has no para. 7 – contain the substantive causes of action on which the plaintiff relies, and are as follows:

> "7. Damages for interference or threatened interference with the plaintiff's property, and with the plaintiff's economic interests.
>
> 8. Damages for nuisance".

**94.** The plaintiff submits that, even if the cables constitute a trespass on the defendant's land, the defendant is not entitled to interfere with the cables and, in the words of the plaintiff, has "no entitlement to avail of self-help remedies" [written submissions para. 59]. The plaintiff relies in this regard on the decisions of the Court of Appeal of England and Wales in *Arthur v Anker* [1997] QB 564 and *Vine v Waltham Forest LBC* [2000] 1 WLR 2383, both of which concerned clamping of motor vehicles which were trespassing on private lands. In the latter case, the Court of Appeal found that the act of clamping a car, in circumstances where there was no statutory basis for doing so and where it could not be shown that the owner of the car had consented to or willingly assumed the risk of being clamped, was a tortious act of trespass to the car owner's property, notwithstanding the original trespass by the car owner.

**95.** The plaintiff in the present case maintains that it had operated on a mistaken basis, in laying the cables in the grass verge, that it was not infringing on the defendant's lands, and that in those circumstances, the interference by the defendant with the cables in December 2020 and his campaign of threats to interfere with the

cables unless the plaintiff negotiated with him constituted an actionable interference with the plaintiff's economic interests.

**96.** It seems to me that, even if the defendant had not threatened to remove the cables or interfered with them in December 2020, but had sought an order in his own proceedings that the plaintiff remove the cables, it would have been open to the court, while acknowledging the defendant's *prima facie* right to an injunction to restrain trespass, to refuse the injunction and confine the plaintiff to a claim in damages. It would seem to follow therefore that the defendant did not have the right to take matters into his own hands and threaten and indeed partially implement a course of action which could have had dangerous and life-threatening consequences, even leaving aside the economic damage to the plaintiff that removal of the cables would inflict.

**97.** I accept that there will of course be occasions on which a landowner who is the victim of a trespass or nuisance may take reasonable steps to abate or reduce the effect of any such actions with a view to asserting his rights and minimising his loss, or making his land safe. In the present case, there is no evidence whatsoever of any actual loss suffered by the defendant. Between 2009 and 2016, he was unaware of the existence of the cables, which did not interfere in any way with his use or enjoyment of the land. Even when he did discover their existence, and after raising the issue of trespass and finding it denied by the plaintiff, he issued the 2017 proceedings, and did not seek an order of removal of the cables, but sought damages instead. It is clear to me that his interference with the cables and threats to remove them were for the purpose of – as he characterised it himself – getting the attention of the plaintiff so that a settlement could be negotiated by a non-legal route.

98. In the circumstances, it seems to me that, even though a trespass by the plaintiff has occurred, the plaintiff has a stateable cause of action against the defendant which is capable of grounding an application for a permanent injunction. As counsel for the plaintiff has commented – see para. 43 above – the plaintiff's objective is to ensure that Mr Cremins cannot interfere with the plaintiff's cable and to obtain a court order to that effect. I do not accept that the plaintiff's acceptance that a trespass has occurred is fatal to its proceedings, although the circumstances in which this concession was made are a matter which have a bearing on the exercise of the court's discretion. Of course, it must be reiterated that Mr Cremins, as the "trespassee", has a *prima facie* right to restrain the trespass and seek the removal of the cables.

**Exercise of the court's discretion**

99. Both parties accept that the pressing issue that must be decided is whether or not, as the plaintiff urges, the cables be left where they are, or whether, as the defendant contends, the plaintiff be ordered to remove them. In the former case, the plaintiff accepts that it must compensate the defendant, and envisages quantifying the compensation in a further module in these proceedings, or by mediation or arbitration. However, the plaintiff essentially asks the court to permit the continuance of its trespass.

100. The fourth of the principles set out by Costello J in *Patterson* emphasises the unwillingness of the courts to countenance a wrongdoing simply because the wrongdoer is in a position to pay damages in compensation. As the High Court stated in *Allied Irish Banks plc* v *Diamond* [2012] 3 IR 549, the courts have always sought to guard property rights, particularly in the context of interlocutory injunctions. Clarke J (as he then was) vividly set out the rationale for this principle:

> "Even though there may be a sense in which it may be possible to measure the value of property lost, declining to enforce property rights on the basis that the party who has lost its property can be compensated in damages would amount to a form of implicit compulsory acquisition. If someone could take over my house and avoid an injunction on the basis that my house can readily be valued and he is in a position to pay compensation to that value (even together with any consequential losses), then it would follow that that person would be entitled, in substance, to compulsory acquire my house. The mere fact that it may, therefore, be possible to put a value on property rights lost does not, of itself, mean that damages are necessarily an adequate remedy for the party concerned is entitled to its property rights instead of their value". [P. 590].

**101.** In my view, the circumstances of the present case are quite distinct from the sort of situation envisaged by Clarke J in this passage. I do not think the actions of the plaintiff in laying the cables in land owned by the plaintiff could be characterised as wilful or reckless. The plaintiff attempted to negotiate a situation where three turbines and the cables could be placed on the defendant's lands. This negotiation proved unsuccessful. Mr Maguire set out the plaintiff's reasons for laying the cables along the roadside, and to steps taken to ensure that this was done in accordance with what the plaintiff considered to be appropriate measures, e.g. obtaining the consent of the road authority pursuant to s.13(10) of the Roads Act 1993. Mr Maguire testified as to the genuine belief of the plaintiff that it had adopted the proper procedures to progress the development. I have no reason to doubt his evidence in this regard, nor is there any basis in evidence to suspect that the plaintiff laid the cables where it did in an opportunistic fashion, knowing that it was committing a trespass in doing so. In the

words of Feeney J in *McKeever v. Hay* "there was no wanton interference with the [defendant's] rights".

**102.** The defendant complained of the trespass for the first time in 2016, some seven years after the cables had been installed. On receiving an unsatisfactory response from the plaintiff, he initiated the 2017 proceedings, but did not, as part of the reliefs set out in the summons, seek an order directing the plaintiff to remove the cables. These proceedings were not advanced in any way, and the defendant did not seek an order in this regard until service on 31 August 2021 of what is effectively his defence and counterclaim.

**103.** The plaintiff contends that this inaction on the part of the defendant constitutes laches, which should result in a refusal of the claim by him for an order that the cables be removed. Whether or not that is the case, I am of the view that the failure to prosecute the 2017 proceedings and the campaign waged by the defendant from June 2019 onwards make it clear that the intention of the defendant was to force the plaintiff to the negotiating table so that a monetary settlement could be concluded. I do not accept that the defendant had genuine concerns about safety issues relating to the location of the cables, which had been undisturbed and, it appears, unnoticed between 2009 and 2016.

**104.** It also seems to me to be the case that the only issues in relation to safety arose because of the threats by the defendant and his action in exposing the cables in December 2020. The unopposed evidence of Mr Maguire suggests that the cables pose no threat as regards safety if left underground. The trespass undoubtedly constituted an interference with Mr Cremins' rights; however, there was no evidence of any practical consequences for the use or enjoyment by him of land which was either afforested or unused.

**105.** As against that, there is reason to be sharply critical of the manner in which the plaintiff conducted itself in its dealings with Mr Cremins. It incorrectly asserted, in the initial correspondence of Mr Cremins, that there was no trespass. This evolved into a more equivocal stance, culminating in an application for injunctive relief in which the plaintiff never clarified its position as to whether or not it had committed a trespass. If Mr Cremins had forced the issue and contested the interlocutory injunction, rather than acquiescing in it, the plaintiff would have had to acknowledge the trespass openly, and the court might well have had hard things to say about the manner in which the plaintiff approached the application.

**106.** There have been aspects of the behaviour of both parties which have been unattractive, to say the least. While I deprecate the manner in which the plaintiff approached the issue of trespass in the injunction application, I do consider that Mr Cremins' behaviour in threatening to interfere with the cables required action, and to that extent I accept that the plaintiff's application was justified. The issue now is as to whether the order made on an interlocutory basis should be continued.

**107.** As regards the second of the principles set out by Costello J in *Patterson* – see para. 68 above – the injury to Mr Cremins' rights could be said to be small, in the sense that there has been little or no interference with his use or enjoyment of the lands. As against that, there has been a significant trespass on his land, with the laying of high voltage cables across it. This Court has no evidence to assist it as to whether a "small money payment" would adequately compensate Mr Cremins; he is vehemently of the view that he is entitled to substantial compensation.

**108.** The court must also consider whether it would be oppressive to the plaintiff to order that the cables be removed. The evidence before the court of Mr Maguire in this regard is set out at para. 57 above; that the cable could indeed be removed, but that

this would involve obtaining planning permission, an environmental impact survey, and legal advice, with very substantial costs accruing daily. The Order would likely render the plaintiff in breach of its contractual obligations to EirGrid.

**109.** There is no indication before the court of how long all of this would take. However, it is clear that removal of the cable would cause enormous disruption to the operation of the windfarm while a route around the 250m of Mr Cremins' property was found, in addition to the significant financial losses. Also, the "elephant in the room" – to use that hackneyed phrase – is the possibility of other landowners along the 3km route also insisting on removal of the cables from their respective portions of the grass verge in the hope of exerting pressure on the plaintiff with a view to negotiating substantial compensation, and also the calamitous possibility of similar orders being sought and made in each situation in which a windfarm – whether owned by the plaintiff or not – has laid a cable along a public road.

**Conclusions**

**110.** As the case law makes clear, each case must be decided on its own facts. The conduct of neither party in the present case has been beyond reproach. It seems to me however that the appropriate and just result is that no order should be made directing the plaintiff to remove the cables, but that appropriate orders should be made with a view to establishing the compensation to be paid to the defendant by the plaintiff for its admitted trespass.

**111.** I am particularly influenced in this conclusion by four overarching factors:

(i) it does not appear to me that the plaintiff was aware that it was trespassing on the defendant's land when it laid the cables in 2009;

(ii) the defendant has not been able to point to any particular interference with his use or enjoyment of the lands;

(iii) the motivation of the defendant has always been to extract maximum compensation from the plaintiff, rather than any serious concern over safety;

(iv) there would be profoundly disproportionate consequences for the plaintiff if the removal of the cables were ordered.

**112.** The defendant is the victim of trespass, and deserves to be compensated. This Court expresses no view as to whether that compensation should be large or small. However, both parties agree that, in the event that the court does not order removal of the cables, a mechanism or further module must be put in place to assess compensation. It also seems to me that any such module would have to address the issue of the terms upon which the cables would remain on Mr Cremins' land, and the respective rights and obligations of the plaintiff as the owner of the cables, and the defendant as the owner of the land in which they are laid.

**113.** I will therefore allow the parties a period of 10 days from the date of delivery of this judgment to give them an opportunity to make written submissions of not more than 2000 words in relation to the orders to be made, in particular addressing:

(a) the issue of whether the interlocutory order, which remains in place for the moment, should be made permanent;

(b) the issue of whether an order should or can be made granting access to the plaintiff to the cables for the purpose of matters such as repair or maintenance, and if so, on what terms;

(c) the arrangements for a further module in relation to compensation, or

(d) agreed directions as to mediation or arbitration; and

(e) the costs of the proceedings.

**114.** The parties must observe the word limit set out above; longer submissions will not be accepted, nor will any attempt to reargue any of the issues addressed above. I

reserve the right to convene a hearing in relation to the orders to be made if I deem it necessary, but my intention is that any such hearing would take place before the end of this term.

# Material Assets – Telecommunication

## Telecoms Impact Assessment Review

### Executive Summary

This submission presents a review of the applicants' TIA document and outlines irregularities within that must be considered by the planning authority.

These are presented as the following:

1) Fresnel Zone Clearance Buffer Inconsistency
2) Telecom Operator Consultancy Due Diligence Inconsistency.
3) Mitigation Measures – Assumption Based Mitigation.

### Key Findings

1) Fresnel Zone Clearance Buffer Inconsistency

The TIA confirms the presence of 4 x P-P links both in the vicinity and passing through the proposed WF planning area.

### Operator No.1: Vodafone.

1 x 15Ghz link from Tullovin to Bruff. Fresnel Zone clearance >400m.
1 x 18Ghz link from Tullovin to Bruff. Fresnel Zone clearance >400m.

There are no projected issues with these links, however Vodafone still provided a statement indicating that a safe buffer zone of 30m be employed from the first Fresnel zone.
P-P Fresnel zone clearances per frequency
18Ghz over 10.143Km = 6.49M
15Hhz over 10.143Km = 7.11M

The TIA provides the appropriate data to calculate the Fresnel zones: Link distance, frequency and antenna height.
Refer to page 13 section 3.1.19 with link data.
As we can see from the above, these links do indeed appear to be well outside any path of interference due to the narrow RF frequencies and low Fresnel zones.

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### Operator No.2: Eir

1 x U6Hhz link from Limerick to Ballyhoura.

1 x 11Ghz link from Slievereagh to Tooreen (Croom).

Both these two links are passing directly through the WF and passing directly overhead at certain Turbine locations.

## U6Ghz link from Limerick to Ballyhoura.

Link distance data is not available in the TIA therefore the 1st Fresnel zone radius cannot be calculated with respect to the turbine locations, thereby making the clearance distances unclear.
Referring to page 12 section 3.1.9, distance link data is missing.

In addition to the omitted distance link data, there is also no recommended buffer zone supplied by Eir.
The TIA states that the clearance distances range from 33.9m - >50m however this cannot be verified without knowing the link distance and therefore without a buffer zone advised by the Telco, this assessment is incomplete.

## 11Ghz link from Slievereagh to Tooreen.

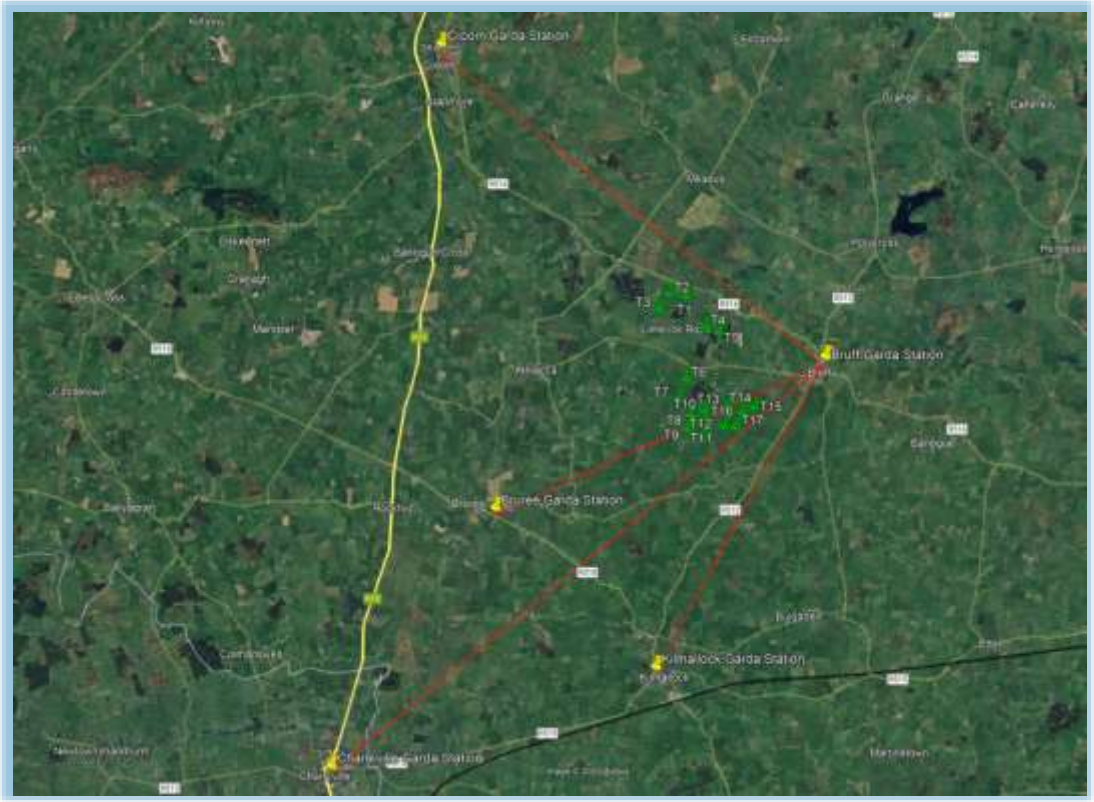
Link distance data is not available in the TIA therefore the 1st Fresnel zone radius cannot be calculated with respect to the turbine locations, thereby making the clearance distances unclear.
Referring to page 12 section 3.1.9, distance link data is missing.

## Telecom Operator Consultancy Due Diligence Inconsistency.

The TIA has stated that under section 3.1, 19 operators were identified to be consulted in order to identify if any telecom infrastructure would be impacted as a result of the proposed WF.
Of these 19 operators the following did not provide a response at the time the report was generated.

- Airwave.
- An Garda Siochana.
- Dept of Defense.
- Limerick County Council.
- Viatel.

Of the above I would consider it very premature to submit a planning application given the potential for possible P-P link requirements, most notable is for An Garda Siochana who have neighbouring stations that may require secure licensed P-P functionality.
The below indicates a LOS perspective relative to these surrounding stations.




A prudent course of action would have been to secure consultation from An Garda Siochana in order to confirm or not the requirement for such cross-station communication channels.
Note: The Bruff-Bruree & Bruff-Charleville potential links should be considered and reviewed.

Given the potential scenario shown above, the logical approach is to consider similar circumstances for the other operators where no response is available and to revert for further consultations.

## Notable Absentees from consultations.

The TIA while attempting to account for as many potentially impacted licenced backhaul carriers, I notice omissions that further emphasize the need for further consultation to be conducted.

As such with the rural dispersion of residential properties and the lack of FTTH products, many homes avail of WISP (Wireless Internet Service Providers) services.
Many homes continue to use such services and indeed businesses will utilize these low-cost services to act as redundant diverse circuits in conjunction with commercial layer 3 DIA connectivity circuits..

With that said, there are a number of WISPs who operate in the general area of the proposed WF. One of these WISPs would be the locally based business NuWave Broadband - NUWAVE BROADBAND – HIGH SPEED BROADBAND FOR CO LIMERICK AND NORTH CORK.

When this business was contacted by the community, it became abundantly clear that they were not contacted as part of the TIA process. This is an unacceptable oversight and speaks to a lack of proper community engagement.
See below statement from this business.



NuWave

10/10/2025

Ref : Proposed Ballinlee Wind Farm

Thank your making contact regarding the proposed Ballinlee Wind farm and to enquire if we were involved in the Telecommunications Impact Assessment that was carried out.

Our broadband company is based in Bruff and we have had numerous customers enquiring if this wind farm will affect their service but I can confirm that we were not contacted during this consultation process.

Kind Regards.

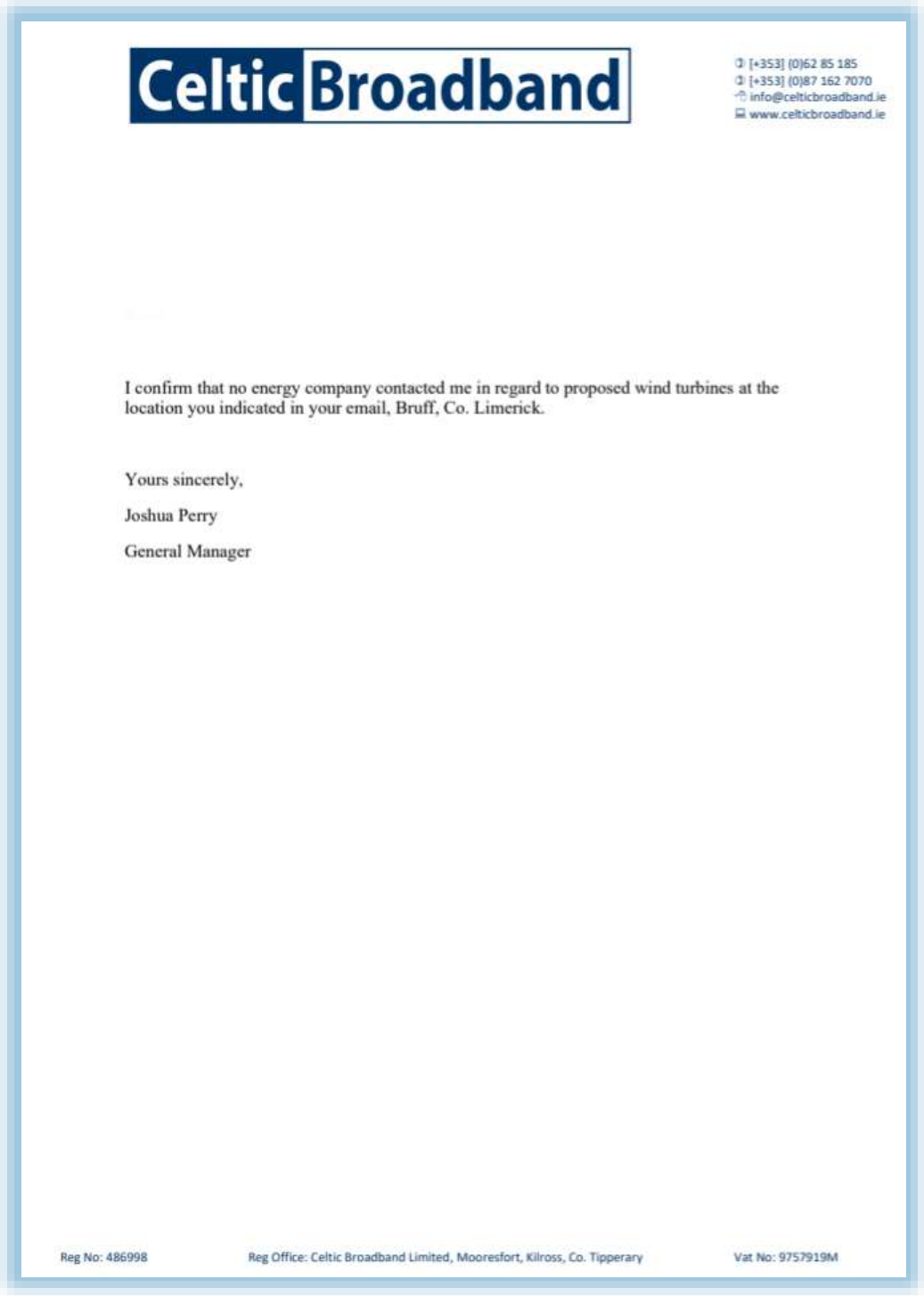
Ger Barron

Director

NuWave Communications Ltd
Main Street, Bruff, Co. Limerick, V35 FH11
T: 061 389200
E: contact@nuwave.ie
W: www.nuwave.ie

Company Reg: 556385
VAT No. 3325291GH

In addition to the above service provider not being involved in the consultation process, another service provider Celtic Broadband was also not contacted in order to evaluate the potential impact on their wireless network in the area.
See below statement when contacted by the Bruff community.



Celtic Broadband

[+353] (0)62 85 185
[+353] (0)87 162 7070
info@celticbroadband.ie
www.celticbroadband.ie

I confirm that no energy company contacted me in regard to proposed wind turbines at the location you indicated in your email, Bruff, Co. Limerick.

Yours sincerely,

Joshua Perry

General Manager

Reg No: 486998 Reg Office: Celtic Broadband Limited, Mooresfort, Kilross, Co. Tipperary Vat No: 9757919M

Failing to accommodate these service providers in the consultancy process is an oversight reflective of a lack of due diligence.

## Mitigation Measures – Assumption Based Mitigation.

Under section 6 on the TIA it addresses the mitigation measure for the Eir link Slieveragh to Tooreen.

The first mitigation measure proposal is to relocate the existing antenna from its current position at the Tooreen mast to the newer lattice mast.
This assumes that the operator (Eir) has a commercial agreement to lease a mast position on this new mast, without confirmation of such an agreement this is a premature mitigation measure.
It also assumes the operator has a network presence within the CoLo of this new mast. There is no confirmation that the existing CoLo has bridged to the new mast and warrants further analysis and consultation with the operator.

The mitigation measure at the Slieveragh end of this link has proposed that the operator simply relocate its services to the Ballyhoura mast.
This assumes that the operator (Eir) has a commercial agreement to lease a mast position on this Ballyhoura mast, without confirmation of such an agreement this is a premature mitigation measure.
It also assumes that there is mast space availability, it is already a congested mast and offers no guarantee of a suitable position to achieve full alignment with Tooreen.
It also assumes that the operator has a network presence at this mast location or that it has cross connect availability with a third party.

The conclusions outlined in section 7 table 8 assume mitigation availability to the developer on behalf of the telco operator Eir which again is premature without further consultation.
On the basis of the review of this TIA, the logical conclusion is that the developer is obligated to seek further information from all appropriate third parties such as:

- An Garda Siochana
- Eir
- Dept of Defense
- Airwave
- Limerick County Council
- NuWave
- Viatel
- Celtic Broadband

Without such an exercise being conducted to ensure no compromise of existing or planned P-P links or interference on lower band WISP frequencies this application should not be granted.
Additionally, the mitigation measures or TIA assessment as a whole has failed to address the potential impacts on all licensed links during the construction phase with portable cranes moving

blades and nacelles into position etc. All focus has been from an operational wind farm perspective which is again another oversight.

## Assessment conclusion

Planning application should not be granted on the grounds outlined above without further information / consultation conducted with all appropriate parties aforementioned in this review.

# Property Devaluation

## Executive Summary

This submission assesses the anticipated devaluation of property arising from the proposed Ballinlee Wind Energy Project, a 10-year development plan encompassing 17 turbines reaching unprecedented heights in County Limerick. Drawing on international academic research, professional valuation surveys, and emerging Irish legal precedents, the evidence overwhelmingly demonstrates that proximity to large-scale onshore wind farms exerts a significant negative influence on residential and land values, particularly in rural areas where dwellings, landscape quality, and environmental amenity are intrinsically linked.

Key Findings

1. Scale and Local Impact
   The Environmental Impact Assessment Report (EIAR) identifies 520 sensitive receptors within the study area, with 279 dwellings within 1.5 km and over 300 within 2 km of proposed turbines. These homes face demonstrable risk of market devaluation due to visual dominance, noise intrusion, and cumulative amenity loss. Given the unprecedented turbine height, the expected depreciation extends beyond 2 km, supported by research indicating measurable property value declines up to 8–14 km from large onshore turbines.

2. Cumulative Regional Burden
   The Ballinlee proposal cannot be viewed in isolation. Adjacent projects such as Coolcappa and Garrane will collectively industrialise a tranquil rural corridor extending from Bruff and Dromin-Athlacca toward the Ballyhoura and Galtee Mountains, contrary to the Limerick County Development Plan 2022–2028, which seeks to preserve the county's rural character and protect residential amenity from inappropriate renewable-energy clustering (Objective EN O13 and Objective CDP17).

3. Evidence from Research and Professional Sources

   - London School of Economics (2014) and Royal Institution of Chartered Surveyors (RICS, 2004) found average residential price drops of 11–12 % within 2 km of large wind farms.
   - Dröes & Koster (2016, 2021), Sunak & Madlener (2016), and von Detten et al. (2023) confirmed property value reductions of 3–20 % within 2–9 km in European rural zones.
   - Westlund & Wilhelmsson (2021) in Sweden and Brunner et al. (2024) in the United States reported quantifiable localised devaluation of up to 11 % immediately post-announcement, with stronger losses in "unwilling host" communities.

    - These results align with Policy Objective EN O16 of the Limerick County Development Plan, which requires wind-energy proposals to "avoid significant adverse effects on residential amenity, property, and the character of rural settlements."

4. Legal Precedent in Ireland
   Recent High Court judgments — Webster & Rollo v Meenacloghspar (Wind) Ltd (Ballyduff Wind Farm, 2024) and Byrne & Moorhead v ABO Wind Ireland Ltd (Gibbet Hill, 2025) — confirm that wind-turbine noise and vibration constitute a private nuisance under Irish law, leading to damages exceeding €300,000 and, in the latter case, a full shutdown order for three turbines. These rulings establish that even compliant developments may still cause unreasonable interference and property devaluation.

5. Land Sterilisation and Community Decline
   Beyond immediate devaluation, wind-farm proximity sterilises land for future residential development. This contravenes National Planning Framework (NPF) Objective 19, which emphasises compact growth, sustainable rural housing, and protection of local community vitality. Long-term economic effects include suppressed investment, declining population retention, and erosion of rural identity—issues that directly conflict with the Limerick County Development Plan's vision for balanced regional development.

## Conclusion

The proposed Ballinlee Wind Energy Project would cause significant, quantifiable, and enduring harm to property values, residential amenity, and community cohesion. The cumulative industrialisation of this rural region is inconsistent with the objectives of the National Planning Framework (NPF, 2018) and Limerick County Development Plan 2022–2028, both of which require that renewable-energy developments:

- safeguard residential amenity;
- avoid visual and noise intrusion;
- and maintain the environmental and cultural integrity of rural landscapes.

Given the overwhelming academic evidence, professional valuation data, and now-established Irish legal precedent confirming real financial and social harm from such developments, it is submitted that An Coimisiún Pleanála must refuse consent for the Ballinlee Wind Energy Project on grounds of adverse property, amenity, and socioeconomic impact.

# Introduction

This submission relates to the proposed 10-year planning application for the Ballinlee Wind Farm development, which comprises 17 wind turbines, a permanent 110kV substation, and associated infrastructure located across the townlands of Ballincurra, Ballingayrour, Ballinlee North and South, Ballinrea, Ballyreesode, Camas North and South, Carrigeen, Knockuregare, Ballybane, and adjoining areas in County Limerick. In essence, the proposed project is expected to have a substantial adverse effect on local property values, particularly for homeowners situated in close proximity to, or within clear visual range of, the turbines. The resulting depreciation in property prices would have wider financial consequences, influencing mortgage lending conditions based on loan-to-value ratios, limiting the potential for equity release, and diminishing intergenerational wealth transfer through reduced inheritance values.

On a broader scale, the Ballinlee Wind Farm is just one of several large-scale wind energy proposals concentrated within a relatively small section of County Limerick. Other developments such as the Coolcappa and Garrane projects, located within approximately 30 kilometres, are likely to combine to create a cumulative negative effect on local property markets. Additionally, the magnitude of the proposed turbines—particularly those in the Bruff/Dromin-Athlacca area reaching heights of up to 165 metres—represents an unprecedented scale in the Irish context and is anticipated to further intensify the decline in surrounding property values.

# Context

## Number of Receptors Impacted

The proximity of dwellings to the proposed turbines, along with the extent of visibility of these structures, will serve as major determinants in the anticipated reduction of property values. Within this context, the Environmental Impact Assessment Report (EIAR) identifies a total of 520 sensitive receptors that fall within the study area.

i. No sensitive receptors are located within a 500-metre radius.

ii. Up to 160 sensitive receptors are situated within 1 kilometre.

iii. Two hundred and seventy-nine (279) receptors are positioned within 1.5 kilometres.

iv. A further three hundred and six (306) receptors lie within 2 kilometres.

This represents a substantial concentration of properties that stand to experience a depreciation in value should the proposed wind energy development proceed. Academic and market-based research indicates that negative property impacts are not confined to residences within 2 kilometres, as properties situated at greater distances can also experience measurable declines. The scale of the proposed turbines, unprecedented in rural residential settings, greatly heightens this risk. Considering their exceptional height and visibility, it is reasonable to conclude that the magnitude of the negative impact on property values will be amplified—both by the imposing size

of the turbines themselves and by the cumulative visual burden created in conjunction with nearby wind energy developments.

# Cumulative Effect

The Ballinlee Wind Energy Project proposed for the Bruff/Dromin-Athlacca area must not be viewed in isolation when evaluating its potential effects on property values. Several additional wind energy developments are either planned or under consideration within the wider surrounding area, collectively representing a substantially higher total number of turbines than those included in the present application. If all of these projects were to proceed, the cumulative visual and environmental effects would fundamentally alter the character of the region. The area, currently recognised for its peaceful rural landscape, unspoiled vistas of the Ballyhoura and Galtee Mountains, and valued natural heritage sites such as The Grange Stone Circle and Lough Gur, would instead risk becoming associated primarily with large-scale industrial wind energy infrastructure. Such a transformation would not only detract from the area's scenic and cultural appeal but would also diminish its attractiveness and desirability as a residential location, thereby exerting further downward pressure on local property values.

Developers frequently promote a narrative asserting that wind turbines have no adverse effect on property values, often claiming that there is no definitive research - particularly within an Irish context - to support such an impact. However, this position is increasingly difficult to sustain when examined critically. During one of the individual consultation sessions held at Deebert House in Kilmallock, for example, a local homeowner was reportedly informed that the value of their property would increase because of the proposed development—an assertion that defies both logic and lived experience. In reality, a growing body of international scientific research and professional analysis indicates the opposite: that proximity to large-scale wind turbines can and does negatively influence property prices. The following sections summarise how this issue has been addressed and documented across mainstream publications, peer-reviewed academic studies, and independent expert reports, all of which provide substantial evidence contradicting the developers' claims.

# Property Devaluation

## Mainstream Literature

In a 2015 Forbes article (https://www.forbes.com/sites/judeclemente/2015/09/23/do-wind-turbineslower-property-values/ ), the author applies a practical and commonsense approach to examining the potential effects of wind turbines on property values—an approach that can often be just as compelling as formal scientific research. The reasoning presented highlights the intuitive understanding that large, industrial-scale structures placed within rural or residential landscapes are likely to influence how such areas are perceived, and consequently, how they are valued. While the study itself is based on data from the United States, its underlying logic and conclusions remain broadly applicable to similar contexts, including Ireland, where the same visual,

environmental, and market factors are at play. The geographical origin of the study does not, therefore, diminish the relevance or validity of its argument.

> *"It surely seems logical enough, anything that would cause a potential buyer to value a property less lowers its value. A piece of property, after all, is just what someone is willing to pay for it. Markets are about supply and demand, and all things being equal, why would somebody choose to buy a home with an industrial wind farm nearby? And simply put, it seems impossible to believe that wind turbines would actually add to a property's value."*

A 2014 Business Post commentary on average house prices in County Kildare, examined in the context of nearby wind farm developments, opened with the following statement:

> *"Average house prices in Kildare are over €245,000, suggesting a possible drop in price of €27,000 for homes within 2km of very large windfarms."*

This conclusion draws on findings from a study conducted by the London School of Economics (LSE), which reported that wind farms containing more than 20 turbines were associated with an average reduction of 11% in the value of homes situated within a two-kilometre radius. A summary of this research can be found in the LSE Politics and Policy blog (https://blogs.lse.ac.uk/politicsandpolicy/gone-with-the-wind/ ). Importantly, the turbines examined in that study were significantly smaller than those proposed for the Ballinlee Wind Energy Project in the Bruff/Dromin-Athlacca area. Applying logical reasoning, it follows that the far greater scale and visual prominence of the Ballinlee turbines would likely intensify the negative effects identified by the LSE, resulting in an even more pronounced depreciation in nearby property values.

> *"All the results point in the same direction. Wind farms reduce house prices in postcodes where the turbines are visible; and they reduce prices relative to postcodes close to wind farms where the turbines are not visible. Averaging over wind farms of all sizes, prices fall by around 5-6% within 2km, by less than 2% in the range 2-4km and by less than 1% at 14km, which is the limit of likely visibility. Small wind farms have no impact beyond 4km, while the largest wind farms (those with 20 or more turbines) reduce prices by 12% within 2km and by small amounts right out to 14km (by around 1.5%)."*

## Academic Literature

While developers of onshore wind energy projects often maintain that there is no credible evidence to support claims of property - particularly residential - devaluation, a substantial body of peer-reviewed academic research directly challenges this assertion. A selection of such literature is referenced below. When considering these studies, it is essential to do so in the proper context: the value of rural homes is derived not only from the physical structure itself but also from the surrounding environment — the tranquillity, the unspoiled landscapes, the access to natural amenities, and the sense of rural serenity that defines these communities.

An expanding body of empirical research now examines the economic costs associated with local disamenities arising from onshore wind power developments. Many of these studies employ hedonic pricing models, which analyse variations in property prices to quantify the impact of nearby environmental or infrastructural changes. (e.g., Dröes and Koster, 2016; Dröes and Koster, 2021; Frondel et al., 2019; Gibbons, 2015; Heintzelmann and Tuttle, 2012; Jensen et al., 2014; Lang et al., 2014; Skenteris et al., 2019; Sunak and Madlener, 2016), life satisfaction approaches (Krekel and Zerrahn, 2017; von Moellendorff and Welsch, 2017), as well as willingness-to-pay analyses (e.g., Betakova et al., 2015; Brennan and van Rensburg, 2016; Drechsler et al., 2011; Guo et al., 2015; Jones and Eiser, 2010; Ladenburg and Dubgaard, 2007; Meyerhoff et al., 2010; Wen et al., 2018).The findings from such analyses consistently indicate that the introduction of large-scale wind turbines can exert measurable downward pressure on property values within affected areas.

Lehmann, Reutter, and Tafarte (2023), writing in *Resource and Energy Economics* (https://doi.org/10.1016/j.reseneeco.2023.101386), identify two key conclusions emerging from the growing body of research on the local impacts of wind energy developments:

- Firstly, the majority of studies demonstrate that the costs associated with local disamenities — such as noise, visual intrusion, and landscape alteration — can be considerable.
- Secondly, these disamenity effects generally diminish as the distance from the wind turbines increases.

Together, these findings indicate that the economic and social costs linked to wind energy projects are spatially heterogeneous, meaning they vary significantly based on proximity to turbines and the density of the local population. Consequently, the authors recommend that such spatially dependent costs should be explicitly incorporated into models and planning frameworks that aim to optimise wind power deployment while minimising overall social cost.

A recent and particularly detailed study conducted in the United States reinforces this perspective. Its abstract underscores the measurable negative effect of wind turbines on nearby property prices. Although the research suggests that some recovery in property values may occur over the medium term, this offers little reassurance to current homeowners experiencing immediate losses. Moreover, in the case of the proposed Ballinlee development — especially when considered alongside other nearby projects — the unprecedented scale of the turbines and the cumulative impact on a small, rural population must be carefully accounted for in any fair assessment of social and economic costs.

> Brunner, Eric J. & Hoen, Ben & Rand, Joe & Schwegman, David, (2024). Commercial wind turbines and residential home values: New evidence from the universe of land-based wind projects in the United States, Energy Policy, 185(C).
>
> https://doi.org/10.1016/j.enpol.2023.113837

> *We examine the impact of proximity to land-based commercial wind turbines on residential home values in the United States using data on the universe of commercial wind turbines and residential property transactions from 2005 to 2020. Using event study and difference-in-differences identification strategies we find that, on average, homes located within 1 mile of a commercial wind turbine experience approximately an 11% decline in value following the announcement of a new commercial wind energy project, relative to counterfactual homes located 3 to 5 miles away.*

The following study was conducted within a semi-urban region of Germany; however, its findings have clear relevance when applied to rural contexts such as the Ballinlee Wind Energy Project in the Bruff/Dromin-Athlacca area of County Limerick. Given the markedly rural nature of this landscape, coupled with its relatively low housing density and strong reliance on visual and environmental amenities, it is reasonable to anticipate that the reduction in property values would be even more pronounced than that observed in the German case. The extraordinary height and scale of the proposed turbines — unprecedented in an Irish rural setting — would dramatically alter the visual character of the area and intensify the perceived disamenity. Consequently, the negative financial and social effects on surrounding properties are likely to be magnified well beyond those identified in semi-urban European studies.

> von Detten, J., Seebaß, J.V., Schlüter, J.C. et al. (2023). Influence of onshore wind turbines on land values. Z Immobilienökonomie 9, 63–80. https://doi.org/10.1365/s41056-023-00067-5

In Germany, the expansion of wind energy is widely viewed as a key pillar of the national energy transition. However, despite broad public recognition of the importance of climate protection measures, increasing attention is being given to the negative economic and environmental side effects associated with large-scale wind power installations. Over the past decade, numerous studies have explored the relationship between the presence of wind turbines and declining property prices. Building upon this existing research, the referenced study represents the first attempt to specifically quantify the impact of wind turbines on *standard land values* within three districts of Schleswig-Holstein.

Using Ordinary Least Squares (OLS) and mixed-effects modelling, the researchers identified clear and statistically significant effects of proximity to wind turbines on land values. The findings demonstrate that standard land values tend to rise in direct proportion to increasing distance from turbines. In other words, the further a property is located from a turbine, the higher its assessed land value. The study also found that areas with greater population density and regions near taller turbines experience a stronger negative influence on land values.

When the data were modelled to reflect average conditions across the study area, the analysis indicated an average increase in standard land value of approximately 7.33% per additional kilometre of distance from the nearest turbine. Notably, zones situated more than 5 kilometres away from turbines exhibited significantly higher land valuations compared to those located closer.

While the authors acknowledge potential minor biases from omitted variables, the overall trend aligns with the broader European research literature, which consistently identifies measurable negative effects of wind energy infrastructure on both property sale and offer prices. This study therefore reinforces the growing body of evidence supporting the conclusion that proximity to wind turbines contributes directly to the loss of land and property value.

The report summarised below examines the extent to which wind turbines have a negative capitalisation effect on property values in Sweden over a ten-year period. Its findings provide clear and compelling evidence of a measurable and relatively significant decline in property values associated with proximity to wind energy installations. The study concludes that this effect is distinctly localised, with the most pronounced impacts occurring within an eight-kilometre radius of the nearest wind power facility.

Moreover, the research highlights that larger individual turbines and denser clusters of turbines within extensive wind farms exert disproportionately greater socio-economic costs on surrounding communities. These costs are particularly burdensome for lower-value properties, which experience sharper relative declines in market worth compared to higher-value homes. The results underscore the uneven distribution of the economic burden imposed by large-scale wind energy projects, revealing that those living closest to such developments - often in more affordable rural areas - bear the greatest financial impact.

> Westlund, H., & Wilhelmsson, M. (2021). The socio-economic cost of wind turbines: A Swedish case study. Sustainability, 13(12), 6892. Wind turbines are one of many eco-friendly investments necessary to ensure a climate that makes the planet habitable. The benefits of these climate-improvement measures can be seen as global public goods that everyone on earth will benefit from. However, the investment itself is a private good with local negative externalities. These negative externalities also give rise to a loss of welfare for society if they are not internalized in any way. Furthermore, the cost is unevenly distributed among regions and individuals. In order for it to be Pareto-optimal, those who bear the cost must be compensated. Our study should be seen as providing guidance for locating wind turbines with minimal local socioeconomic costs, or for enabling rational compensation of effected individuals and households. Since we have only valued use-value, there may be an underestimation of the total local social cost of the investment in wind turbines.
>
> Results from what we term the 'full' and 'reduced' samples are presented throughout. The full sample includes all real estate transactions that have taken place throughout Sweden, while the reduced sample includes only real estate transactions that occur within 20 km of the wind power plant. We have reduced the sample because our basic hypothesis is that the capitalization effect is relatively local, partly as a test of the robustness of our results. The results clearly indicate a negative capitalization of proximity to wind turbines on property values in Sweden. The relationship between

> wind turbines and property values is non-linear and decreases exponentially with the distance from the wind turbines. The results also indicate that proximity to tall wind turbines and proximity to many wind turbines (wind farms) have greater impacts.

This study, conducted in the Canadian province of Ontario, integrates community attitudes at the municipal level to assess how local opposition influences the relationship between wind turbine developments and property values. Using a difference-in-differences hedonic pricing approach, the researchers compared property value trends across two categories of municipalities: those that had formally opposed wind energy projects - referred to as "unwilling host" communities - and those that had not registered such opposition.

The findings reveal a clear pattern: property values declined significantly in municipalities that opposed wind farm developments, while little or no negative effect was detected in areas where opposition was absent. This demonstrates that social acceptance and community sentiment play a critical role in shaping the market response to wind energy projects.

By extension, in the context of Bruff and Dromin Athlacca and adjoining areas affected by multiple proposed wind energy projects, where strong community opposition and public frustration have already been well-documented, it is reasonable to anticipate that any negative impact on property values would be further amplified. The heightened local resistance and perceived intrusion of these large-scale developments are likely to intensify the devaluation effect observed in comparable "unwilling host" regions abroad.

> Richard J. Vyn (2018). Property Value Impacts of Wind Turbines and the Influence of Attitudes toward Wind Energy, Land Economics, Nov, 94 (4) 496-516; https://doi.org/10.3368/le.94.4.496

The findings of this Ontario-based study provide robust empirical evidence that the presence of wind turbines has a negative effect on surrounding property values, with the extent of the impact increasing in proportion to the number of turbines located nearby. These results reinforce the conclusions of more recent international studies, confirming that wind energy facilities can indeed exert measurable downward pressure on residential property prices.

Importantly, the study advances the analysis further by exploring how community attitudes toward wind energy influence the scale and nature of these impacts. It reveals a clear distinction between municipalities identified as "unwilling hosts"—those that actively opposed wind energy projects—and those that did not express opposition. In unwilling host areas, the observed reductions in property values were substantially greater, suggesting that public sentiment, perception of risk, and overall community acceptance are key factors shaping market behaviour. In other words, how a community perceives and reacts to a wind farm can directly affect the magnitude of its economic impact.

This research is significant because it is the first to demonstrate empirically that differing community attitudes may help explain the inconsistent findings across the broader literature on

wind turbine effects. By incorporating both social and economic dimensions, the study offers a more nuanced understanding of why some studies report strong impacts on property values while others find limited or no effect.

Furthermore, the analysis benefits from an unusually large dataset, including a considerable number of property transactions within close proximity to turbines—addressing one of the major limitations of earlier research. The authors do acknowledge, however, that a potential constraint arises in the sub-analysis differentiating opposed and unopposed municipalities, where the number of recorded sales within five kilometres of turbines is relatively small (ranging from 29 to 65 during the announcement and post-construction phases). This limitation may partially explain why less significant effects were detected in unopposed areas. Nonetheless, these findings are reinforced by a turbine density analysis, which eliminates the low-sample-size issue and continues to show consistent trends. Overall, the study provides compelling evidence that both the density of turbines and local public attitudes play critical roles in determining the extent of property devaluation caused by wind energy developments.

Given the character of the landscape that would be affected by the proposed wind energy development, the visual impact is expected to be substantial, primarily due to the extraordinary scale and height of the proposed turbines. These structures would dominate the skyline and be visible across a wide geographical area, significantly altering the rural visual environment and sense of place.

The following study specifically examines the relationship between wind farm visibility and property values, analysing how the degree of visual exposure to turbines influences market perceptions and real estate prices. Its findings are highly relevant in the context of the Ballinlee Wind Energy Project, where the unprecedented turbine size is likely to amplify visual intrusion, leading to stronger and more widespread depreciation effects on surrounding property values.

Sunak, Y., & Madlener, R. (2016). The impact of wind farm visibility on property values: A spatial difference-in-differences analysis. Energy Economics, 55, 79-91.

(https://www.sciencedirect.com/science/article/pii/S014098831600044X )

In Germany, investment decisions surrounding large-scale onshore wind projects are increasingly influenced not only by their financial returns but also by issues of social acceptance within the affected communities. While public opinion generally supports the broader goal of expanding renewable energy, local opposition frequently arises from a widespread perception that proximity to large-scale wind farms leads to a decline in nearby property values. One of the main drivers of this concern is the transformation of the landscape—as wind farms introduce large, visually dominant structures that alter rural and semi-urban vistas, diminishing the aesthetic and environmental qualities that contribute to property desirability and value.

To investigate this effect, the referenced study employs a spatial difference-in-differences (DID) methodology across multiple wind farm sites in the federal state of North Rhine-Westphalia. This

quasi-experimental design compares property price changes between two groups: a treatment group, comprising properties whose views were affected by new turbine installations, and a control group, consisting of properties with unchanged views. The analysis uses a quantitative, criteria-based approach to assess the degree of visual impact, factoring in the number of visible turbines, their distance from each property, the viewing angle, and an overall visibility index calculated for each district. To strengthen the robustness of the results, three alternative spatial models—each representing different spatial processes—were also tested.

The findings are conclusive: properties that experienced medium to extreme levels of turbine visibility suffered an average price reduction of approximately 9–14% following wind farm construction. This demonstrates a strong correlation between visual intrusion and property devaluation. Furthermore, the paper contrasts the effects of onshore versus offshore wind developments, confirming that onshore turbines—because of their direct visibility and proximity to residential areas—have the more significant negative impact.

The consistency of these results with other European research underscores a clear and evidence-based conclusion: the visibility and proximity of large onshore wind turbines directly and measurably reduce surrounding property values. This evidence is particularly relevant to the Ballinlee Wind Energy Project, where turbine scale and rural setting would likely magnify similar effects.

Energy Policy, Elsevier, vol. 116(C), 50-59.

This comprehensive Danish study presents the findings of a large-scale analysis examining how both onshore and offshore wind turbines influence the property prices of nearby single-family residential and vacation homes. The research reveals clear and consistent evidence that onshore wind turbines exert a negative effect on surrounding property values, extending up to a distance of approximately three kilometres. The degree of this negative impact intensifies as the number of nearby turbines increases—though the marginal effect diminishes slightly as more turbines are added—and gradually lessens with greater distance from the installation site.

In contrast, the study finds no statistically significant impact from offshore wind farms, either for properties with a sea view of the turbines or for those near the closest beach. This lack of measurable effect is likely due to the considerable distance between the nearest offshore turbine (approximately nine kilometres) and the nearest traded residential property, which effectively mitigates both visual and auditory intrusion.

The authors underscore the policy relevance of their results by providing spatial maps that illustrate how the marginal impact of wind turbines varies across the Danish landscape. These maps highlight that property value reductions are concentrated in areas of higher housing density and property value, suggesting that—all other factors being equal—future wind farms should be located well away from residential zones, with turbines grouped into larger, consolidated sites rather than dispersed as isolated units.

This study contributes to the wider literature by being the first to separately analyse effects on primary residences and vacation homes, offering a more detailed understanding of how different property types respond to nearby wind development. Across multiple regional housing markets, the results consistently show a significant and measurable decline in property values for homes located within three kilometres of onshore turbines.

These findings align closely with prior international research. For example, Krekel and Zerrahn (2017) observed a measurable decline in subjective well-being among residents living within four kilometres of wind farms, while Heintzelman and Tuttle (2012) found property price reductions of 8.8% to 14.87% within just 0.5 miles (approximately 800 metres) of turbines in New York State. Similarly, Jensen et al. (2014) documented significant negative effects in Denmark arising from both noise and visual pollution associated with turbines of comparable scale.

Taken together, these studies provide strong and consistent evidence that onshore wind turbines, when situated in close proximity to residential areas, lead to measurable reductions in property values and quality of life, reinforcing the importance of careful spatial planning in wind farm development—particularly in rural communities like those surrounding the proposed Ballinlee Wind Energy Project.

Recent international research provides further quantitative evidence that proximity to onshore wind turbines results in measurable reductions in residential and land values, particularly across European settings where rural population density is higher and turbine visibility is unavoidable. A 2023 study by Brunner, Hoen, Rand, and Schwegman (Energy Policy, September 2023) confirms that, while U.S. analyses show mixed results, European studies consistently find declines ranging from 3–20% within two kilometres of turbines. Jensen et al. (2014, 2018) report that Danish homes with direct turbine visibility lose approximately 3–5% in value, with additional losses when audible effects are present. Droes and Koster (2016, 2021) observed average reductions of 1.4–6% in the Netherlands, while Sunak and Madlener (2016, 2017) found reductions up to 20% in Germany where visual dominance is high. The most recent analysis by von Detten et al. (2023), covering over 1,300 land zones in Schleswig-Holstein, Germany, demonstrated significant negative impacts on standard land values up to 9 kilometres from turbines, with stronger effects in rural than in urban zones. These findings collectively confirm that European residential and agricultural land markets are more sensitive to turbine visibility, cumulative density, and turbine height — conditions directly analogous to the Ballinlee proposal. Consequently, the EIAR's assumption that no material devaluation will occur lacks empirical support, and it fails to address the growing body of European evidence indicating substantial and persistent property and land value impacts from wind energy developments of this scale and proximity.

## Professional Publications

Although somewhat dated, the Royal Institution of Chartered Surveyors (RICS) 2004 report (https://www.windaction.org/posts/1007 ) remains one of the earliest professional analyses examining the relationship between wind farm development and property values in the United

Kingdom. At the time, the UK—Europe's windiest country—was particularly well positioned to capitalise on renewable wind energy. According to the British Wind Energy Association (BWEA), there were then 90 operational wind farm projects, comprising 1,125 turbines generating sufficient power for approximately 440,000 homes. An additional 15 projects, incorporating a further 222 turbines, were scheduled to come online in 2004. By 2005, it was anticipated that total wind energy generation would supply around 1.3% of national demand, equating to just under one million homes.

While recognising the environmental and energy benefits of wind technology, the RICS report sought to examine its potential implications for property values, particularly in residential and agricultural contexts. The study was not designed to advocate for or against wind power, but rather to gather objective professional insights from the property sector. The findings - based on a large sample of surveyors and valuers - revealed clear concerns:

1. 60% of respondents reported that wind farms decrease residential property values when developments are visible from the property.
2. 67% indicated that the negative impact on property prices begins at the planning stage, when applications are first made public.
3. The primary factors influencing devaluation were identified as:
   · The visual impact of the completed wind farm.
   · A widespread fear of blight associated with proximity.
   · The closeness of residential properties to turbines.
4. The study further observed that while the depreciation effect tends to persist after construction, its severity may lessen gradually over a two-year period.

## Legal Precedent

### Ballyduff Wind Farm High Court Ruling

A significant legal precedent was established in Webster, Rollo, Shorten & Carty v. Meenacloghspar (Wind) Ltd [High Court, 2023], where Ms Justice Emily Egan found that noise emissions from the two-turbine Ballyduff Wind Farm in Co. Wexford constituted an unreasonable interference with the enjoyment of neighbouring properties, amounting to a private nuisance.

This was the first successful private nuisance claim relating to wind-turbine noise in either Ireland or the UK. The Court recognised that persistent turbine noise had caused sleep disturbance, psychological stress, and disruption of family life, ultimately awarding the four plaintiffs over €300,000 in damages. Injunctive relief was also granted, requiring operational restrictions and the shutdown of one turbine during defined hours.

The judgment highlighted that one of the affected homes lay just 369 m from the nearest turbine, while another was 359 m away. Damages included both compensation for nuisance endured and

for loss of property value, with specific awards such as €87,500 to one plaintiff for continuing disturbance and €55,000 to another couple for devaluation arising from turbine impacts.

This ruling demonstrates clear judicial recognition in Ireland that wind-turbine noise can constitute a material and ongoing nuisance, infringing upon residents' right to quiet enjoyment of their property. It also establishes that such impacts may warrant both monetary compensation and operational curtailment orders where adverse effects are proven.

### Gibbet Hill Wind Farm High Court Ruling

In Byrne & Moorhead v ABO Wind Ireland Ltd, ABO Wind OMS Ireland Ltd, and Wexwind Ltd [High Court, 2025], the Court issued a landmark order mandating the total shutdown of three turbines at the Gibbet Hill Wind Farm near Bunclody, Co. Wexford, due to proven noise nuisance and loss of residential amenity. This judgment marks the first occasion in Ireland where a court has ordered the complete cessation of wind-turbine operations on nuisance grounds.

The plaintiffs, Raymond Byrne and Lorna Moorhead, residing approximately 1 km from the nearest turbine, demonstrated that ongoing turbine noise, vibration, and shadow flicker had severely disrupted their sleep, mental well-being, and enjoyment of their home, leading to long-term stress and anxiety. The High Court found that the operators had failed to meaningfully engage with genuine complaints over a 12-year period and that their approach had "significantly aggravated and prolonged" the residents' distress.

During proceedings, the defendants admitted liability and proposed limited operational curtailments, including nighttime shutdowns. However, Mr Justice Barrett ruled that it would be "unjust and discriminatory" to allow a party to continue a substantial nuisance merely by paying damages. The Court emphasised that compensation cannot substitute for abatement where the nuisance remains ongoing.

While acknowledging the broader public value of renewable energy, the judge noted that the specific turbines contributed only a "tiny percentage" of overall generation and that complete shutdown was the only effective remedy according to expert testimony. Consequently, a permanent injunction was issued directing that the three offending turbines be turned off entirely.

The Court awarded the plaintiffs €120,000–€180,000 each in general damages, plus aggravated damages of €24,000 and €36,000 respectively, recognising the prolonged disturbance and inadequate response by the defendants. The ruling reinforces that operators have a legal duty to prevent substantial interference with residents' enjoyment of their property, and that where mitigation is ineffective or ignored, courts may impose full operational cessation as a proportionate and lawful remedy.

### Ballyduff Wind Farm High Court Ruling

In Webster & Rollo / Shorten & Carty v Meenacloghspar (Wind) Ltd [High Court, 2024], Ms Justice Emily Egan found that noise emissions from the two-turbine Ballyduff Wind Farm at Kilcomb,

Co. Wexford constituted an unreasonable interference with the enjoyment of nearby residential properties. This case is notable as the first private nuisance action for wind-turbine noise to be successfully adjudicated in either Ireland or the UK, and it carries significant implications for how future wind-energy developments are assessed and managed.

The plaintiffs, Margaret Webster and Keith Rollo, and Ross Shorten and Joan Carty, each owned homes within approximately 359–370 metres of the turbines. They claimed persistent turbine noise, vibration, and shadow flicker had disturbed their sleep, heightened anxiety, and undermined their health and quality of life, leading to diminished property value and severe emotional distress.

Following an extensive 51-day hearing—including site inspections by the Court—Ms Justice Egan concluded that there were frequent and sustained periods of intrusive noise "commonly associated with high levels of annoyance," and that these occurred regularly enough to amount to a substantial and unreasonable interference. The Court found that such noise particularly posed a nuisance during evenings, weekends, and nighttime, when a quiet domestic environment is most valued.

While the judge determined that the operators had not breached planning permission conditions, she stressed that compliance with planning controls does not preclude liability in tort for private nuisance. The Court observed that, in the absence of updated Wind Energy Development Guidelines—the 2006 version being outdated and the 2019 draft withdrawn—the assessment of nuisance remains a judgment of degree to be determined on a case-by-case basis.

The ruling directed the parties to engage in mediation to explore proportionate mitigation measures, while reserving the assessment of damages and injunctive relief to a later phase of proceedings. Nonetheless, the Court's findings confirm that turbine noise can constitute a legally recognised nuisance under Irish law, independent of planning compliance, where it materially interferes with the ordinary comfort and enjoyment of one's home.

This decision reinforces that wind-farm operators bear responsibility to prevent excessive noise and amenity loss, and that Irish courts are prepared to grant damages or operational restrictions where residents' wellbeing and property rights are demonstrably affected.

## Case Evidence Suggesting Mortgage Risk

There is already emerging evidence that proximity to wind farm developments can directly affect the financial viability of purchasing a home. A recent example involved a woman attempting to buy a property in Clonberne, whose bank refused to approve her loan solely because the house was located too close to a proposed wind farm site. Importantly, this refusal occurred before the wind farm has even been constructed, demonstrating that financial institutions themselves recognise the risk such developments pose to property values, resale potential, and long-term investment security. If mortgage providers are already unwilling to support purchases near proposed turbine locations,

it is reasonable to conclude that existing homeowners may face reduced property values and significant financial disadvantage should this project proceed.

## Land Sterilisation

Beyond the immediate depreciation in property values, the issue of land sterilisation represents a significant long-term consequence of wind turbine development. Areas surrounding turbines can become effectively unsuitable for future housing or small-scale planning applications that would otherwise have been viable but now fail on proximity grounds. This phenomenon discourages both population growth and local regeneration, eroding the social and economic fabric of affected rural communities.

For residents who have chosen to live in the Bruff and Dromin-Athlacca area for its tranquillity, natural views, and close-knit community values, the introduction of such large-scale industrial structures would fundamentally undermine the qualities that drew them there in the first place. The broader repercussions would extend beyond housing—impacting local businesses, community vitality, and even participation levels in cornerstone institutions such as the GAA club, which is central to social life in these communities. The cumulative effect of such land sterilisation would therefore be deeply damaging to both the economic resilience and the cultural identity of the area.

## Summary & Conclusion

In assessing the Ballinlee Wind Energy Project, it is imperative to consider the local context and the inevitable implications for property values. The unprecedented height and scale of the proposed turbines - never before experienced in Ireland - combined with the cumulative presence of multiple wind energy projects in the surrounding region, make it wholly unreasonable to suggest that property prices will remain unaffected. Assertions made by wind farm representatives at consultation meetings in Charleville and Kilmallock, held many miles from the actual turbine sites, that no negative impact will occur, defy both evidence and logic.

The extensive research outlined throughout this submission clearly demonstrates that wind farms have a negative impact on property values, particularly for homes located near turbines or within direct line of sight. However, much of the existing literature does not fully account for the unique vulnerability of small rural communities, where property values are intrinsically tied to environmental quality, scenic views, and the peaceful character of the countryside. It is therefore both reasonable and economically sound to conclude that the effect in such settings - like Bruff and Dromin Athlacca - would be significant and adverse.

From a practical standpoint, these industrial-scale turbines were never designed for the Irish landscape. They were developed for vast, sparsely populated regions abroad, where residential dwellings are separated from turbines by tens or even hundreds of kilometres. Installing such outsized machines within settled rural communities is inappropriate and unacceptable. The

ongoing failure of Central Government to implement effective statutory guidance has only compounded this problem, leaving the Planning Inspectorate in an untenable position.

In summary, the Ballinlee Wind Energy Project represents a direct and disproportionate threat to the property market, environmental integrity, and social cohesion of the local area. The evidence - empirical, economic, and common-sense alike - points unequivocally to a negative and lasting impact on both property values and community well-being.

## References

https://www.thejournal.ie/high-court-orders-total-shutdown-of-three-wind-turbines-in-wexford-6723637-Jun2025/

https://www.irishtimes.com/business/2024/03/08/neighbours-entitled-to-damages-for-unreasonable-interference-from-wind-farm-noise-high-court-rules/

https://www.thejournal.ie/high-court-orders-total-shutdown-of-three-wind-turbines-in-wexford-6723637-Jun2025/

# Interaction of the Foregoing

Submission on EIAR Chapter 18 by Michael Duffy BE CEng

## Overview:

EIAR Chapter 18 is a cynical attempt of portray as *de minimis* the impact of this significant proposed development on this small rural community. It is self-serving of the Developer's aims while ignoring the impacts it will have on the community. I reiterate the lived experience of other communities visited by Developments such as this.

The biggest issue rural communities have with wind development is that once granted permission a swarm of contractors descend on the locality and through lack of interest, lack of education or lack of supervision they ride roughshod over everyone with no respect for, or oversight of, planning conditions.

Any rudimentary assessment of previous developments will demonstrate this. Interested parties should read the **Meenbog/Planree** judgement (appended) to get a flavour of what goes on. Meenbog was unique as a section 160 case taken by the Local Authority itself on foot of a catastrophic landslide which severely impacted designated Natura2000 sites.

Experience demonstrates that when individuals highlight non-compliance Planning Authorities ignore them. The PA is conflicted as the Local Authority harvests significant rates from the non-compliant developer.

The assessment of effects and the impacts is extremely subjective. There is no evidence that the author of this Chapter ever stood in Bruff never mind County Limerick. This Chapter could be as simple as a desk study of other submissions in the EIAR. Given that the outcome of the Chapter is pre-ordained it is no surprise that the contents are rec=versed engineered to provide a favourable outcome in support of the development.

## Population and Human Health

The applicant chooses to subjectively exclude interaction with biodiversity, ornithology, and cultural heritage all of which are fundamental to the physical and mental health of the community. Furthermore, it is likely that there will be long term operation phase impacts on biodiversity and ornithology because of omissions in the application.

## Biodiversity

The applicant chooses to exclude interaction with ornithology and cultural heritage. Impacts on biodiversity because of omissions in the application will have impacts on ornithology and by association on the established cultural heritage of this area.

## Ornithology

The applicant chooses to exclude interaction with biodiversity and cultural heritage. Impacts on ornithology which may be long tern operational phase impacts, as exposed is submissions, will clearly impact with biodiversity and cultural heritage. In rural areas such as this all three are inextricably linked.

## Water

The applicant ignored the potential impacts from wastewater arising, from flooding, from impacted land-drainage among other things. These are impacts which will remain through the operational phase of this development.

## Air Quality

The applicant does not properly assess the borrow pits and quarrying of rock and whether this will require rock-breaking, blasting, ripping, crushing and screening. All of these processes will impact on air-quality but have not been assessed.

## Climate

The applicant chooses to exclude interaction with water, cultural heritage, and material assets. Climate will impact on flooding of these lands because the processes have not been properly mitigated to avoid flooding.

## Cultural Heritage

The applicant chooses to exclude interaction with

## Shadow Flicker

The applicant chooses to exclude interaction with

## Material Assets – Traffic and Transportation

The applicant chooses to exclude interaction with land & soils, water and built services. The compaction of soils and blocking of field land-drains by heavy trucks and machinery will exacerbate established flooding on these lands and impact on these receptors.

## Material Assets – Built Services

The applicant chooses to exclude interaction with built services by omissions and lacunae in the application from water and land and soil impacts.

# Appendix 1 – Most affected receptors

| Receptor | Northing | Easting | Turbine | Northing | Easting | Distance | <670m | <860m | <1.1KM | <1.5KM |
|---|---|---|---|---|---|---|---|---|---|---|
| NSL048 | 560349 | 635117 | 1 | 559035 | 636918 | 2,229 | 0 | 0 | 0 | 0 |
| | | | 2 | 558629 | 636821 | 2,421 | 0 | 0 | 0 | 0 |
| | | | 3 | 558471 | 636454 | 2,305 | 0 | 0 | 0 | 0 |
| | | | 4 | 559699 | 636266 | 1,320 | 0 | 0 | 0 | 1 |
| | | | 5 | 560048 | 636262 | 1,184 | 0 | 0 | 0 | 1 |
| | | | 6 | 559575 | 634719 | 870 | 0 | 0 | 1 | 1 |
| | | | 7 | 559635 | 634317 | 1,072 | 0 | 0 | 1 | 1 |
| | | | 8 | 559967 | 633921 | 1,256 | 0 | 0 | 0 | 1 |
| | | | 9 | 559988 | 633538 | 1,620 | 0 | 0 | 0 | 0 |
| | | | 10 | 560213 | 634189 | 938 | 0 | 0 | 1 | 1 |
| | | | 11 | 560355 | 633784 | 1,333 | 0 | 0 | 0 | 1 |
| | | | 12 | 560540 | 633452 | 1,676 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 13 | 560792 | 634470 | 784 | 0 | 1 | 1 | 1 |
| | | | 14 | 561156 | 634401 | 1,079 | 0 | 0 | 1 | 1 |
| | | | 15 | 561442 | 634564 | 1,225 | 0 | 0 | 0 | 1 |
| | | | 16 | 560787 | 633896 | 1,297 | 0 | 0 | 0 | 1 |
| | | | 17 | 561214 | 633948 | 1,454 | 0 | 0 | 0 | 1 |
| NSL370 | 560495 | 635055 | 1 | 559035 | 636918 | 2,367 | 0 | 0 | 0 | 0 |
| | | | 2 | 558629 | 636821 | 2,569 | 0 | 0 | 0 | 0 |
| | | | 3 | 558471 | 636454 | 2,460 | 0 | 0 | 0 | 0 |
| | | | 4 | 559699 | 636266 | 1,449 | 0 | 0 | 0 | 1 |
| | | | 5 | 560048 | 636262 | 1,287 | 0 | 0 | 0 | 1 |
| | | | 6 | 559575 | 634719 | 979 | 0 | 0 | 1 | 1 |
| | | | 7 | 559635 | 634317 | 1,133 | 0 | 0 | 0 | 1 |
| | | | 8 | 559967 | 633921 | 1,251 | 0 | 0 | 0 | 1 |
| | | | 9 | 559988 | 633538 | 1,599 | 0 | 0 | 0 | 0 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | 10 | 560213 | 634189 | 911 | 0 | 0 | 1 | 1 |
| | | | 11 | 560355 | 633784 | 1,279 | 0 | 0 | 0 | 1 |
| | | | 12 | 560540 | 633452 | 1,604 | 0 | 0 | 0 | 0 |
| | | | 13 | 560792 | 634470 | 656 | 1 | 1 | 1 | 1 |
| | | | 14 | 561156 | 634401 | 930 | 0 | 0 | 1 | 1 |
| | | | 15 | 561442 | 634564 | 1,067 | 0 | 0 | 1 | 1 |
| | | | 16 | 560787 | 633896 | 1,195 | 0 | 0 | 0 | 1 |
| | | | 17 | 561214 | 633948 | 1,320 | 0 | 0 | 0 | 1 |
| NSL422 | 560423 | 635053 | 1 | 559035 | 636918 | 2,325 | 0 | 0 | 0 | 0 |
| | | | 2 | 558629 | 636821 | 2,519 | 0 | 0 | 0 | 0 |
| | | | 3 | 558471 | 636454 | 2,403 | 0 | 0 | 0 | 0 |
| | | | 4 | 559699 | 636266 | 1,413 | 0 | 0 | 0 | 1 |
| | | | 5 | 560048 | 636262 | 1,266 | 0 | 0 | 0 | 1 |
| | | | 6 | 559575 | 634719 | 911 | 0 | 0 | 1 | 1 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | 7 | 559635 | 634317 | 1,078 | 0 | 0 | 1 | 1 |
| | | | 8 | 559967 | 633921 | 1,220 | 0 | 0 | 0 | 1 |
| | | | 9 | 559988 | 633538 | 1,576 | 0 | 0 | 0 | 0 |
| | | | 10 | 560213 | 634189 | 889 | 0 | 0 | 1 | 1 |
| | | | 11 | 560355 | 633784 | 1,271 | 0 | 0 | 0 | 1 |
| | | | 12 | 560540 | 633452 | 1,605 | 0 | 0 | 0 | 0 |
| | | | 13 | 560792 | 634470 | 690 | 0 | 1 | 1 | 1 |
| | | | 14 | 561156 | 634401 | 981 | 0 | 0 | 1 | 1 |
| | | | 15 | 561442 | 634564 | 1,130 | 0 | 0 | 0 | 1 |
| | | | 16 | 560787 | 633896 | 1,213 | 0 | 0 | 0 | 1 |
| | | | 17 | 561214 | 633948 | 1,359 | 0 | 0 | 0 | 1 |
| NSL057 | 560850 | 635115 | 1 | 559035 | 636918 | 2,558 | 0 | 0 | 0 | 0 |
| | | | 2 | 558629 | 636821 | 2,801 | 0 | 0 | 0 | 0 |
| | | | 3 | 558471 | 636454 | 2,730 | 0 | 0 | 0 | 0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4 | 559699 | 636266 | 1,628 | 0 | 0 | 0 | 0 |
| 5 | 560048 | 636262 | 1,400 | 0 | 0 | 0 | 1 |
| 6 | 559575 | 634719 | 1,335 | 0 | 0 | 0 | 1 |
| 7 | 559635 | 634317 | 1,454 | 0 | 0 | 0 | 1 |
| 8 | 559967 | 633921 | 1,485 | 0 | 0 | 0 | 1 |
| 9 | 559988 | 633538 | 1,797 | 0 | 0 | 0 | 0 |
| 10 | 560213 | 634189 | 1,124 | 0 | 0 | 0 | 1 |
| 11 | 560355 | 633784 | 1,420 | 0 | 0 | 0 | 1 |
| 12 | 560540 | 633452 | 1,692 | 0 | 0 | 0 | 0 |
| 13 | 560792 | 634470 | 648 | 1 | 1 | 1 | 1 |
| 14 | 561156 | 634401 | 777 | 0 | 1 | 1 | 1 |
| 15 | 561442 | 634564 | 809 | 0 | 1 | 1 | 1 |
| 16 | 560787 | 633896 | 1,221 | 0 | 0 | 0 | 1 |
| 17 | 561214 | 633948 | 1,222 | 0 | 0 | 0 | 1 |

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|---|---|---|---|---|---|---|---|---|---|---|---|
| NSL306 | 560831 | 635197 | 1 | 559035 | 636918 | 2,487 | 0 | 0 | 0 | 0 |
| | | | 2 | 558629 | 636821 | 2,736 | 0 | 0 | 0 | 0 |
| | | | 3 | 558471 | 636454 | 2,674 | 0 | 0 | 0 | 0 |
| | | | 4 | 559699 | 636266 | 1,557 | 0 | 0 | 0 | 0 |
| | | | 5 | 560048 | 636262 | 1,322 | 0 | 0 | 0 | 1 |
| | | | 6 | 559575 | 634719 | 1,344 | 0 | 0 | 0 | 1 |
| | | | 7 | 559635 | 634317 | 1,485 | 0 | 0 | 0 | 1 |
| | | | 8 | 559967 | 633921 | 1,541 | 0 | 0 | 0 | 0 |
| | | | 9 | 559988 | 633538 | 1,861 | 0 | 0 | 0 | 0 |
| | | | 10 | 560213 | 634189 | 1,182 | 0 | 0 | 0 | 1 |
| | | | 11 | 560355 | 633784 | 1,491 | 0 | 0 | 0 | 1 |
| | | | 12 | 560540 | 633452 | 1,769 | 0 | 0 | 0 | 0 |
| | | | 13 | 560792 | 634470 | 728 | 0 | 1 | 1 | 1 |
| | | | 14 | 561156 | 634401 | 860 | 0 | 1 | 1 | 1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15 | 561442 | 634564 | 880 | 0 | 0 | 1 | 1 |
| | | | 16 | 560787 | 633896 | 1,302 | 0 | 0 | 0 | 1 |
| | | | 17 | 561214 | 633948 | 1,306 | 0 | 0 | 0 | 1 |
| NSL166 | 561081 | 633016 | 1 | 559035 | 636918 | 4,406 | 0 | 0 | 0 | 0 |
| | | | 2 | 558629 | 636821 | 4,527 | 0 | 0 | 0 | 0 |
| | | | 3 | 558471 | 636454 | 4,316 | 0 | 0 | 0 | 0 |
| | | | 4 | 559699 | 636266 | 3,532 | 0 | 0 | 0 | 0 |
| | | | 5 | 560048 | 636262 | 3,406 | 0 | 0 | 0 | 0 |
| | | | 6 | 559575 | 634719 | 2,273 | 0 | 0 | 0 | 0 |
| | | | 7 | 559635 | 634317 | 1,945 | 0 | 0 | 0 | 0 |
| | | | 8 | 559967 | 633921 | 1,435 | 0 | 0 | 0 | 1 |
| | | | 9 | 559988 | 633538 | 1,211 | 0 | 0 | 0 | 1 |
| | | | 10 | 560213 | 634189 | 1,459 | 0 | 0 | 0 | 1 |
| | | | 11 | 560355 | 633784 | 1,057 | 0 | 0 | 1 | 1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 12 | 560540 | 633452 | 695 | 0 | 1 | 1 | 1 |
| | | | 13 | 560792 | 634470 | 1,482 | 0 | 0 | 0 | 1 |
| | | | 14 | 561156 | 634401 | 1,387 | 0 | 0 | 0 | 1 |
| | | | 15 | 561442 | 634564 | 1,590 | 0 | 0 | 0 | 0 |
| | | | 16 | 560787 | 633896 | 928 | 0 | 0 | 1 | 1 |
| | | | 17 | 561214 | 633948 | 941 | 0 | 0 | 1 | 1 |
| NSL165 | 561361 | 633302 | 1 | 559035 | 636918 | 4,300 | 0 | 0 | 0 | 0 |
| | | | 2 | 558629 | 636821 | 4,455 | 0 | 0 | 0 | 0 |
| | | | 3 | 558471 | 636454 | 4,276 | 0 | 0 | 0 | 0 |
| | | | 4 | 559699 | 636266 | 3,398 | 0 | 0 | 0 | 0 |
| | | | 5 | 560048 | 636262 | 3,238 | 0 | 0 | 0 | 0 |
| | | | 6 | 559575 | 634719 | 2,280 | 0 | 0 | 0 | 0 |
| | | | 7 | 559635 | 634317 | 2,002 | 0 | 0 | 0 | 0 |
| | | | 8 | 559967 | 633921 | 1,525 | 0 | 0 | 0 | 0 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | 9 | 559988 | 633538 | 1,393 | 0 | 0 | 0 | 1 |
| | | | 10 | 560213 | 634189 | 1,451 | 0 | 0 | 0 | 1 |
| | | | 11 | 560355 | 633784 | 1,116 | 0 | 0 | 0 | 1 |
| | | | 12 | 560540 | 633452 | 835 | 0 | 1 | 1 | 1 |
| | | | 13 | 560792 | 634470 | 1,299 | 0 | 0 | 0 | 1 |
| | | | 14 | 561156 | 634401 | 1,118 | 0 | 0 | 0 | 1 |
| | | | 15 | 561442 | 634564 | 1,265 | 0 | 0 | 0 | 1 |
| | | | 16 | 560787 | 633896 | 826 | 0 | 1 | 1 | 1 |
| | | | 17 | 561214 | 633948 | 663 | 1 | 1 | 1 | 1 |
| NSL516 | 561344 | 633225 | 1 | 559035 | 636918 | 4,355 | 0 | 0 | 0 | 0 |
| | | | 2 | 558629 | 636821 | 4,506 | 0 | 0 | 0 | 0 |
| | | | 3 | 558471 | 636454 | 4,322 | 0 | 0 | 0 | 0 |
| | | | 4 | 559699 | 636266 | 3,457 | 0 | 0 | 0 | 0 |
| | | | 5 | 560048 | 636262 | 3,302 | 0 | 0 | 0 | 0 |

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|---|---|---|---|---|---|---|---|---|---|---|
| | | | 6 | 559575 | 634719 | 2,315 | 0 | 0 | 0 | 0 |
| | | | 7 | 559635 | 634317 | 2,028 | 0 | 0 | 0 | 0 |
| | | | 8 | 559967 | 633921 | 1,543 | 0 | 0 | 0 | 0 |
| | | | 9 | 559988 | 633538 | 1,392 | 0 | 0 | 0 | 1 |
| | | | 10 | 560213 | 634189 | 1,486 | 0 | 0 | 0 | 1 |
| | | | 11 | 560355 | 633784 | 1,136 | 0 | 0 | 0 | 1 |
| | | | 12 | 560540 | 633452 | 835 | 0 | 1 | 1 | 1 |
| | | | 13 | 560792 | 634470 | 1,362 | 0 | 0 | 0 | 1 |
| | | | 14 | 561156 | 634401 | 1,191 | 0 | 0 | 0 | 1 |
| | | | 15 | 561442 | 634564 | 1,343 | 0 | 0 | 0 | 1 |
| | | | 16 | 560787 | 633896 | 872 | 0 | 0 | 1 | 1 |
| | | | 17 | 561214 | 633948 | 735 | 0 | 1 | 1 | 1 |
| NSL430 | 561210 | 633072 | 1 | 559035 | 636918 | 4,418 | 0 | 0 | 0 | 0 |
| | | | 2 | 558629 | 636821 | 4,552 | 0 | 0 | 0 | 0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 3 | 558471 | 636454 | 4,352 | 0 | 0 | 0 | 0 |
| 4 | 559699 | 636266 | 3,533 | 0 | 0 | 0 | 0 |
| 5 | 560048 | 636262 | 3,395 | 0 | 0 | 0 | 0 |
| 6 | 559575 | 634719 | 2,321 | 0 | 0 | 0 | 0 |
| 7 | 559635 | 634317 | 2,008 | 0 | 0 | 0 | 0 |
| 8 | 559967 | 633921 | 1,505 | 0 | 0 | 0 | 0 |
| 9 | 559988 | 633538 | 1,308 | 0 | 0 | 0 | 1 |
| 10 | 560213 | 634189 | 1,497 | 0 | 0 | 0 | 1 |
| 11 | 560355 | 633784 | 1,113 | 0 | 0 | 0 | 1 |
| 12 | 560540 | 633452 | 770 | 0 | 1 | 1 | 1 |
| 13 | 560792 | 634470 | 1,459 | 0 | 0 | 0 | 1 |
| 14 | 561156 | 634401 | 1,330 | 0 | 0 | 0 | 1 |
| 15 | 561442 | 634564 | 1,510 | 0 | 0 | 0 | 0 |
| 16 | 560787 | 633896 | 926 | 0 | 0 | 1 | 1 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 17 | 561214 | 633948 | 876 | 0 | 0 | 1 | 1 |
| NSL056 | 560307 | 635400 | 1 | 559035 | 636918 | 1,980 | 0 | 0 | 0 | 0 |
| | | | 2 | 558629 | 636821 | 2,199 | 0 | 0 | 0 | 0 |
| | | | 3 | 558471 | 636454 | 2,117 | 0 | 0 | 0 | 0 |
| | | | 4 | 559699 | 636266 | 1,058 | 0 | 0 | 1 | 1 |
| | | | 5 | 560048 | 636262 | 900 | 0 | 0 | 1 | 1 |
| | | | 6 | 559575 | 634719 | 1,000 | 0 | 0 | 1 | 1 |
| | | | 7 | 559635 | 634317 | 1,275 | 0 | 0 | 0 | 1 |
| | | | 8 | 559967 | 633921 | 1,518 | 0 | 0 | 0 | 0 |
| | | | 9 | 559988 | 633538 | 1,889 | 0 | 0 | 0 | 0 |
| | | | 10 | 560213 | 634189 | 1,215 | 0 | 0 | 0 | 1 |
| | | | 11 | 560355 | 633784 | 1,617 | 0 | 0 | 0 | 0 |
| | | | 12 | 560540 | 633452 | 1,962 | 0 | 0 | 0 | 0 |
| | | | 13 | 560792 | 634470 | 1,049 | 0 | 0 | 1 | 1 |

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|---|---|---|---|---|---|---|---|
| 14 | 561156 | 634401 | 1,311 | 0 | 0 | 0 | 1 |
| 15 | 561442 | 634564 | 1,410 | 0 | 0 | 0 | 1 |
| 16 | 560787 | 633896 | 1,579 | 0 | 0 | 0 | 0 |
| 17 | 561214 | 633948 | 1,712 | 0 | 0 | 0 | 0 |

# Appendix 2 - Questions and Answers / Correspondence – Community Engagement

## Visual Impact

| Question Ref. | Question | Date Sent | Greensource Reply | Replied On Date |
|---|---|---|---|---|
| VI 4.1 | Will Greensource commit to perform a shadow flicker study and shut off any turbine that the study reveals will be in a turbine shadow? | 07/08/2025 | Yes. A shadow flicker assessment is carried out to determine the potential for shadow flicker at any dwelling. In line with recommendations of the Draft Revised Wind Energy Development Guidelines (2019), Ballinlee Green Energy has committed to eliminating shadow flicker at dwellings. A full chapter with details on this will be available at the submission of the planning application, which will be available on An Coimisiún Pleanálas' website in due course. | 08/08/2025 |
| VI 4.2 | Will Greensource agree to share the results of the flicker study with the community? | 07/08/2025 | (see above - no direct reply) | 08/08/2025 |
| VI 4.3 | Will Greensource agree that shadow flicker can occur both from direct sunlight and cloud so that there will never be flicker at an impacted receptor? | 13/08/2025 | In line with recommendations of the Draft Revised Wind Energy Development Guidelines (2019), Ballinlee Green Energy has committed to eliminate shadow flicker at dwellings as will be detailed in the Environmental Impact Assessment Report (EIAR) chapter in the planning application which will be submitted in the coming months. | 13/08/2025 |
| VI 4.4 | When will the Shadow Flicker study be available for receptor review? | 13/08/2025 | As above | 13/08/2025 |
| VI 4.5 | In my previous question we asked you when the shadow flicker study will be available. When will this be available? | 26/08/2025 | (didn't this as they have confirmed above it will be included in a chapter in the EIAR in the coming months - see VI4.3 | - |

| | | | | |
|---|---|---|---|---|
| VI 4.6 | You have not answered direct questions about Shadow Flicker, except to say you will conform with the guidelines. The commuity has legitimate right to understand what shadow flicker will be at receptor locations and we ask you to provide this information, | 26/08/2025 | Shadow Flicker Control Measures (SFCM) is a standard element of commercial wind turbine control software. This software considers factors such as location and weather conditions, which will then automatically stop each wind turbine at times when shadow flicker would otherwise occur. | 26/08/2025 |
| VI 4.7 | Wind Turbines take a certain amount of time to stop. Will Greensource ensure by the indicated time of shadow flicker for every receptor? | 26/08/2025 | Advancing wind turbine technology allows for the automatic shutdown/start-up of the turbines. The turbine's software/programming enables the automatic shutdown of the turbine to prevent shadow flicker occurring. We commit to adopting the latest technologies and best practices to ensure that no shadow flicker will be experienced at any dwelling. This commitment will be detailed as part of the planning application. | 26/08/2025 |
| VI 4.8 | You have stated that details of the shadow flicker at the site will be included in the planning application. This is insufficient time for the community to consider and understand the impact to individual receptors. It is unreasonable and unfair. Please supply this information now. | 25/09/2025 | Yes, as discussed, the full chapter on shadow flicker will be available on the submission of the planning application. Members of the public will have the opportunity to review the planning application in full and will have six weeks to submit their observations directly to An Coimisiún Pleanála as part of the statutory process. As previously stated, this report will detail that shadow flicker at dwellings will be eliminated, in accordance with the Draft 2019 Revised Wind Energy Development Guidelines | 26/09/2025 |

# NOISE

| Question Ref. | Question | Date Sent | Greensource Reply | Replied On Date |
|---|---|---|---|---|
| NS 2.1 | What minimum setback will Greensouce commit to for every receptor on the site and surrounding area? | 07/08/2025 | Thank you for your email.<br><br>In relation to setback from houses, the distance between a dwelling and a turbine will be greater than four times the overall turbine tip height in line with the Draft Revised Wind Energy Guidelines (2019), resulting in a minimum distance of 640metres (160 metres * 4). This is an increased distance in comparison with the 2006 Guidelines (which is a minimum of 500 metres). | 08/08/2025 |
| NS 2.2 | Does the setback include landowners who are hosting turbines? | 07/08/2025 | no response | 08/08/2025 |
| NS 2.3 | Given the move towards longer setbacks and in light of WHO recommendations on impacts of noise to human health what guarantees can Greensource provide that it will respect the guidelines and remove any turbines that are in breach of the guidelines either in setback distances or noise pressure? | 13/08/2025 | A comprehensive noise and vibration assessment has been undertaken, and the proposed Ballinlee Green Energy project will comply with all relevant noise guidelines and legislation. | 15/08/2025 |
| NS 2.4 | In light of the recent court order mandating the removal of turbines causing nuisance noise at a receptor setback of one kilometer , will Greensource commit to remove any turbine that creates nuisance noise regardless of the setback distance? | 13/08/2025 | A comprehensive noise and vibration assessment has been undertaken, and the proposed Ballinlee Green Energy project will comply with all relevant noise guidelines and legislation. | 15/08/2025 |
| NS 2.5 | You have not replied to a question on whether or not host landowner will have the same setback terms as other receptors in the wind plant. You answered by referring to your answer confirming that you will abide by the 2019 Draft Guidelines. May we therefore assume the host receptors will have minimum setback of 64 0metres? | 13/08/2025 | I trust you can respect that Landowner arrangements are private and confidential between the company and the respective landowner. | 15/08/2025 |

| | | | | |
|---|---|---|---|---|
| NS 2.6 | You state in your answer as to whether setback terms for the landowner are the same as the guidelines, that this is a private matter between you and the landowner. As a knowledgeable wind developer does it not concern you that reducing setbacks for landowners which will be damaging to mental and physical human health is an irresponsible use of a commercial agreement to the detriment of uninformed landowner hosts? | 26/08/2025 | We would like to note that both the World Health Organisation (WHO) and the Health Service Executive (HSE) have confirmed a positive position with wind farms and public health. A report published by the HSE in 2017 entitled "Position Paper on Wind Turbines and Public Health" states: "There is no direct evidence that exposure to wind farm noise affects physical or mental health.". You can read the full scientific paper here. Https://www.lenus.ie/server/api/core/bitstreams/e2ee1bf8-1315-4226-90fe-5f4a3a14e3c9/content<br>The World Health Organisation states that 'Wind energy will in fact have positive health benefits'. Please see here for further research: https://windenergyireland.com/images/files/9660bdd9a539e9808a41789a660ba6d3496805.pdf<br><br>Should the proposed project receive planning permission, the project will be constructed in accordance with the design presented to An Coimisiún Pleanála. Furthermore, we will be adhering to the Government of Ireland's guidelines on wind energy development, including the draft 2019 Wind Energy Guidelines in relation to setback distances.<br><br>At Ballinlee Green Energy, we are committed to creating a wind energy development that is socially responsible. There are strict guidelines in the planning regulations on wind turbines to ensure the protection of residential amenity which we will always adhere to. | 29/08/2025 |
| NS 2.7 | Representatives of the community have visited wind farms where the guidelines have been ignored & turbines are located much closer to receptors. Does your interpretation of the guideline mean that you will move turbines closer to receptors if the situation of optimizing turbine location requires it? | 26/08/2025 | as above | 29/08/2025 |
| NS 2.8 | You have been asked if you will remove any turbines that cause noise nuisance and have not answered the question merly saying that you will comply with guidelines. Do you aree to remove any turbines that are causing visual and sound nuisance to receptors? | 26/08/2025 | as above | 29/08/2025 |
| NS 2.9 | Pending WHO sanctioned guidelines are recommending larger setbacks from receptors. Why will you not use pending recommendations rather than the current guidelines which are clearly out of date for the current turbine offerings. | 26/08/2025 | as above | 29/08/2025 |

| | | | | |
|---|---|---|---|---|
| NS 2.10 | You keep answering the questions asked on actual setbacks that you will agree to by saying you will comply with guidelines. Is your interpretation of the guidelines that you will never reduce the setbacks below four times the turbine height? | 26/08/2025 | as above | 29/08/2025 |
| NS 2.11 | Will you in any instance move the turbines closer to a receptor than the guidelines. Please answer yes or no | 03/09/2025 | No, the distance will be as set out in the guidelines. | 05/09/2025 |

# Community benefit

| Question Ref. | Question | Date Sent | Greensource Reply | Replied On Date |
|---|---|---|---|---|
| CP 1.1 | Greensouce have stated that €350,000 will be paid to the community. Is this payment subject to the output of the wind power plant? | 09/08/2025 | awaiting reply | 13/08/2025 |
| CP 1.2 | How is the quantum of the payment determined? | 09/08/2025 | awaiting reply | 13/08/2025 |
| CP 1.3 | What proportion of the payment is made to the non-host residents in the viewshed of the turbines? | 09/08/2025 | Should this project receive a positive planning outcome, and in line with Community Benefit Fund Guidelines, governed by the Sustainable Energy Authority of Ireland (SEAI), and based on the current project scope, Ballinlee Green Energy will generate a Community Benefit Fund estimated at €5.2 million over the first 15 years of operation.<br><br>A breakdown of how the funds could be directed is here:<br>These funds are governed by the Sustainable Energy Authority of Ireland (SEAI), and based on the current project scope, a conservative estimate values the overall fund at approximately €350,000 per annum. This is based on a €2 per MWh contribution to the Community Benefit Fund for a 15-year duration. This link may be helpful to understand how the community benefit funds work, and the site also has some examples of existing funds: https://www.seai.ie/grants/community-grants/community-benefit-funds<br><br>Households within 1 km of the project will receive a direct "near neighbour" payment of €1,000 per year.<br><br>Households within 1–2 km: As set out in the RESS Terms and Conditions, households located further than 1 km from the RESS Project but within a distance of 2 km from such RESS Project shall receive an annual payment of an amount lower than €1,000 but higher than €500. The amount is at the discretion of the locally elected Community Benefit Fund committee. The total amounts allocated to direct payments to households are limited to 50% of the total annual contributions from the Community Benefit Fund.<br><br>Please find the RESS rulebook here: https://assets.gov.ie/static/documents/Rulebook_for_CBFs_under_RESS_branded.pdf | 13/08/2025 |

| | | | | |
|---|---|---|---|---|
| CP 1.4 | Is there a minimum annual payment? | 09/08/2025 | Should this project receive a positive planning outcome, and in line with Community Benefit Fund Guidelines, governed by the Sustainable Energy Authority of Ireland (SEAI), and based on the current project scope, Ballinlee Green Energy will generate a Community Benefit Fund estimated at €5.2 million over the first 15 years of operation.<br><br>A breakdown of how the funds could be directed is here:<br>These funds are governed by the Sustainable Energy Authority of Ireland (SEAI), and based on the current project scope, a conservative estimate values the overall fund at approximately €350,000 per annum. This is based on a €2 per MWh contribution to the Community Benefit Fund for a 15-year duration. This link may be helpful to understand how the community benefit funds work, and the site also has some examples of existing funds: https://www.seai.ie/grants/community-grants/community-benefit-funds<br><br>Households within 1 km of the project will receive a direct "near neighbour" payment of €1,000 per year.<br><br>Households within 1–2 km: As set out in the RESS Terms and Conditions, households located further than 1 km from the RESS Project but within a distance of 2 km from such RESS Project shall receive an annual payment of an amount lower than €1,000 but higher than €500. The amount is at the discretion of the locally elected Community Benefit Fund committee. The total amounts allocated to direct payments to households are limited to 50% of the total annual contributions from the Community Benefit Fund.<br><br>Please find the RESS rulebook here: https://assets.gov.ie/static/documents/Rulebook_for_CBFs_under_RESS_branded.pdf | 13/08/2025 |

## Site Characteristics

| Question Ref. | Question | Date Sent | Greensource Reply | Replied On Date |
|---|---|---|---|---|
| SC 3.1 | Has Greensource performed a hydrological survey of the site and the impact of water table on existing structures? | 06/08/2025 | I have taken note of your concerns for consideration within the EIAR. An Environmental Impact Assessment Report (EIAR) will be prepared and will accompany the Planning Application for the proposed Ballinlee Green Energy project. The EIAR will address your four queries in detail. I will notify you of the submission of the application in due course for you to review | 08/08/2025 |
| SC 3.2 | The site is lowlying and prone to inundation. Has Greensource a design for the turbine designs for this physical site condition? | 06/08/2025 | no response | 08/08/2025 |
| SC 3.3 | Does Greensource have a drainage plan for the site? | 06/08/2025 | no response | 08/08/2025 |
| SC 3.4 | Will Greensource seek local council approval for any river crossings incorporated into the project? | 06/08/2025 | no response | 08/08/2025 |
| SC 3.5 | When will the EIAR be available and will it include a hydrological survey, inundatin management and drainage plans? | 13/08/2025 | The EIAR will accompany the planning application for the proposed project and there will be a designated Hydrology and Hydrogeology chapter that will cover those topics. | 18/08/2025 |
| SC 3.6 | You have not replied to the question regarding seeking local council approval for river crossings. Can you please confirm? | 13/08/2025 | In relation to river crossings, both the council and An Coimisiún Pleanala will be informed of the proposals for potential river crossings. | 18/08/2025 |
| SC 3.7 | The map you have provided is insufficiently detailed for receptors to undertstand the exact turbine locations. Please provide an exact northings and eastings from a local ordinance survey benchmark. | 13/08/2025 | The turbine layout map is available here. https://ballinleegreenenergy.ie/project-information/ Further mapping will be available at the submission of the planning application. | 18/08/2025 |
| SC 3.8 | You say you will inform the local council of all river crossings on the site and adjacent. Will you or will you not apply to the council for permission for these crossings? | 26/08/2025 | Yes, the local council and An Coimisiún Pleanála will be involved in the consideration and potential grant of permission for the proposed river crossings. | 29/08/2025 |

| | | | | |
|---|---|---|---|---|
| SC 3.9 | Your answer to the question requesting exact locations of the proposed turbines is unsatisfactory. The scale of the map is very large and no northings and eastings are provided. Please provide proper ordinance survey linked details of the locations of these turbines/ | 26/08/2025 | More detailed mapping, including additional details of turbine locations, will be made available upon the submission of a planning application. | 29/08/2025 |
| SC 3.10 | In your answer on exact locations of the turbines you state that you will provide this detailed information at the time of the submission of the planning application. This does not provide the community with sufficient time to consider the impact of these location and is entirely unreasonable. It is a simple request from the people who are impacted. Please comply. | 03/09/2025 | Regarding the crossings, the An Coimisiún Pleanála will ultimately decide whether or not to grant permission for the construction of the crossings as part of its consideration of the application as a whole.<br><br>Once the planning application is submitted, there will be a statutory period of six weeks during which all members of the public will have the opportunity to review the full set of documentation and to submit observations directly to An Coimisiún Pleanála. This process is designed to ensure that the community has time to consider the detailed information, and to make its views formally known. | 10/09/2025 |

# Wind Resource

| Question Ref. | Question | Date Sent | Greensource Reply |
|---|---|---|---|
| WR. 5.1 | Have Greensource performed any study of the wind at the site? | 11/08/2025 | The site for the proposed Ballinlee Green Energy project was selected following extensive local examination, taking into account the proximity to residential properties, natural heritage, landscape and visual impacts, archaeology, hydrology and many other considerations. The area where the proposed wind farm is sited has been designated as a preferred area for wind energy development by Limerick City and County Council as part of the Limerick Development Plan 2022– 2028, in line with current national policy and favourable conditions for wind energy generation.<br><br>An Environmental Impact Assessment Report (EIAR) will be prepared and will accompany the Planning Application for the proposed Ballinlee Green Energy project. This report will be available to view within the planning application. |
| WR. 5.2 | What is the nature of this study? | 11/08/2025 | The site for the proposed Ballinlee Green Energy project was selected following extensive local examination, taking into account the proximity to residential properties, natural heritage, landscape and visual impacts, archaeology, hydrology and many other considerations. The area where the proposed wind farm is sited has been designated as a preferred area for wind energy development by Limerick City and County Council as part of the Limerick Development Plan 2022– 2028, in line with current national policy and favourable conditions for wind energy generation.<br><br>An Environmental Impact Assessment Report (EIAR) will be prepared and will accompany the Planning Application for the proposed Ballinlee Green Energy project. This report will be available to view within the planning application. |
| WR. 5.3 | Is there met-mast data and a long term correlation that confirms the viability of the site for a wind plant? | 13/08/2025 | The Environmental Impact Assessment Report (EIAR) for the proposed project will contain details on the site suitability.<br>A wind study analyses have been conducted.<br><br>Yes, independent third-party reports will accompany the Environmental Impact Assessment for the proposed project.<br><br>Please note that we are currently in the pre-planning application and community consultation stage. Reports are currently being prepared for the EIAR, and not all the details you seek are presently available. We can share a link to the planning application with you once it has been submitted. |
| WR. 5.4 | How have Greensource located the turbines absent detailed wind data? | 13/08/2025 | The Environmental Impact Assessment Report (EIAR) for the proposed project will contain details on the site suitability.<br>A wind study analyses have been conducted.<br><br>Yes, independent third-party reports will accompany the Environmental Impact Assessment for the proposed project.<br><br>Please note that we are currently in the pre-planning application and community consultation stage. Reports are currently being prepared for the EIAR, and not all the details you seek are presently available. We can share a link to the planning application with you once it has been submitted. |

| | | | |
|---|---|---|---|
| WR. 5.5 | In your answer on wind analysis you have not answered whether you have performed a wind resource study or not. Please confirm whether or not you have performed a study at the site. | 13/08/2025 | The Environmental Impact Assessment Report (EIAR) for the proposed project will contain details on the site suitability. A wind study analyses have been conducted.<br><br>Yes, independent third-party reports will accompany the Environmental Impact Assessment for the proposed project.<br><br>Please note that we are currently in the pre-planning application and community consultation stage. Reports are currently being prepared for the EIAR, and not all the details you seek are presently available. We can share a link to the planning application with you once it has been submitted. |
| WR. 5.6 | When you were asked had you performed a wind resource study your answer refers to extensive local examination. What was the nature of this examination and are there any independent reports conducted as part of this examination? | 13/08/2025 | The Environmental Impact Assessment Report (EIAR) for the proposed project will contain details on the site suitability. A wind study analyses have been conducted.<br><br>Yes, independent third-party reports will accompany the Environmental Impact Assessment for the proposed project.<br><br>Please note that we are currently in the pre-planning application and community consultation stage. Reports are currently being prepared for the EIAR, and not all the details you seek are presently available. We can share a link to the planning application with you once it has been submitted. |
| WR. 5.7 | In your answer on whether or not you have met mast data for the assessment of the wind at the site you have used stock answers about the environment study and referred to third party reports. The question Do you Have met mast data has not been answered. Please can you answer? | 26/08/2025 | No, we do not use a met mast; we use LiDAR to collect data.<br>In wind energy, LiDAR (Light Detection and Ranging) is a remote sensing technology that uses lasers to measure wind speed and direction by detecting the Doppler shift in light reflected off atmospheric aerosols. It's used to assess wind farm sites, measure power curves, predict wind turbine performance, and optimise wind farm layouts. |
| WR. 5.8 | Are you aware that the site is location in a mild wind resource? | 03/09/2025 | |
| WR. 5.9 | You have stated that you are using LIDAR and not an accurate and continuous indication of the wind resource. Also we note your application will include a wind testing mast. How much mast data will you require to make a proper evaluation of the wind at the site. Was the LIDAR ground based or flyover. | 03/09/2025 | We would like to assure you that the site has been carefully assessed and is considered suitable for a wind energy development. Based on our analysis, the project is expected to generate enough clean electricity to power over 42,000 homes each year. |
| WR. 5.10 | Why did you not erect a Wind Measuring mast in the past so that you could have accurate met data? | 03/09/2025 | Our surveying efforts to date have involved a robust and comprehensive approach, including the use of industry-standard technologies. We trust in the reliability of the data collected so far and remain confident that it provides an accurate basis for evaluating the wind resource at the site. Further detail will be available within the planning application for the proposed project. |

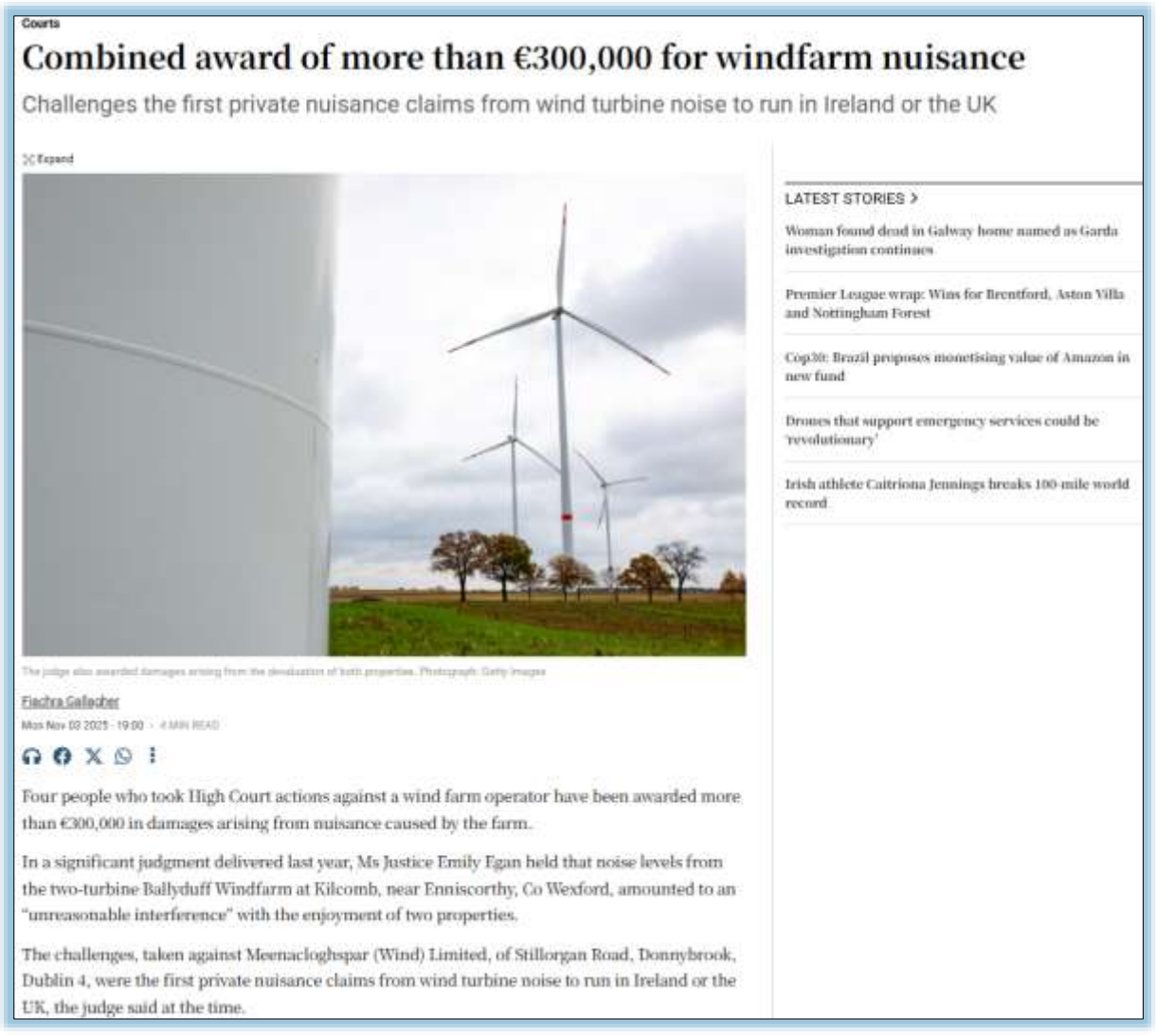
## Company Information

| Question Ref. | Question | Date Sent | Greensource Reply |
|---|---|---|---|
| CI 6.1 | Q1 can you provide details of your company's ownership structure identifying all affiliates and the ultimate owners. | 18/08/2025 | Thank you for your email.<br><br>Greensource has a strong and proven track record for wind energy development and operation throughout Ireland with over 20 years experience. In relation to ownership, we are a commercial, private company and I am not at liberty to directly share private company information with any external parties. |
| CI 6.2 | Q2. Do GS or any of its affiliates have a project in operation in Ireland | 18/08/2025 | Yes, we have operational projects in Ireland, permitted projects and also projects that are currently in the planning application system |
| CI 6.3 | Q3. Do GS or any of its affiliates have permitted project in construction in Ireland | 18/08/2025 | Yes, we have operational projects in Ireland, permitted projects and also projects that are currently in the planning application system |
| CI 6.4 | Q4. Do GS or any of its affiliates have any permits for projects in hand in Ireland | 18/08/2025 | Yes, we have operational projects in Ireland, permitted projects and also projects that are currently in the planning application system |
| CI 6.5 | Q5. Do GS or any of its affiliates have a permit application submitted and pending in Ireland | 18/08/2025 | Yes, we have operational projects in Ireland, permitted projects and also projects that are currently in the planning application system |
| CI 6.6 | Q6. Do GS or any of its affiliates have any wind projects in any other jurisdiction. | 18/08/2025 | Yes, we have operational projects in Ireland, permitted projects and also projects that are currently in the planning application system |

# Wildlife

| Question Ref. | Question | Date Sent | Greensource Reply | Replied On Date |
|---|---|---|---|---|
| WL. 7.1 | The proposed site is an important habitat and migratory path for several species of bat including the Lesser Horsehoe Bat. Has Greensource performed a mist net study to ensure that bat populations will not be impacted by the presence of the turbines? | 26/08/2025 | As part of the pre-planning process, we conduct extensive ecology surveys. We work with a team of independent ecologists to evaluate any potential impact on local wildlife such as bats as a result of the proposed project. All survey information and assessments will be submitted within an Environmental Impact Assessment Report (EIAR). The EIAR will accompany the planning application for the project. | 26/08/2025 |
| WL. 7.2 | For wildlife surveys you state that you are using independent experts to perform these studies. Are these experts retained and compensated by you | 03/09/2025 | Yes, as with all Environmental Impact Assessment Reports, the applicant bears the cost of all surveys, and investigations. | 10/09/2025 |

# Appendix 3: Newspaper Article High Court Wind Farm Nuisance Cases



Courts

## Combined award of more than €300,000 for windfarm nuisance

Challenges the first private nuisance claims from wind turbine noise to run in Ireland or the UK

Expand

The judge also awarded damages arising from the devaluation of both properties. Photograph: Getty Images

Fiachra Gallagher

Mon Nov 03 2025 - 19:00 - 4 MIN READ

Four people who took High Court actions against a wind farm operator have been awarded more than €300,000 in damages arising from nuisance caused by the farm.

In a significant judgment delivered last year, Ms Justice Emily Egan held that noise levels from the two-turbine Ballyduff Windfarm at Kilcomb, near Enniscorthy, Co Wexford, amounted to an "unreasonable interference" with the enjoyment of two properties.

The challenges, taken against Meenacloghspar (Wind) Limited, of Stillorgan Road, Donnybrook, Dublin 4, were the first private nuisance claims from wind turbine noise to run in Ireland or the UK, the judge said at the time.

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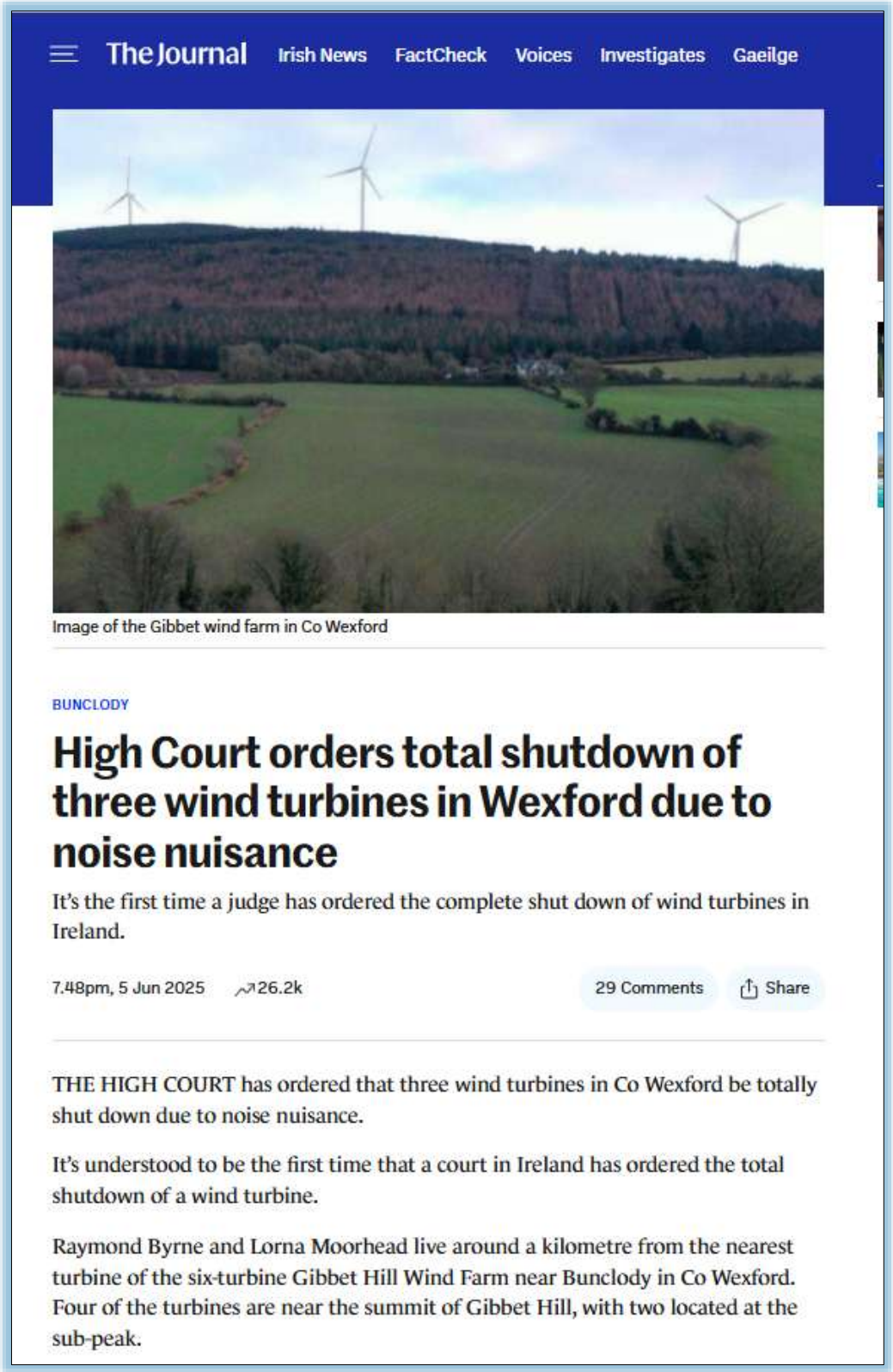
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Irish athlete Caitriona Jennings breaks 100-mile world record

Figure 3: Webster v Meenacloghspar [2024] IEHC

Newspaper Article High Court Wind Farm Nuisance Case – No1



The Journal Irish News FactCheck Voices Investigates Gaeilge

Image of the Gibbet wind farm in Co Wexford

BUNCLODY

# High Court orders total shutdown of three wind turbines in Wexford due to noise nuisance

It's the first time a judge has ordered the complete shut down of wind turbines in Ireland.

7.48pm, 5 Jun 2025 26.2k 29 Comments Share

THE HIGH COURT has ordered that three wind turbines in Co Wexford be totally shut down due to noise nuisance.

It's understood to be the first time that a court in Ireland has ordered the total shutdown of a wind turbine.

Raymond Byrne and Lorna Moorhead live around a kilometre from the nearest turbine of the six-turbine Gibbet Hill Wind Farm near Bunclody in Co Wexford. Four of the turbines are near the summit of Gibbet Hill, with two located at the sub-peak.

Figure 4: Byrne & Moorhead v Wexwind Ltd (Gibbet Hill Wind Farm) (High Court of Ireland 2025)

# Appendix 4: Letter from Minister Eamon Ryan to Minister Darragh O'Brien

An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications

18 November 2021

Mr Daragh O'Brien T.D.
Minister for Housing, Local Government and Heritage
Custom House
Dublin 1
D01 W6X0

**RE: Wind Energy Development Guidelines: use of the ETSU-R-97 noise standard**

Dear Daragh,

On foot of our bilateral meeting on 2 November last in the context of the Climate Action Plan finalisation, I am writing to you regarding the review of the 2006 Wind Energy Development Guidelines, which has been underway since 2013. At the outset, I would like to acknowledge that the review has proved difficult and time consuming for both our Departments and that the duration of the review has been a source of frustration for citizens, communities and the renewable electricity industry. The publication of the draft Wind Energy Development Guidelines in 2019 and subsequent public consultation was an important milestone in the review, and I recognise the amount of work that all involved, including respondents to the public consultation, have put into the process to date.

The provisions of the draft Wind Energy Development Guidelines were based on the 'preferred draft approach' to the review of the Guidelines agreed between by our predecessors as Minister in 2017. In particular, the preferred draft approach proposed a 'relative rated noise limit' of 5dB (A) above existing background noise within the range of 35 to 43 dB(A), with 43 dB(A) being the maximum noise level permitted, day or night, and further proposed that the noise limit should take account of tonal noise, low frequency noise and amplitude modulation.

These noise limits were agreed in the context of our 2020 target to generate 40% of our electricity generation from renewable sources. As in so many other areas of public policy, the current context has been fundamentally altered in light of our ambitious target to reduce greenhouse gas emissions by 51% over the period 2018 – 2030 set out in the Climate Action and Low Carbon Development (Amendment) Act 2021. To achieve our greenhouse gas emissions reduction target, we have, through the National Development Plan, 2021 – 2030, set a goal to generate up to 80% of our electricity from renewable sources by 2030. To achieve this target, the 2021 Climate Action Plan set an indicative target of ~ 8 Gigawatts (GW) in onshore wind energy capacity by 2030, a near doubling of our current installed capacity of 4.3 GW. The renewable electricity target is central not only to decarbonising the

29-31 Bóthar Adelaide, Baile Átha Cliath, D02 X285
29-31 Adelaide Road, Dublin, D02 X285
T +353 1 678 2000 | 1890 44 99 00



electricity sector itself, but also, through the electrification of heat and transport and other sectors of the economy.

In light of our increased climate and energy ambitions, my Department requested the Sustainable Energy Authority of Ireland to commission a geospatial analysis of the impact of the noise limits proposed in the preferred draft approach and the 2019 Wind Energy Development Guidelines, to enable an assessment of whether the noise limits are consistent with our renewable energy targets. The geospatial analysis indicated that the implementation of a 43 dB(A) absolute fixed noise-limit would, based on a worst-case scenario, limit the additional land available for further deployment of wind energy to 587 km2 which, based on an attrition rate of 30%, would imply that only an additional 2.6 GW of onshore wind energy could be deployed. Moreover, the revised noise limits would impact on the ability of nearly 2.4 GW of currently installed capacity to achieve planning permission, given those developments were granted planning permission based on the noise limits proposed in previous Guidelines.

To ensure consistency between our climate and energy ambitious and the proposed Wind Energy Development Guidelines, I propose that, as an alternative to the approach to noise set out in the preferred draft approach, we jointly agree to update the planning guidance relating to the implementation and interpretation of the method for the assessment and rating of wind turbine noise, ETSU-R-97, currently in use under the 2006 Wind Energy Development Guidelines, taking account of developments that have taken place since 2006. ETSU-R-97 is currently the method recommended for use in the planning systems of Northern Ireland, Scotland and of England and Wales by authorities in those jurisdictions. To operationalise this, I propose that the draft Wind Energy Development Guidelines are amended to:

1. provide a strengthening of guidance regarding the use of ETSU-R-97, vis-à-vis the 2006 Guidelines, including by reference to the Institute of Acoustics *Good Practice Guide to the Application of ESU-R-97;*
2. provide specific guidance on the drafting of conditions of planning relating to noise to ensure the consistent and appropriate application of ETSU-R-97 nationally;
3. to provide for the development of a noise monitoring framework through the County and City Management Association (CCMA) to ensure a consistent and robust enforcement of noise related planning conditions across all local authorities; and,
4. building on the proposals in the draft Guidelines to provide for a requirement, to be outlined in a condition of planning, for wind energy developers to carry out post-operational noise monitoring surveys and develop a robust noise complaints procedure, including, where appropriate, the carrying out of noise monitoring surveys following a complaint.

I do not propose to amend or alter any of the other areas contained in the preferred draft approach, which reflect the objective to offer a better balance between the concerns of local communities and the need to invest in indigenous energy projects.

If you agree with this approach, I will ask my officials to engage with your officials to formalise the approach, in the form of a joint text. Given the initial agreement of the preferred draft approach was noted by Government in 2017 on foot of a memorandum for Government brought by our predecessors, I believe it would be appropriate to bring a further memorandum to Government to inform them of the agreement to amend the preferred draft approach.

I recognise that any further amendment to the Guidelines will take time, taking account of the requirement to redraft elements of the draft Guidelines and to subject them to the Strategic Environmental Assessment process, which may include an additional public consultation. This will no doubt be frustrating for citizens and the renewable electricity industry alike. However, it is vital that we publish Guidelines consistent with our climate and energy objectives that are implementable, legally robust and balance the concerns of key stakeholders and the public.

I look forward to your response.

Yours sincerely,



Eamon Ryan T.D.
Minister for the Environment, Climate and Communications

# Appendix 5: Niall Collins Letter

Regional Chief Environmental Health Officer -South,
Health Service Executive (Carlow),
1st Floor, St Dympna's Hospital,
Athy Road, Carlow.
Tel: (059) 91 36561,
Email:RCEHOSouth@hse.ie

20th May 2025

Deputy Niall Collins,
Minister of State at the Department of Justice
Red House Hill,
Patrickswell,
Co. Limerick.

**Re; REPDR/25/03834 in relation to HSE policy and position on wind energy developments**

Dear Minister Collins,

I refer to the question referred above to the National Environmental Health Service (NEHS) on 30th April

**Question (Summary)**

***See below email I have received from a group who have a planning concern in their community. Can you please provide clarity on the HSE's policy and position are set out in the query in the email below.***

***Many thanks.***

***Our request***
***The HSE National Services Unit carries out a statutory function in (environmental planning), it assesses planning applications for public health risks making submissions to planning authorities, it is made up of senior principal environmental health officers.The HSE National Services Unit have stated on multiple occasions (in planning submissions, recent example attached), that;***
***- wind turbine noise should be assessed against the WHO 2018 guidance and,***
***- it recommends a planning condition for shadow flicker to be eliminated 'for the protection of health' and consistent with draft 2019 guidelines.***

***Would you consider investigating the matter further with the principal environmental health officer? Currently, we have his recommendation on a case by case basis, we would like to confirm in our submission that the HSE's core***

***recommendations made in Cloberne as attached would apply universally to all wind energy developments.***

**Response**

The HSE role in the Planning and Development process is as a statutory consultee and is consulted by planning authorities on planning applications that are likely to have a significant effect on public health. The HSE has no role in the consenting or conditioning of any development or in deciding on the merits of any planning application.

In making a submission to a planning authority, any observations that the HSE may make on the likely significant effects on public and environmental health are objective and evidence based. Observations are made within the context of recognised health protection standards published by authoritative bodies such as WHO or European Research Agencies and/or National, European and International Standards and Guidance. The content of observations made by the HSE is to add to the body of knowledge that the planning authorities already have, to enable them to make informed decisions in the planning process.

Whilst the HSE does not have a policy position on wind farm development, per se, and each planning application is considered by the HSE as a standalone application, there are common issues with all wind farm development that has potential to impact on public and environmental health. Potential significant effects from noise and from shadow flicker are two issues that would be common to all wind farm development.

***Shadow Flicker***

With the advancement of wind turbine technology that permits specific turbine shut down during shadow flicker events, it is the opinion of the HSE NEHS that there is now no reasonable reason for any sensitive receptor to be subject to shadow flicker from any wind energy development. The HSE NEHS states this in any submission to planning authorities. The Draft Revised Wind Energy Development Guidelines (not yet adopted) published in December 2019 would concur with this opinion. This would now be an observation in submissions made by the HSE NEHS where appropriate.

https://www.gov.ie/en/department-of-housing-local-government-and-heritage/publications/draft-revised-wind-energy-development-guidelines-december-2019/

***Noise***

With regard to likely significant effect on public health from noise and wind turbine development, there is a strong evidence base for the potential health effects of different levels of noise exposure, irrespective of the source of the noise. This evidence base is the rationale and basis for the health protection standards recommended in the WHO published **Environmental Noise Guidelines for the European Region, 2018.** The 2018 WHO Guidance set noise exposure levels for health protection levels from environmental noise, which would include wind turbine noise. It is reasonable for the NEHS to inform the planning authorities of these standards when making observations of an application for wind farm development and this would be an observation in submissions made by the NEHS where appropriate.

https://iris.who.int/bitstream/handle/10665/279952/9789289053563-eng.pdf?sequence=1

Yours sincerely,

Shane Keane,
ACEHO

Shane Keane, Oifigeach Sláinte Comhshaoil, Oifigeach Réigiúnach/Regional Chief Environmental Health Officer,

# Appendix 6: AIE Request to ACP

An Coimisiún Pleanála

Our Reference: AIE 364
Email: marieclare.power@gmail.com
Date: 6th November 2025

Dear Ms Power,

I refer to your request made under the European Communities (Access to Information on the Environment) Regulations 2007. Your request was received by An Coimisiún Pleanála by email on the 10th October 2025.

You requested the following records:
***"all raw data; supporting records relating to all background Noise surveys, the Noise prediction, and Shadow flicker modelling data** as part of the Ballinlee Wind Farm (Ref. 323780)."*

**Our Response**
Upon receipt of your request, searches were carried out in order to ascertain if any records within the scope of your request exist.

Case ACP-323780-25 is a live case lodged with An Coimisiún Pleanála on the 29th September 2025. Article 7(3)(a) of the AIE Regulation states that "*Where a request has been made to a public authority for access to environmental information in a particular form or manner, access shall be given in that form or manner unless— (i) the information is already available to the public in another form or manner that is easily accessible, or (ii) access in another form or manner would be reasonable.*" The applicant, Ballinlee Green Energy Limited is obliged to provide a standalone website containing all the application documents. That website is: www.ballinleegreenenergyplanning.ie.

An Coimisiún Pleanála have also uploaded the documents on our website at the following link: www.pleanala.ie/en-ie/case/323780.

The hard copy documents are also available for inspection at the offices of An Coimisiún Pleanála and Limerick City and County Council.

**Internal Review**
Under Article 11 of the European Communities (Access to Information on the Environment) Regulations 2007 as amended, you can make an application for an internal review. If you wish to make such an application, you can do so in writing to Mr Colm Walsh, Senior Administrative Officer to aie@pleanala.ie not later than 4 weeks after the notification of this decision. This period may be extended, on request, if there are reasonable grounds for extending the period.


| | | |
|---|---|---|
| Teil | **Tel** | (01) 858 8100 |
| Glao Áitiúil | **LoCall** | 1890 275 175 |
| Facs | **Fax** | (01) 872 2684 |
| Láithreán Gréasáin | **Website** | www.pleanala.ie |
| Ríomhphost | **Email** | communications@pleanala.ie |

64 Sráid Maoilbhríde
Baile Átha Cliath 1
D01 V902

64 Marlborough Street
Dublin 1
D01 V902

Yours faithfully,
*Cora Cunningham*
Cora Cunningham
Access to Information on the Environment Officer

# Appendix 7: Landowners Consent Letters

An Coimisiún Pleanála Case Ref : Pax91.323780

Landowner Consent Letters.

Under the Planning and Development Act it is required for the establishment of "sufficient interest" in the land by the "Applicant" to make an application. The Applicant, Ballinlee Green Energy Limited, has not provided landowner consents or otherwise agreements as required under the Act.

- I have failed to find landowners consent for folio LK2986F, this folio is within the landholding boundary at Tullovin, Croom.
- Folios Lk 66992F and LK17398F are registered to landowner Mr Thomas Ryan, the consent for sightlines agreement for folios LK66992F and LK17398F are otherwise signed by a Mr Conor Ryan, this is an invalid agreement.

Furthermore, landowner consent letters, Appendix 2;

- Consent between the applicant, Ballinlee Green Energy and the landowner Mr Conor Ryan, folio 6255, this is not a recognised folio number.
- Consent between the applicant Ballinlee Green Energy and the landowner Mr John Murnane, folio LK 6260 inconsistent signatures on both agreements.
- Consent between the applicant Ballinlee Green Energy and the landowner Mr Eamon Liston folio 51699F County Limerick and folio 1539F County Limerick.
  Per Procurationem ; I have failed to find supporting documentation for explicit permission from Mr Eamon Liston to Mr Aidan Liston within the planning documentation.

The Application documents are incomplete and therefore the application lodged should be refused.

# Appendix 8: Community Petition

Bruff Dromin Athlacca-Ballinlee
Community Action Group

## COMMUNITY PETITION
## STOP THIS WIND FARM
## PROTECT OUR ENVIRONMENT – OUR HEALTH
## OUR HOMES - OUR CHILDREN'S FUTURE

*Providing your information is voluntary and not a condition of participating in community activities.*

**TO: AN TAOISEACH, AN TÁNAISTE, TDS, SENATORS AND COUNCILLORS**

**FROM: BRUFF-DROMIN-ATHLACCA-BALLINLEE COMMUNITY ACTION GROUP**

- We, the undersigned, call upon you our national leaders to put an immediate stop to all plans by Greensource/Ballinlee Green Energy company to develop a gigantic 17-turbine wind farm in our Limerick community.

- We request our Councillors in Limerick City & County Council to urgently remove from the Limerick Development Plan 2022-2028 the designation of our area as the preferred site of wind farm locations. The current designation would allow wind farms to be built across most of County Limerick. The dangerous density of wind farms on such an industrial scale and the proposed gigantic turbines in our area would endanger our health, our children's health, our homes, our unique environment and the future of our communities.

- We are seeking an urgent Variation to the Limerick Development Plan removing sections of the Agricultural Lowlands, from the designation "preferred areas", due to the unsuitability for wind energy development. This change is needed in order to:
  - protect the natural wetland habitat which prevent flooding and act as vital carbon stores
  - Avoid development on a known floodplain, where the construction of industrial-scale turbines and associated infrastructure would be wholly inappropriate
  - Safeguard the abundance of wildlife and migrating wildfowl that depend on this area for survival
- We are not against renewable energy. We are against this industrial-scale project because it would irrevocably damage the fabric and cohesion of our rural community in the heart of the beautiful Golden Vale, home to the best agricultural land in the country. As nobody will build new homes anywhere near these giant turbines, over the years our vibrant community will wither and die.

- The effects on wildlife, biodiversity, tourism and heritage will be incalculable in an area built around the protected sites of prehistoric Lough Gur, the largest stone circle in Ireland and innumerable other antiquities across our area.

- The turbine blades will be roughly half a GAA pitch in length and each of the 17 turbines will soar 160 metres (525 ft) high. That's twice as high as the spire of Limerick's St John's Cathedral and over 130 ft higher than the Dublin Spire.

- A Dáil Éireann debate on wind farm energy (11/11/2022) put on record "the need to ensure that communities' rights are respected and upheld, and that there is balance in representing the rights of communities." This proposed project clearly fails to do this and must be stopped immediately.

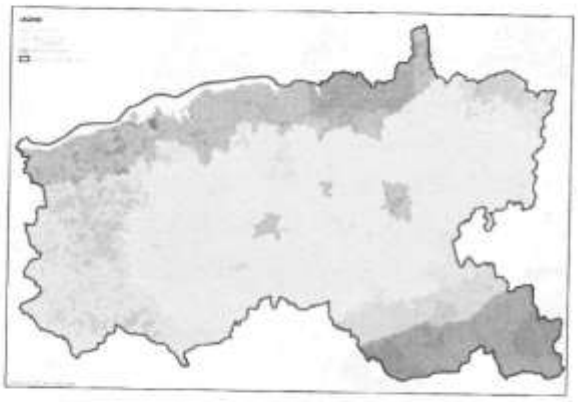
We will retain your information for the duration of the campaign and delete it within 12 months after it ends . Under GDPR, you have the right to: Access the personal data we hold about you; Request correction of any inaccuracies, Withdraw your consent at any time; Request deletion of your personal data. To exercise your rights, send an email to : ballinleecommunityactiongroup@gmail.com E.&O.E

| Petition:<br>Paper or Online | Total |
|---|---|
|  <br>Change.org - Petition - Stop This Wind Farm | 393 |
| Paper | 753 |
| Total | 1146 |

Bruff Dromin Athlacca-Ballinlee
Community Action Group

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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Address | Signature | Date |
|---|---|---|---|
| [illegible] | RATHKANNON ATHLACCA | | 18/8/25 |
| MARY O'MALLEY | BALLINLEE, BRUFF | M O'Malley | 18/8/25 |
| Kelly Ann Sheehan | Uregare | K. Sheehan | 18/8/25 |
| CLLR. Eddie Ryan | GALBALLY | E. Ryan | [illegible] |
| DEBORAH BEGLEY | DROMIN, ATHLACCA | D Begley | 18/8/25 |
| Sive O' Donnell | Raymondstown | Sive O Donnell | 18/8/25 |
| Aaron Lyng | Ballincuddy Dromin | [illegible] | 18/08/25 |
| Catherine Moloney | Uregare, Bruff. | C Moloney | 18/08/2025 |
| Lauryn Moloney | Uregare, Bruff. | L Moloney | 18/08/2025 |
| John O Brien | Dromin. | | |
| [illegible] | RALTYBOD SOUTH, [illegible] | [illegible] | 18/8/25 |
| MAUREEN DOWNEY | KILMALLOCK | M. Dwyer | 18/8/25 |
| Pat Hayes | Dromin | Patrick Hayes | 18/8/25 |
| Bobby BROWNE | Ballinlee Bridge | Bobby Browne | 18/8/25 |
| Pat Hayes | Crean, Athlacca | Pat Hayes | 18/8/25 |
| [illegible] | DROMIN | [illegible] | 18/8/25 |
| [illegible] | DROMIN | [illegible] | 18/8/25 |
| Geraldine Byrnes | Dromin | G. Byrnes | 18/8/25 |
| Pat Hennessy | Ballinlee | Pat Hennessy | 18/8/25 |
| ANN HENNESSY | BALLINLEE | Ann Hennessy | 18-8-25 |
| Sinead Ryan | Raymondstown, Dromin | Sinead Ryan | 18-8-25 |
| Cllr. Séa Conway | Kilmallock | Séa Conway | 18/8/25 |
| Mary Hand | Bruff | Mary Hand | 18/8/25 |
| [illegible] | Rathkannon | [illegible] | 18/8/25 |

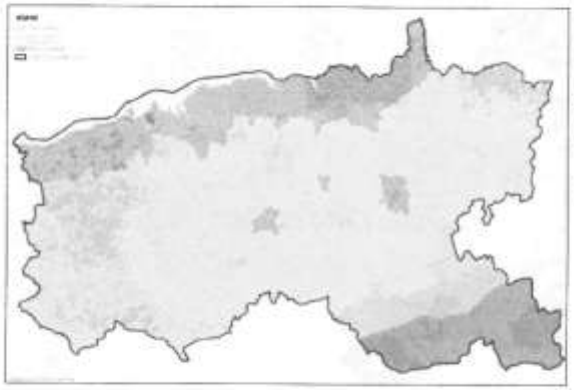
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Bruff Dromin Athlacca-Ballinlee
Community Action Group

# COMMUNITY PETITION

## STOP THIS WIND FARM
## PROTECT OUR ENVIRONMENT – OUR HEALTH
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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Address | Signature | Date |
|---|---|---|---|
| Helen Murphy | Ballinlee Bruff | Helen Murphy | |
| Michael Fitzgerald | Camas North Bruff | M Fitzgerald | |
| Ruth Fitzgerald | Camas North Bruff | R Fitzgerald | |
| Doreen O Shea Sheehan | Dromin | Doreen O Shea Sheehan | |
| Esther Sheehan | Dromin | Esther Sheehan | 18/8/25 |
| Patrick J Cannon | Effin | | |
| Sara Richmond | Dromin | | 18/8/25 |
| Tony Daly | Ballinlee Bruff | | 18/8/25 |
| Bernadette Daly | Ballinlee Bruff | Bernadette Daly | 18/8/25 |
| Mary Quinlivan | Urgeece, Kilmallock | Quinlivan | 18/8/25 |
| Michael Ryan | Coolygane | | 18/8/25 |
| Michelle Lynch | Ballinacullo | | 18/8/25 |
| Joe McSweeney | Ballinlee Bruff | | 18/8/25 |
| Siobhan Kiely | Ballinlee Bruff | | 18/8/25 |
| Ben Besley | Raymondstown | | 18/8/25 |
| David Ryan | Ballinlee Bruff | | 18/8/25 |
| Jean-Eleanor Hayman | Athlacca | | 18/8/25 |
| Eamon Hayden | Rathcannon | | 18/8/25 |
| Seamus Hayden | Ballinstown North | | 18/8/25 |
| Tom Cleary | Shelane Cross | | 18/8/25 |
| Pierce Choisi | Bruff | | |
| Conalain Choisi | Bruff | | |
| Edel Hayes | Bruff | Edel Hayes | 18/08/25 |
| Denis McEniry | Bruff | Denis McEniry | 18/08/25 |

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| Name | Address | Signature | Date |
|---|---|---|---|
| Mary Lombard | RATHCANNON ATHLACCA | Mary Lombard | 18.8.25 |
| Pat Hayes | Crean Athlacca | | 18-8-25 |
| Diana Williams | Granagh. | Diana Williams | 18.08.25 |
| Ger Byrnes | Dromin | G. Byrnes | 18.08.25 |
| Áine Ní Bhroin | Bruff | Áine Ní Bhroin | 18/8/25 |
| Maria O'Neill | Ballinlea, Bruff | Maria O'Neill | 18/8/25 |
| Ellen Ryan | Ballinlea, Bruff | Ellen Ryan | 18/8/25 |
| Eileen Ryan | Ballinlea | Eileen Ryan | 18/8/25 |
| Moss Ryan | Ballinlea | Moss Ryan | |
| Vincent Hickey | Bruff Wagon | Vincent Hickey | 18/8/25 |
| Christy Walsh | Uregare | Christy Walsh | 18/8/25 |
| Maggie Ryan | Rathcannon | Maggie Ryan | 18/8/25 |
| Willie Ryan | ATHLACA | Willie Ryan | 18/8/25 |
| Kay Fox | ATHLACCA | Kay Fox | 18.8.25 |
| Pat O'Neill | BRUFF | Pat O'Neill | 18.8.25 |
| James O'Neill | Ballinlea Bruff | James O'Neill | 18/08/25 |
| Paul Leonard | Dromin | Paul Leonard | 18/8/2025 |
| Donal Doileay | CAMASS SOUTH | Donal Doileay | 18-8-25 |
| Chloe Breen | Ballincollig | Chloe Breen | 18-08-25 |
| Paula Clery | Bulgaden, Kilmallock | Paula Clery | 18.08.25 |
| Kelli Davis | Bulgaden, Kilmallock | Kelli Davis | 18.8.25 |
| Pat Hayes | Kilmallock | Pat Hayes | 18.8.25 |
| Jack O'Brien | Ballinlea South | Jack O'Brien | 18.8.25 |
| Kathy Bakolczy | Rathcannon | Kathy Bakolczy | 18.8.25 |
| Robbie McDonagh | RATHCANNON | Robbie McDonagh | 18.8.25 |
| Shane Egan | Rathcannon | Shane Egan | 18.08.2025 |
| Sean Nyhan | Rathcannon | Sean Nyhan | 18.08.2025 |
| Margaret Kiely | Greenyard Dromin | Margaret Kiely | 18.8.2025 |
| Andrea Daly | Ballinlea Bruff | Andrea Daly | 18/8 |
| Christine Hogan | Rathcannon, Athlacca | Christine Hogan | 18/08 |
| Neil Hogan | Athlacca | Neil Hogan | 18/8 |
| Olivia Nestor | Cappigeen, Bruff | Olivia Nestor | 18/8/25 |
| John Irwin | Athlacca. | John Irwin | 18-8-25 |
| Gerard Carroll | Clonkrien Athlacca | Gerard Carroll | 18-8-25 |
| Eva O'Riordan | Bruff | Eva O'Riordan | 19-8-25 |
| ANGELA TOBIN | UREGARE BRUFF | Angela Tobin | 25/08/25 |
| John McGlynn | BALLINLEA BRUFF | John McGlynn | 21/8/25 |
| Brian Finn | Ballinlea, Bruff | Brian Finn | 25/8/25 |

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Bruff Dromin Athlacca-Ballinlee
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| | | | |
|---|---|---|---|
| Mary + Jack Ryan. | Bruff. | [redacted] | |
| Clara Leonard | Bruff | | |
| Jonathan Swibo | Bruff | | |
| Ian Dooley | Bruff | | |
| Aoife Dooley | Bruff | | |
| Martin Whelan | Bruff | | |
| [illegible] | Bruff | | |
| [illegible] | Ballinaboy | | |
| P. Hickey | Athlacca | | |
| [illegible] | Bruff | | |
| Stephen Kilcline. | Athlacca | | |
| Alice Reynolds | Rathcannon | | |
| Tara Ryan | Rathcannon | | |
| Bridget Reynolds | Rathcannon | | |
| Pat Reynolds | Rathcannon | | |
| [illegible] Collette Cooney | Holycross, Bruff | | |
| [illegible] Brian Hennessy | " " " | | |
| Aoife Clancy | Bruff. | | |
| Catharina Scanlon | | | |
| Gearoid O'Leary | Athlacca | | |
| John Foley | Bruff | | |
| Rita Keating | Carnagh | | |
| Marie-Claire Lane | Ireland | | |
| Karol O Regan | Ballinrea | | |
| [illegible] Clarke | Means | | |
| Matthew Lloyd | Bruff | | |
| Doreen Sheehan | Dromin | | |
| Jack O Shea | Dromin | | |
| Joan Fuller | Carnan South | | |
| Cathy Fuller | Carnan South | | |
| Noelle Heffernan | Ballinrea | | |
| Michael Heelan | Ballinrea | | |
| Niall Brosnan | Garrally | | |
| Joe Ring | Rathcannon. | | |
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Bruff Dromin Athlacca-Ballinlee
Community Action Group

U C

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## STOP THIS WIND FARM
## PROTECT OUR ENVIRONMENT – OUR HEALTH
## OUR HOMES - OUR CHILDREN'S FUTURE

*Providing your information is voluntary and not a condition of participating in community activities.*

| Name | Address | Signature | Date |
|---|---|---|---|
| LOUISE ROCHE | RATHCANNON ATHLACCA | | 18/8/25 |
| [illegible] | Ballynastaran North | | 18-Aug-2025 |
| PATRICK [illegible] | Ballycullen, Bruff | | 18/08/25 |
| Joe Mary Lenihan | ATHLACCA | Joe Mary Lee | 18/08/25 |
| Dave Douglas | Sherin's Cross | David Douglas | 18-08-25 |
| Fabaiena Ryan | Tullerbay Athlacca | | |
| Aisling Ryan | " | | |
| DAVE DEVLIN | URLEGARE BRUFF | | 18/8/25 |
| [illegible] | [illegible] | | 18/8/25 |
| [illegible] | [illegible] | | [illegible] |
| BRID O'REILLY-MAY | SPRINGFIELD, Bruff, Co Limerick | Brid O'Reilly-May | 18/8/25 |
| Rose O'Riordan | Ballinlee STL | R O'Riordan | 18/8/25 |
| Gerry O'Riordan | Ballinlee STL | G O'Riordan | 18/8/25 |
| [illegible] | [illegible] | | |
| [illegible] | DROMIN | [illegible] | 18/8/25 |
| [illegible] | DROMIN | [illegible] | 18/8/25 |
| [illegible] | Urlegare | [illegible] | 18/8/25 |

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Bruff Dromin Athlacca Ballinlee
Community Action Group

# COMMUNITY PETITION

## STOP THIS WIND FARM
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| | | | |
|---|---|---|---|
| [illegible] | 20/8/25 | Bruff | |
| Dermot Hayes | 20/8/25 | Dromin | |
| [illegible] | 20/8/25 | Dromin | |
| Bert Reynolds | 21/8/25 | Athlacca | |
| Lucy O Toole | 21/8/25 | Dromin | |
| Tom Hickie | 21/8/25 | Glenroe | |
| Jake Hogan | 21/8/25 | Athlacca | |
| Pat Hanley | 22/8/25 | Bruff | |
| Thomas Kane | 22/8/25 | Athlacca | |
| Gerard Shinnors | 22/8/25 | ATHLACCA | |
| Neil Hogan | 22/8/25 | Athlacca | |
| Caroline Hogan | 22/8/25 | Athlacca | |
| Mary Hickie | 25/8/25 | Bruff | |
| Stella Cahill | 25/8/25 | Bruff. | |
| Andrew Kelleher | | Athlacca. | |
| Tom Dinan | 25/8/25 | Dromcloot | |
| Cathy Murphy | Athlacca | | |
| Jerry Murphy | 25/8/25 | Athlacca. | |
| Jerry O'Riordan | 25/8/25 | Meanus | |
| Fiona O'Connor | 25/8/25 | Meanus | |
| Eli O'Connor | 25/8/25 | Meanus | |
| Joe Kirby | 26/08/25 | Dromin | |
| Eoin O'Donnell | 26 aug | Kilmallock | |
| Sarah Cronin | 26 aug | Dromin | |
| JAMES BUCKLEY | 26 SEPTEMBER 2025 | KILMALLOCK | |
| Deirdre O'Donnell | 8.9.25 | Kilmallock | |
| Edwina O'Riordan | I have EPILEPSY Can't Call to visit 14-09-25 | | Dromin 12 yrs old |
| My grandparents live in Dromin Why can't they drive to me Charlotte O'Riordan - I look out for my sister | | | |

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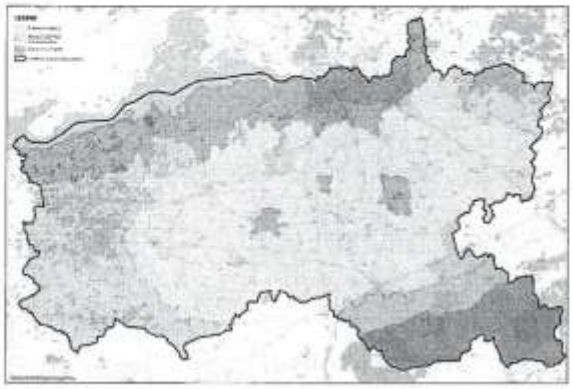
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# COMMUNITY PETITION

## STOP THIS WIND FARM
## PROTECT OUR ENVIRONMENT – OUR HEALTH
## OUR HOMES - OUR CHILDREN'S FUTURE

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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Address | Signature | Date |
|---|---|---|---|
| Mary Molaney | Shyeamore Dr. Bruff | Mary Molaney | 12.9.2025 |
| Catherine McMahon | Corrane Ferdamore Bruff | CMcMahon | 12/9/25 |
| Declan Hannigan | Patrickswell Bruff | Declan Hannigan | 12/9/25 |
| Ruairi Mulgrew | | | |
| Patrick Cahill | Knockainey | Patrick Cahill | 12/9/25 |
| ELAINE MULCAHY | Rockstown, Grange | Elaine Mulcahy | 12/9/25 |
| Eileen Irwin | Ballygreenan Bruff | Eileen Irwin | 12/9/25 |
| Billy IRWIN | Bruff | BILL IRWIN | 12/9/25 |
| SHANE IRWIN | BRUFF | Shane Irwin | 12/9/25 |
| Maureen Dempsey | Bruff | | 12/9/25 |
| John O'Brien | Bruff | | |
| Hanna Vaughan | Bruff | | |
| [illegible] | Bruff | | 12/9/25 |
| [illegible] | Corrane | | 12/9/25 |
| [illegible] | Knockainey | | 12/9/25 |
| Susan Farrell | Tullabeagney Bruff | Susan Farrell | 12/9/25 |
| Ciaran Harley | Bruff | | 12/09/25 |
| Denise Harley | Bruff | | 12/09 |
| Aoife Harley | Bruff | | 12/09 |
| Emma Harley | Bruff | | 12/09 |
| Elaine Tealon | Knockainey | | 12/09 |
| Muriel Delaney | Bruff | | 12/09 |
| Mary WALSH | Lehrim East | | |
| Denise Heckleman | Bruff | Heckleman | 10/09 |

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## STOP THIS WIND FARM
## PROTECT OUR ENVIRONMENT – OUR HEALTH
## OUR HOMES - OUR CHILDREN'S FUTURE

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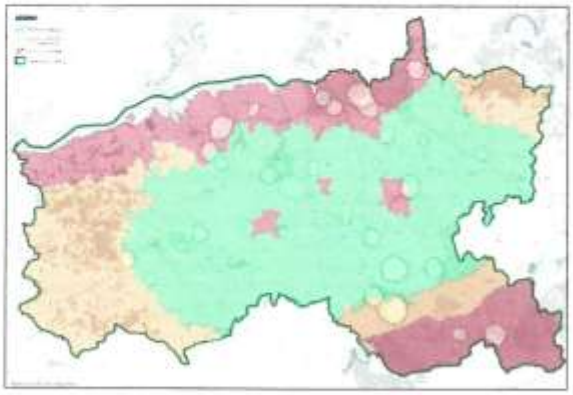
| Name | Address | Signature | Date |
|---|---|---|---|
| LILLIAN POWELL | | | |
| SUZANNE DEWIT | | | |
| Jerry Garvey | Bruff | | 12/09/2025 |
| EDEL FOSTER | Means | | 12/9/25 |
| B Omeara | | | 12/9/25 |
| Denise Dennett | Bruff | | 12/9/25 |
| Moe Guiney | Ureglare | | 12/9/25 |
| Annette O'Riordan | Holycross | | 12/9/25 |
| Marella Creagan | Holy Cross | | 12/9/25 |
| | Camass | | 12/9/25 |
| Mary O'Malley | Ballinlee, Bruff | | 12/9/25 |
| Paul Burns | Bruff | | 12/9/25 |
| | Bruff | | 12/9/25 |
| | Bruff | | 12/9/25 |
| Mary Ryan | Means | | 12/9/25 |
| | | | |
| | Grange Bruff | | |
| | Athlacca | | 12/9/25 |
| | Athlacca | | 12/9/25 |
| | Kilballyowen | | 12/9/25 |
| | Bruff | | 12/9/25 |
| | Bruff | | 12/9/25 |
| | Athlacca | | 12/9/25 |
| | | | 12.9.25 |
| | Crawford St, Bruff | | 12.9.25 |
| | Bruff | | |
| | Bruff | | |
| | Kilballyowen | | |
| | Bruff | | 12/09/25 |
| | Ureglare, Bruff | | 12/9/25 |
| | Ballinlee, Bruff | | |
| | Bruff | | |
| | Bruff | | 12.09.25 |

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# COMMUNITY PETITION

## STOP THIS WIND FARM
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## OUR HOMES - OUR CHILDREN'S FUTURE



Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Address | Signature | Date |
|---|---|---|---|
| Ita Lynch | Stonepark Bruff | Ita Lynch | 12/9/25 |
| Fr. Robert Caffrey | parochial house Bruff | Fr. Caffrey | 12/9/25 |
| [illegible] | [illegible] | [illegible] | 12/9/25 |
| Olive O'Brien | Collins Stores Bruff | | 12-9-25 |
| RICHARD O | RODAM | | |
| Michelle Gammell | Collinstown | | 12-9-25 |
| Michael O'Leary | Collinstown | Oonagh O'Leary | 12-9-25 |
| Oonagh O Leary | Collinstown | Oonagh O Leary | 12-9-25 |
| David Cronin | 5 Ballycampion | | 12/09/25 |
| Maireád Cronin | " | | 12-9-25 |
| Geraldine Cronin | 5 Ballycampion Bruff | Geraldine Cronin | 12-9-25 |
| Seberna Cronin | 5 Ballycampion Bruff | Seberna Cronin | 12-9-25 |
| Kathleen Enright | Main Street Bruff | | 12/9/25 |
| [illegible] | Mylerstown Bruff | | |
| Ciara O Callaghan | Holycross | C. O'Call | 12/9/25 |
| Brian O Callaghan | Holycross | B O C | 12/9/25 |
| [illegible] | Ballyneety | | 12/9/25 |
| Ciara Enright | Balgaden | Ciara Enright | 12/9/25 |
| Michelle Connolly | Balgaden | Michelle Connolly | 12/9/25 |
| Eileen Moodera | [illegible] | What about the health | |
| Rick Moodera | [illegible] | | |
| Maura Moratsey | Tiepardus | 7 years | |
| Triona [illegible] | Kilross | people | |
| Michelle Moore | Galbally | | |
| Michael Moore | " | | |

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# COMMUNITY PETITION

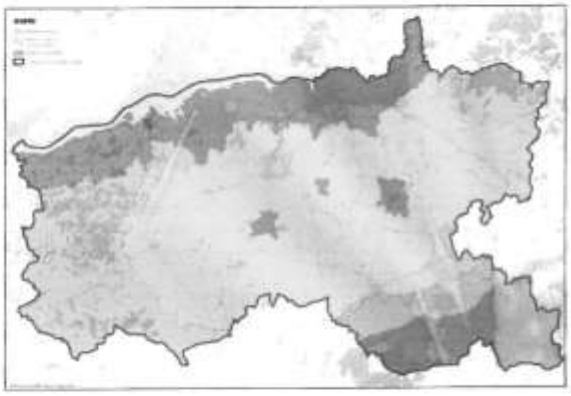
## STOP THIS WIND FARM
## PROTECT OUR ENVIRONMENT – OUR HEALTH
## OUR HOMES - OUR CHILDREN'S FUTURE

| Name | Address | Signature | Date |
|---|---|---|---|
| Sarah Ann Madden | Newtown, Bruff, Limerick | | 12/09/25 |
| Vincent Tetlow | V35 E880 | | 12/09/25 |
| Denis Kuwen | V35 HC 90 | | 12/09/25 |
| Emma Carey | Newtown Bruff Lim. | | 12/09/25 |
| Gerard Guilfoyle | Newtown Bruff Lim. | | 12/09/25 |
| Caroline Farrell | Bruff | | 12/09/25 |
| Ross Enright | Bruff Lmk | | 12/09/25 |
| Angela Farrell | Bruff Lmk | | 12/09/25 |
| John Farrell | Bruff Lmk | | 12/09/25 |
| Rosaleen McPowell | Bruff Limerick | | 12.9.25 |
| Denis McNamara | BRUFF LIMERICK | | |
| Pamela Kelly | Bruff Limerick | | 12.9.25 |
| Caoilfhionn Corbett | Bruff Limerick | | 12.9.25 |
| Martin Cusack | Bruff Limerick | M. Cusack | 12-9-25 |
| Breda Cusack | Bruff Limerick | B Cusack | 12-9-25 |
| Aidan Cusack | Bruff Limerick | A Cusack | 12-9-25 |
| Shane Cusack | Bruff Limerick | S. Cusack | 12-9-25 |
| John Farrell | Bruff Limerick | J. Farrell | |
| R.M. Daly | Bruff Limerick | R. Daly | |
| Sinead Wren | Bruff Lk | | 12.9.25 |
| Seamus Hanley | Bruff Lk | S. Hanley | 12.9.25 |
| Isobel Hanley | Bruff Limerick | I. Hanley | 12.9.25 |
| Daryl Hanley | Bruff Limerick | D. Hanley | 12.9.25 |
| Mary Hanley | Bruff Limerick | M Hanley | 12.9.25 |
| Lilly Gilvin | Bruff Limerick | L Gilvin | 12.9.25 |
| Enright | Bruff Limerick | | 12.9.25 |
| Catherine Hulcahy | Bruff Limerick | C Hulcahy | 12.9.25 |
| Niall Culhane | Bruff Limerick | Niall Culhane | 12.9.25 |
| Ellie Culhane | Bruff Limerick | Ellie Culhane | 12.9.25 |
| Kitty Hanley | Bruff Limerick | Kitty Hanley | 12/9/25 |

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# COMMUNITY PETITION

## STOP THIS WIND FARM
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## OUR HOMES - OUR CHILDREN'S FUTURE



Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as **"Preferred Areas"** for wind farms.

| Name | Address | Signature | Date |
|---|---|---|---|
| IRENE WARD. | ADELAIDE HOUSE. BRUFF. CO. LIMK. | | 12/9/2025. |
| CLAIRE DALY | Waterfall Bruff. | C Daly | 12/9/25 |
| GARRY LEONARD | Inglenook East | | 12/9/25 |
| EIBHLÍN LEONARD | Inglenook East, Bruff | | 12/9/25 |
| Mai O'Sullivan | Ridgeview Bruff | Mai O'Sullivan | |
| Josie Ryan | The Grove Bruff | | |
| Jennifer Mc | The Grove Bruff | J. McInerney | 12/9/25 |
| | 2 William | Jcnnecy | 12-9-25 |
| Noel Daly. | 2 MAIN STREET | N.D. | 12-9-25 |
| MARTIN | MAIN ST | BRV Jr | |

(10)

**Bruff Dromin Athlacca-Ballinlee Community Action Group**

By signing below, you agree to be contacted by BDABC Action Group about the proposed wind turbine development in our area. Your information will only be used for updates, meetings, and campaign coordination, and will be stored securely in line with GDPR. Providing your information is voluntary and you can withdraw your consent at any time by emailing ballinleecommunityactiongroup@gmail.com.

We will keep your information for the duration of the campaign and securely delete it within 12 months after it ends. Only authorised committee members will have access to your information, and it will not be shared with third parties unless legally required.

**Sign-Up**

| Name | Phone | Signature | Date |
|---|---|---|---|
| [illegible] WARD | [redacted] | | 12/9/2025 |
| Gary Leonard | | | 12/9/2025 |
| Gabrielle Leonard | | | 12/9/25 |
| Maí O'Sullivan | | | 12/9/25 |
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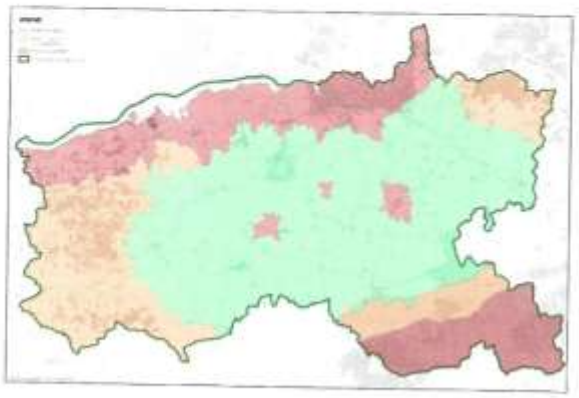
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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Address | Signature | Date |
|---|---|---|---|
| Michelle Dempsey | Ballinveen Bruff | M Dempsey | 12/10/25 |
| Anne-Marie Brady | Dromberg Athlacca | AMBrady | 12/10/25 |
| [illegible] | Ballinveen | [illegible] | 12/10/25 |
| Nicola SMITH | Rockbarton Bruff | Nicola Smith | 12/10/25 |
| Sean Smith | Rockbarton, Bruff | Sean Smith | 12-10-25 |
| Maurice [illegible] | Bradrusson Bruff | M. Gen | 12/10/25 |
| Eleanor Hayes | [illegible] | E Hayes | 12/10/25 |
| Bridget Lohan | Adare Co. Limerick | B Lohan | 13/10/25 |
| Josephine Clifford | Cream, Bruff | J. Clifford | 12/10/25 |
| Tony Daly | Ballin Lee Bruff | [illegible] | 12/10/25 |
| Louise O'Connor | Camass North | [illegible] | 12/10/25 |
| Paul Ryan | Camass North | [illegible] | 12/10/25 |
| Ciara Heffernan | Camass North | Ciara Heffernan | 12/10/25 |
| Mary Ann Dempsey | Bruff | Mary Ann Dempsey | 12/10/25 |
| Nelia Delany | Meelus | Nelia Delany | 12/10/25 |
| Jennifer O'Neill | Camass Bruff | Jennifer O'Neill | 13/10/25 |
| Christy Walsh | Knockaregare | [illegible] | 13/10/25 |
| ZOE RYAN | Ballynaaty, Bruff | [illegible] | 13/10/25 |
| NOEL RYAN | Ballynaaty, Bruff | [illegible] | 13/10/25 |
| MAEVE SHEEHAN | CAMAS South, Bruff | M. Sheehan | 13/10/25 |
| Aisling Sheehan | Camas South, Bruff | A. Sheehan | 13/10/25 |
| JOE Mc SWEENEY | Ballinlee, Bruff | Joe Mc Sweeney | 13/10/25 |
| MARY O'HALLEY | Ballinlee, Bruff | Mary O'Halley | 13/10/25 |
| Sinead [illegible] | Camass North Bruff | [illegible] | 13/10/25 |
| Bernadette Daly | Ballinlee North | Bernadette Daly | 13/10/25 |

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Bruff Dromin Athlacca-Ballinlee
Community Action Group

Bruff Workshop

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| | | | | |
|---|---|---|---|---|
| CIARA HENLEY | BALLINASTONA NORTH | DROMIN | | 13/10/25 |
| MICK FITZGERALD | BALLYGRENNAN | MIDLETON | | 13/10/25 |
| Christine Hogan | Athlacca | | | 13/10/25 |
| Neil Hogan | Athlacca | | | 13/10/25 |
| Mairead Murphy | Athlacca | | | 13/10/25 |
| Jordan Dowrick | Bruff | | | 13/10/25 |
| Pat Hayes | Dromin | | | 13/10/25 |
| Jack + Mary Ryan | Bruff. | Mary Ryan | | 13/10/25 |
| Tony + Mary Dilla | Grange | | | 13-10-25 |
| Tony + John Gale | Banogue | | | 13/10/25 |
| Vinny Vugar Abaiga Gale | Tullovin Banogue | | | 13/10/25 |
| NOLLIE COLEMAN | CAHASS NORTH | | | 13/10/2025 |
| THOMAS CALLAGHAN | CAHASS NORTH | | | 13/10/2025 |
| MAURA FINN | URLEARE | | | 13/10/2025 |
| Roisin Madden | Dromin | | | 13/10/2025 |
| SINEAD GUNNING | BALLYGRENNON | | | 13/10/25 |
| Bernadette Daly | Ballinlee Road | | | 13/10/25 |
| Jennifer Upton | Athlacca Road | | | 13/10/25 |
| Oliver Heaney | Ballyreesode | | | 13/10/25 |
| Joe Gunning | Kilfinnane | | | 13/10/25 |
| Marie Gunning | Kilfinnane | | | 13/10/25 |

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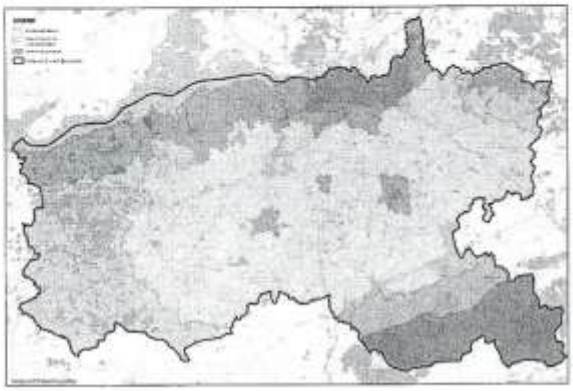
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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Address | Signature | Date |
|---|---|---|---|
| Aileen Thompson | Cherbury House, Bruff, Limerick | | 12/10/25 |
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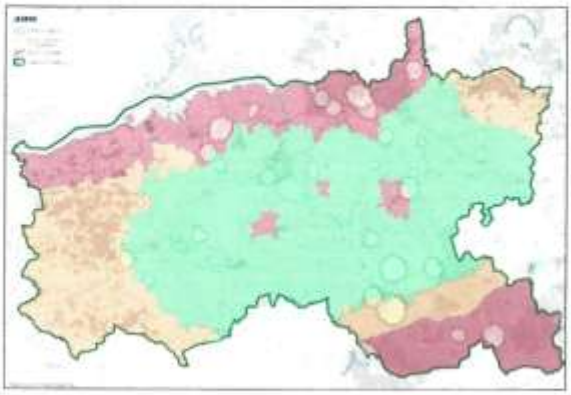
| Name | Address | Signature | Date |
|---|---|---|---|
| Katie Moloney | Stonepark, Dromin Road | K Moloney | 12/10/25 |
| Aidan Moloney | Stonepark, Bruff | | 12/10/25 |
| Trish Brosnan | Gortnadihy Bruff | | 12/10/25 |
| Niall Quinn | Gortnadihy Bruff | | 12/10/25 |
| Brid Cooke | Peake Kilcolman | | 12/10/2025 |
| Anne O'Donnell | Ballinlee Bruff | Anne O'Donnell | 12/10/25 |
| [illegible] | Ballinlee Bruff | | 12/10/25 |
| [illegible] | Creagh Bruff | | 12/10/25 |
| Michael O Riordan | Athlacca Bruff | | 12/10/25 |
| Nicola Kenny | Kilkeamy | | 12/10/25 |
| [illegible] | Creagh | | 12/10/25 |
| [illegible] | Ballyanty | | 12/10/25 |
| [illegible] | Dromin | | 12/10/25 |
| Maria Scanlan | Dromin | M. Scanlan | 12/10/25 |
| Mary Keane | 2 Newtown Park, Annacotty | M Keane | 12/10/25 |
| Tony Dillon | Grange | | 12/10/25 |
| Mary Dillon | Grange | | 12/10/25 |
| Carl Scanlan | Parkbeg Bruff | | 12/10/25 |
| Geoff Dooley | Camas Dromin | | 12/10/25 |
| Pat O Neill | Ballinlea Bruff | | 12/10/25 |

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# COMMUNITY PETITION

## STOP THIS WIND FARM
## PROTECT OUR ENVIRONMENT – OUR HEALTH
## OUR HOMES - OUR CHILDREN'S FUTURE



Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Address | Signature | Date |
|---|---|---|---|
| Ita Lynch | Stonepark Bruff | Ita Lynch | 12/9/25 |
| Fr. Robert Caffrey | parochial house Bruff | Fr. Caffrey | 12/9/25 |
| [illegible] | [illegible] | [illegible] | 12/09/25 |
| Oliver O'Brien | Collins Terrace Bruff | | 12-9-25 |
| RICHARD O | RHOARK | | |
| Michelle Gammell | Collinstown | | 12-9-25 |
| Michael O'Leary | Collinstown | Oonagh O'Leary | 12-9-25 |
| Oonagh O Leary | Collinstown | Oonagh O Leary | 12-9-25 |
| David Cronin | 5 Ballycampion | David Cronin | 12/09/25 |
| Maurice Cronin | " | Maurice Cronin | 12-9-25 |
| Geraldine Cronin | 5 Ballycampion Bruff | Geraldine Cronin | 12-9-25 |
| Sabrina Cronin | 5 Ballycampion Bruff | Sabrina Cronin | 12-9-25 |
| Kathryn Ahern | Main Street Bruff | K Ahern | 12/9/25 |
| [illegible] | [illegible] | | |
| Cian O'Callaghan | Holycross | C. O'Call | 12/9/25 |
| Brian O'Callaghan | Holycross | B O'C | 12/9/25 |
| [illegible] | Athlacca | [illegible] | 12/9/25 |
| Ciara Enright | Balgaden | Ciara Enright | 12/9/25 |
| Michelle Connolly | Balgaden | Michelle Connolly | 12/9/25 |
| Ellen Moore | [illegible] | What about | |
| Pat Moore | [illegible] | the health | |
| Maeve Moriarty | Tipperary | of your | |
| Triona Ryan | Kilross | people | |
| Michelle Moore | Galbally | | |
| Michael Moore | " | | |

23

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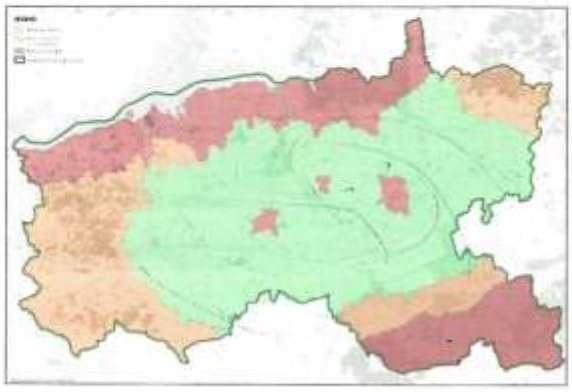
| Name | Address | Signature | Date |
|---|---|---|---|
| Sarah Ann Madden | Newtown, Bruff, Limerick | | 12/09/25 |
| Sinead Tetlow | V35C880 | | 12/09/25 |
| David Kurien | V35 HC 90 | | 12/09/25 |
| Emma Carey | Newtown Bruff Lim. | | 12/09/25 |
| Gerard Guilfoyle | Newtown Bruff Lim | | 12/09/25 |
| Caroline Farrell | Bruff | | 12/09/25 |
| Ross Enright | Bruff Lmk | | 12/09/25 |
| Angela Farrell | Bruff Lmk | | 12/09/25 |
| John Farrell | Bruff Lmk | | 12/09/25 |
| Rosaleen McGowran | Bruff Limerick | | 12.9.25 |
| Denis McNamara | BRUFF LIMERICK | | |
| Pamela Kelly | Bruff Limerick | | 12.9.25 |
| Caroline Corbett | Bruff Limerick | | 12.9.25 |
| Martin Cusack | Bruff Limerick | M. Cusack | 12-9-25 |
| Breda Cusack | Bruff Limerick | B Cusack | 12-9-25 |
| Adam Cusack | Bruff Limerick | A Cusack | 12-9-25 |
| Shane Cusack | Bruff Limerick | S. Cusack | 12-9-25 |
| Jane Farrell | Bruff Limerick | J. Farrell | |
| K.H. Daly | Bruff Limerick | K. Daly | |
| Sinead Warren | Bruff LK | | 12.9.25 |
| Saoirse Hanley | Bruff LK | S. Hanley | 12.9.25 |
| Isobel Hanley | Bruff Limerick | E. Hanley | 12.9.25 |
| Daryl Hanley | Limerick | D. Hanley | 12.9.25 |
| Mary Hanley | Bruff Limerick | M Hanley | 12.9.25 |
| Lilly Galvin | Bruff Limerick | L Galvin | 12.9.25 |
| Enid Enright | Bruff Limerick | E Enright | 12.9.25 |
| Catherine Mulcahy | Bruff Limerick | C Mulcahy | 12.9.25 |
| Niall Culhane | Bruff Limerick | Niall Culhane | 12.9.25 |
| Ellie Culhane | Bruff Limerick | Ellie Culhane | 12.9.25 |
| Kitty Hanley | Bruff Limerick | Kitty Hanley | 12/9/25 |

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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Address | Signature | Date |
|---|---|---|---|
| Mary Hanlon | Athlacca | Mary Hanlon | 15/10/25 |
| Audrey Cummins | Athlacca | A Cummins | 15/10/25 |
| Grace O'Shea Ede | Dromin | Grace O'Shea | 15/10/25 |
| Bridie O'Shea | Dromin | Bridie O'Shea | 15/10/25 |
| Tom Corkery | Bruff | T Corkery | 15/10/25 |
| MICHAEL DOOLEY | BRUFF | | 15/10/25 |
| Niamh Dooley | Bruff | N. Dooley | 15/10/25 |
| EILEEN MCMANUS | ATHLACCA | Eileen McManus | 15/10/25 |
| | ATHLACCA | | 15/10/25 |
| | Rathcannon | | 15/10/25 |
| | Rathcannon | | 15/10/25 |
| | | | 15/10/25 |
| Betty Geary | DROMIN | Betty Geary | 15/10/25 |
| MICHEAL LYNCH | DROMIN | | 15/10/25 |
| AIDAN LYNCH | DROMIN | | 15/10/25 |
| MA LYNCH | | | 15/10/25 |
| Maurice Geary | DROMIN | Maurice Geary | 15-10-25 |
| | DROMIN | | 15-10-25 |
| Lee Lane | Athlacca | Lee Lane | 15-10-25 |
| | Athlacca | | 15-10-25 |
| | Athlacca | | 15-10-25 |
| | Athlacca | | 15/10/25 |
| WILLIE BULFIN | CAMASS BRUFF | | 15-10-25 |
| CORA BULFIN | CAMASS BRUFF | | 15-10-25 |

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| | | | |
|---|---|---|---|
| Aoibhinn Carroll | Garryroe Kilmallock | Aoibhinn Carroll | 17/10/25 |
| Morgan Power | Kilmallock | | 18/10/25 |
| Ellen Leahy | Dromin | | 18/10/25 |
| Callum O'Neill | Gneevegulla Gollen | | 18/10/25 |
| Brent Shorten | Kilmallock | B Shorten | 18/10/25 |
| Joan Slatter | Kilfinane | J. Slatter | 18/10/25 |
| Jane O'Regan | Kilmallock | Jane O'Regan | 18/10/25 |
| NOLLAIG Bell | Kilmallock | | 18/10/25 |
| Sinéad Clifford | Athlacca | Sinéad Clifford | 18/10/25 |
| Aisling O'Malley | Dromin | Aisling O'Malley | 18/10/25 |
| Mary Ryan | Tullerboy Athlacca | | 18 |
| Niamh Flynn | Kilmallock | Niamh Flynn | 18-10-25 |
| Niamh Stapleton | Clogher West | Niamh Stapleton | 18/10/25 |
| Sara Walsh | Ballingaun | | |
| Denise Dennehy | Bruff | | 18-10-25 |
| Bríd Molloy | Mallinstown | | |
| Ger Nagle | Garryroe | | |
| Cait O'Neill | Bruff | | |
| Molly Murphy | Athlacca | | 18-10-25 |
| Mary Clifford | Athlacca | | 18-10-25 |
| Mr. Clifford | Kilmallock | | 18/10/25 |
| Nicholas Sall | Kilmallock | | 19/10/25 |
| Daniel Adams | Kilmallock | | |
| [illegible] | Ardpatrick | | |
| Jessie Skelly | Raheen | | 19/10/25 |
| Catherine Moore | Kilmallock | | 19/10/25 |
| Shirley Buckley | Riverview Kilmallock | | 3 |
| Seamus O'Carroll | Wolfetone Street | | |
| Orlaith Roche | Kilmallock | | |
| Tom Roche | Kilmallock | | |
| Michelle Whelehan | Kilmallock | | |
| Adam Hurley | Kilmallock | | |
| Patrick Roche | Kilmallock | | |
| SALLINA TUREL | Kilmallock | | |
| Niamh Hayes | Kilmallock | Niamh Hayes | |
| Liam Hayes | Kilmallock | Liam Hayes | |
| SEAN DUGGAN | BALLYHALANE | | |
| AVA O'Donnell | Bruff | Ava O'Donnell | |
| Margaret Irwin | Manister | Mgt Irwin | |

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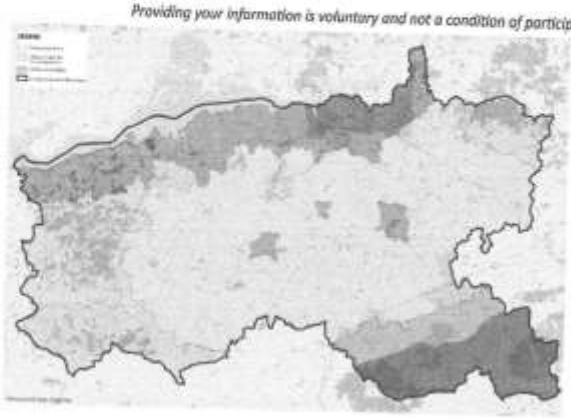
| | | | |
|---|---|---|---|
| Declan Hehir | Bruff Community Council | DPM | |
| Patrick Horgan | Rathcullen | | 15/10/25 |
| Chloe Breen | Ballincollig | | 15/10/25 |
| Rosemary Egan | Ballyclough | | |
| Teresa Ballesty | Cahass South | Teresa Ballesty | 15/10/25 |
| Alice Reynolds | Rathcannon | Alice Reynolds | 15/10/25 |
| David Dinglee | Bruff, Dingle | | 15/10/25 |
| Jack Mahoney | Ballinfana, Bruff | | 15/10/25 |
| Margaret Ahern | Greenpark Dromin | Margaret Ahern | 15/10/25 |
| Kenny Murphy | Ballynanna, Dromin | | 15/10/25 |
| Katrina Cull | Upper Cottage Pl. | | 15/10/25 |
| Karen Hopkins | Clogher, Kilmallock | Karen Hopkins | 15/10/25 |
| Sean Nyhan | Rathcannon | | 15/10/25 |
| Finbarr Madden | Dromin | | 15/10/25 |
| Martin Sheehan | Bruff | | |
| MIKE Ryan | Rockbarton | | 15/10/25 |
| SUZI KENDALL Ryan | Rockbarton | | 15/10/25 |
| TREVOR COSTELLO | TULLOVIN | | 15/10/25 |
| Breda Conway | Kilmallock | Breda Conway | 16/10/25 |
| Sam Bean | O'Malley's Cross | | 17/10/2025 |
| Krzysztof Michel | Polska | | 17/10/25 |
| Eileen K Finn | Kildorrery | Eileen Kennedy | 17/10/25 |
| Leslie Cregg | Kilfinane | Kelly Cregg | 17/10/25 |
| Brede Russell | Kilmallock | Brede Russell | 17.10.25 |
| James O'Connor | Kilmallock | | 17.10.25. |
| Ann Marie O'Donnell | Kilmallock | | 17/10/25 |
| Frances Hayes | The Hill Kilmallock | Frances Hayes | |
| Nicole McGee | Knockmealdown | | 17/10/25 |
| Ann Conway | Kilmallock | | 17/10/25 |
| Susan Hayes | Bruff | | |
| Mary Healy | Bruff | | 17/10/25 |
| Niamh Walsh | Ballyorgan | | 17/10/25 |
| Stella Hurley | Golden, Kilmallock | | 17/10/25 |
| Cara Roche | Kilmallock | | 17/10/25 |
| Eddie Dwyer | Bruff | | 17/10/25 |
| Kayla O'Brien | Kilmallock | | 17/10/25 |
| Pauline Bourke | Kilmallock | | 17/10/25 |
| Hugh Keating | BRUFF | | |
| Mairead Murray | Kilmallock Hospital | | 17/10/25 |
| Mena Hehir | | Mena Hehir | |

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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285 Green section designated as "Preferred Areas" for wind farms.

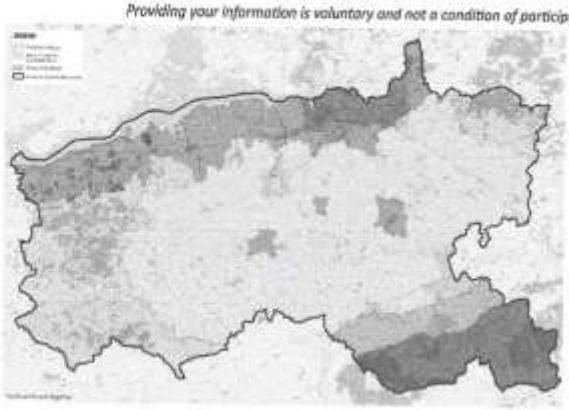
| Name | Address | Signature | Date |
|---|---|---|---|
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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285 Green section designated as "Preferred Areas" for wind farms.

| Name | Address | Signature | Date |
|---|---|---|---|
| Olena Petrenko | | | 30.10.25 |
| Valerii Dziuba | | | 30.10.25 |
| Ivanna Bubuk | | | 30.10.25 |
| Serhii Mitin | | | 30.10.25 |
| LARYSA GARKAVENKO | | | 30.10.25 |
| Veronika Mavlakova | | | 30.10.25 |
| Dmytro Chelak | | | 30.10.25 |
| KARA B.HONCHARENKO | | | 30.10.25 |
| Mykhailo Bu[illegible] | | | 30.10.25 |
| VASILIY Matsegora | | | 30.10.25 |
| Lebedieva [illegible]lyna | | | 30.10.25 |
| Liubov Gencheva | | | 30.10.25 |
| Serstuk Vita | | | 30.10.25 |
| LARYSA KUZINA | | | 30.10.25 |
| Violetta Brynchuk | | | 30.10.25 |
| IRYNA Brynchuk | | | 30.10.25 |
| Maryna Soseedko | | | 30.10.25 |
| [illegible] | | | 30.10.25 |
| BRYHKO [illegible] | | | 30.10.25 |
| Olena Russolova | | | 30.10.25 |
| Ivanyk Olexsande | | | 30.10.25 |
| Valentyna Kodina | | | 30.10.25 |
| Oleksandr Morozov | | | 30.10.25 |
| Filenkova Olexsandra | | | 30.10.25 |

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| | | | |
|---|---|---|---|
| Oksana Dorozovska | DERODALE LTD. Bruff AC Bruff, Co. Limerick. | | 30.10.25 |
| Yuliia Panchyshkina | | | 30.10.25 |
| Andrii Rak | | | 30.10.25 |
| Viktor Lesiuk | | | 30.10.25 |
| Taisiia Hrunichkina | DERODALE LTD. Bruff AC Bruff, Co. Limerick. | | 30/10/25 |
| Oleksandr Pivtorakov | | | 30th October 2025 |
| Osman Dzhelilov | | | 30.10.25 |
| Tamara Yavdokymova | | | 30.10.25 |
| Yevheniia Rudenko | | | 30.10.25 |
| Olha Kostova | DERODALE LTD. Bruff AC Bruff, Co. Limerick. | | 30/10/25 |
| Andrii Bezkrovnyi | | | 30/10/25 |
| Daria Hudziak | | | 30.10.25 |
| Serhii Bondarenko | | | 30.10.25 |
| Smaha | | | 30/10/25 |
| Valerii Avidisian | DERODALE LTD. Bruff AC Bruff, Co. Limerick. | | 30.10.25 |
| Evgeni Kazantsev | | | 30.10 |
| Bondarenko V | | | 30.10 |
| Paul Bagosi | | | 1/11/25 |
| Eddie Pe | | | 12.11.25 |
| Olena Petrenko | | | 12.11.25 |
| Yuriy Andriiv | DERODALE LTD. Bruff AC Bruff, Co. Limerick. | | 12/11/25 |
| Pal Nagy | | | 12/11/25 |
| Emma Murphy | | | 12/11/25 |
| Beata Mrozek | | | 12/11/25 |
| Betty Dabatey | | | 12/11/25 |
| Marian Murphy | | | 12/11/25 |
| Krystyna Zaulczna | DERODALE LTD. Bruff AC Bruff, Co. Limerick. | | 12/11/25 |
| Olena Papko | | | 12/11/25 |
| Andrii Papko | | | 12.11.25 |
| Lebedieva Maria | | | 12.11.25 |
| Lebedieva Iryna | | | 12.11.25 |
| ZARA Beslekieva | | | 12.11.25 |
| ZARINA Beslekieva | | | 12.11.25 |
| HLIB Beslekolev | | | 12.11.25 |
| Svitlana Pankova | DERODALE LTD. Bruff AC Bruff, Co. Limerick. | | 12.11.25 |
| Lilia Snihur | | | 12.11.25 |
| Mariia Snihur | | | 12.11.25 |
| Andrii Snihur | | | 12.11.25 |
| Mykhalo Snihur | | | 12.11.25 |

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| | | | |
|---|---|---|---|
| Mykhailo Sviatyn | | | 12.11.25 |
| Svitlana Puliia | DERODALE LTD. | | 12.11.25 |
| Serhii Puliia | Bruff AC | | 12.11.25 |
| Sofiia Puliia | Bruff, Co. Limerick. | | 12.11.25 |
| Pavlo Gaber | | | 12.11.25 |
| Пономаренко | | | 12.11.25 |
| Сабадаш А.Р. | | | 12.11.25 |
| Марценюк І.П. | DERODALE LTD. | | 12.11.25 |
| Сабадаш М.І. | Bruff AC | | 12.11.25 |
| Мельник Ю.В. | Bruff, Co. Limerick. | | 12.11.25 |
| Alla Pavlenko | | | 12.11.25 |
| Oleksii Tymarov | | | 12.11.25 |
| Nadia Lisovets | | | 12.11.25 |
| Hector Hickey | | | 12.11.25 |
| Megan Hickey | | | 12.11.25 |
| James Cullinane | DERODALE LTD. | | 12.11.25 |
| Abbey Hickey | Bruff AC | AH | 12.11.25 |
| Declan Casey | Bruff, Co. Limerick. | | 12.11.25 |
| Michelle Casey | | | 12.11.25 |
| Craig Casey | | | 12.11.25 |
| [illegible] | | | 12.11.25 |
| Cheyenne Ryan | DERODALE LTD. | | 12.11.25 |
| Sharon Cox | Bruff AC | | 12.11.25 |
| Bridget Marshall | Bruff, Co. Limerick. | | 12.11.25 |
| Wiadeslaw [illegible] | | | 12.11.25 |
| Olga Pavlychko | | | 12/11/25 |
| [illegible] | | | 12/11/25 |
| [illegible] | | | 12/11/25 |
| Colm Cullinane | DERODALE LTD. | CC | 13/11/25 |
| Margaret Duhig | Bruff AC | M D | 13/11/25 |
| Ivan Titov | Bruff, Co. Limerick. | I.T | 13/11/25 |
| Anda Tsyka | | A.T | 13/11/25 |
| Caroline Kiely | | C.K | 13.11.25 |
| Eoin Kiely | DERODALE LTD. | E.K | 13/11/25 |
| | Bruff AC | | |
| | Bruff, Co. Limerick. | | |
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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Signature | Date |
|---|---|---|
| Colette Butler | Colette Butler | 8/11/25 |
| AIDAN MURPHY | | 8/11/25 |
| SHARON HEGARTY | | 8/11/25 |
| Tony Daly | Anthony Daly | 8/11/25 |
| Michael Walsh | M Walsh | 8/11/25 |
| OLIVIA NESTOR | Olivia Nestor | 08/11/25 |
| JACKI HEHIR | Jacki Hehir | 08/11/25 |
| James McMahon | Athlacca Co Limk | |
| Mick O'Hara | Mick O'HARA | 08/11/25 |

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Cruff Dromin Athlacca-Ballinlee
Community Action Group

# COMMUNITY PETITION

## STOP THIS WIND FARM
## PROTECT OUR ENVIRONMENT – OUR HEALTH
## OUR HOMES - OUR CHILDREN'S FUTURE

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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Signature | Date |
|---|---|---|
| Ruth Corkery | Ruth Corkery | 8/11/2025 |
| Diana Williams | Diana Williams | 8/11/2025 |
| Denise Hanley | Denise Hanley | 8/11/2025 |
| Jane Howe | | 8/11/2025 |
| Tahlia Fitzgerald | | 8/11/2025 |
| Stephen O'Brien | | 8/11/2025 |
| Paddy Lyons | | 8/11/2025 |
| Joan Lyons | | 8-11-2025 |
| Tina Murphy | T Murphy | 8/11/25 |
| [illegible] | [illegible] | 8/11/25 |
| Marie McCarthy | Marie McCarthy | 8/11/25 |
| John McCarthy | | 8/11/25 |
| Ben Daly | Bernadette Daly | 8/11/25 |
| Gus Aesaert | | 8/11/25 |
| Maired Woulfe | Maired Woulfe | 8/11/25 |
| Tom Tierney | | 8/11/25 |
| Eileen McManus | Eileen Mc Manus | 8/11/25 |

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| Name | Address | Signature | Date |
|---|---|---|---|
| Eddie CORKERY | Caumass North | Eddie Corkery | 13-10-25 |
| Madelia O'Rourke | Ballygrenna Bruff | MOI Rourke | 13-10-25 |
| Megan O' Rourke | Rathkeenan Ardagh | MOrourke | 15-10 25 |
| Michael O'Rourke | Ballygrenna Bruff | MOR | 13-10-25 |
| Abigail Sloath | Ballygrenn Bruff | | 13/10/25 |
| David Kenny | Loughlaur, Bruff. | David Kenny | 13/10/25 |
| Brigid Hayes | Glenagra | Brigid Hayes | 13/10/25 |
| Leo Hayes | Glenagra | Leo Hayes | 13/10/25 |
| Art Fitzgerald | Ballygrennan | HPFitzgerald | 13/10/25 |
| Ray Humphrey | Clonkeen Athlacca | Ray Humphrey | 13/10/25 |
| Lewis Dorgworth | Grean Cottage Pike Bridge | | 13/10/25 |
| Ollie O'Leary | Grantstown Pt Kilfinane | | 13-10-25 |
| Jon Daly | Grange Fethard | | 13-10-25 |
| Christine Furlong | Ballygrennan, Bruff, | Christine Furlong | 13/10/25 |
| Damian Schmitz | Grange Limerick | | 13.10.25 |
| DONAL MURNANE | Loughlaur, Bruff Co Limerick | | 13/10/25 |
| David Malgneck | Ballinrea, Bruff | | 13/10/25 |
| SYLVINE LANDAIS | RATHCANNON ATHLACCA | | 13/10/25 |
| EMMET KIRBY | ARDYKEOHANE, BRUFF | | 13/10/25 |

29

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| | | | |
|---|---|---|---|
| JOE HENNESSY | BALDESTONA NORTH | J. Hennessy | 13/10/25 |
| D HOGAN | Rathlahan Bruff | D Hogan | 13/10/25 |
| MICHAEL KENNY | PATRICKSWELL, LOUGH GUR | Michael Kenny | 13/10/25 |
| [illegible] | CREAN ATTYKA | [illegible] | 13/10/25 |
| [illegible] | BALLINLEE | [illegible] | 13/10/25 |
| [illegible] | CAMOGE NORTH | [illegible] | 13/10/25 |
| [illegible] | BALLINLEE BRUFF | [illegible] | 13/10/25 |
| [illegible] | BALLINLEE BRUFF | [illegible] | 13/10/25 |
| SEAN UPTON | Ballyvaughan Bruff | Sean Upton | 13/10/25 |
| Sandra Gardiner | Ardykeohane Bruff | [illegible] | 13/10/25 |

10

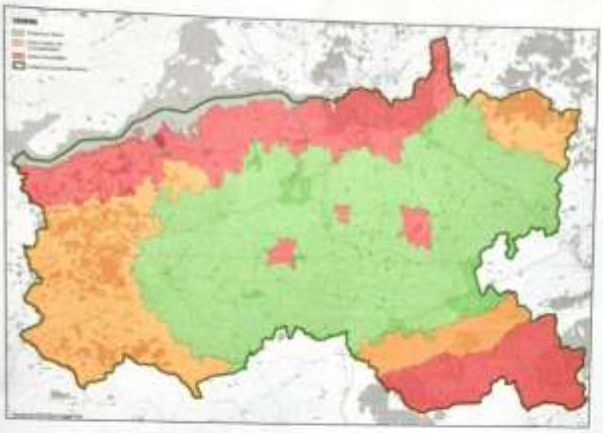
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Athlacca-Ballinlee Community Action Group

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Map 9.1 "Wind Energy Locations" Limerick Development Plan 2022-2028. Page 285
Green section designated as "Preferred Areas" for wind farms.

| Name | Signature | Date |
|---|---|---|
| | | |
| | | 13/11/25 |
| | | 13/11/25 |
| | | 15/11/25 |
| | | |
| | | |
| | | 13/11/2025 |
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| | | 14.11.25 |
| | | 15.11.25. |
| | | 15.11.25. |
| | | 15.11.25. |
| | | 12.11.25. |
| | | 15.11.25. |

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Community Action Group

# COMMUNITY PETITION

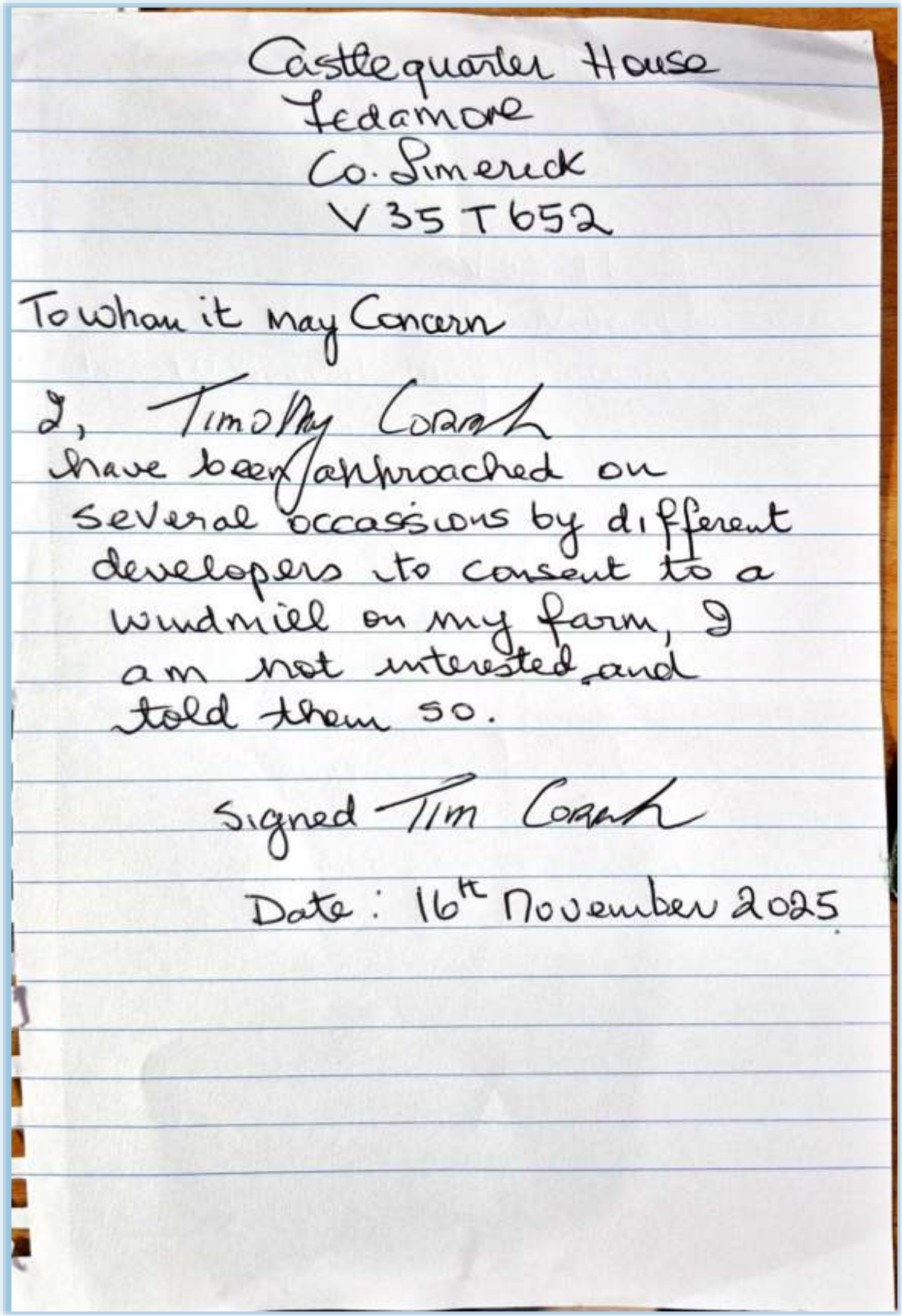
## STOP THIS WIND FARM
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| | | | |
|---|---|---|---|
| Catherine Mulcahy | | 15/11/25. | |
| Breda Woodland | | 15/11/25 | |
| [illegible] JOY | | 15:11:25 | |
| RITA O'SHAUGHNESSY | | 15/11/2025 | |
| Lisiwatt Cardenas | | 15/11/25 | |
| Veronica Stirbu | | 15.11.25 | |
| [illegible] | | 15/11/25 | |
| [illegible] | | 15/11/25 | |
| EMMA ELLIOTT | | 15/11.25 | |
| Rachel Flynn | | 15/11/25 | |
| [illegible] | | 15/11/25. | |
| Stephen Cayney | | 15/11/25 | |
| [illegible] | | 15/11/25 | |
| [illegible] | | 15/11/25. | |
| Chloe Daly | | 15/11/25 | |
| Antoinette Parker | | 15/11/25 | |
| Jane Parker | | 15/11/25 | |
| Tiarna Parker | | 15/11/25 | |
| Ciaran Parker | | 15/11/25 | |
| Anthony Murphy | | 15/11/25 | |

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# Appendix 9: Correspondence from landowner in Fedamore



Castlequarter House
Fedamore
Co. Limerick
V35 T652

To whom it may Concern

I, Timothy Corbett
have been approached on
several occassions by different
developers to consent to a
windmill on my farm, I
am not interested and
told them so.

Signed Tim Corbett

Date: 16th November 2025

# Appendix 10: Administrative Concerns Relating to Case 323780

We wish to formally note a number of administrative issues that have arisen in the handling of case 323780 by An Coimisiún Pleanála. Although some of these matters may appear minor or procedural, their frequency and combined effect give rise to concerns about transparency and fairness. Given the significant implications of this case for the wider community, it is important that every procedural step adheres to the highest standards of accuracy and due process. The points below outline the specific issues identified to date.

## Broken Links to EIAR and Planning Drawings 323780

- Email 9th Oct 2025 subject Heading: *SID Case Ref 323780 - Planning Application Drawings - Information Under the European Communities (Access to Information on the Environment) Regulation 2007 to 2018* to report issue accessing Planning Drawings https://www.pleanala.ie/ Planning Application Drawings
- Issues was first identified 6th Oct but the issue may have occurred earlier than this date. Within email to ACP, we asked for confirmation as to why these drawings are not available and if any amendments were made to drawings since these were first lodged with the planning authority on 29th Sept
- We requested details of changes ( if made) to be furnished to us (drawing number, nature of change)
- On 13th Oct we received acknowledgement of our request (ACP Reference: AIE 363) by email saying we would have a reply within one month.
- The drawings were later available on 13th October to view on the Case website.
- There has not been a reply to our AIE request as of 16th November 2025




- Email dated 30th October 2025 subject line: *Bio Diversity Chapter - Case REF 323780 - ERROR - Information Under the European Communities (Access to Information on the Environment) Regulation 2007 to 2018*

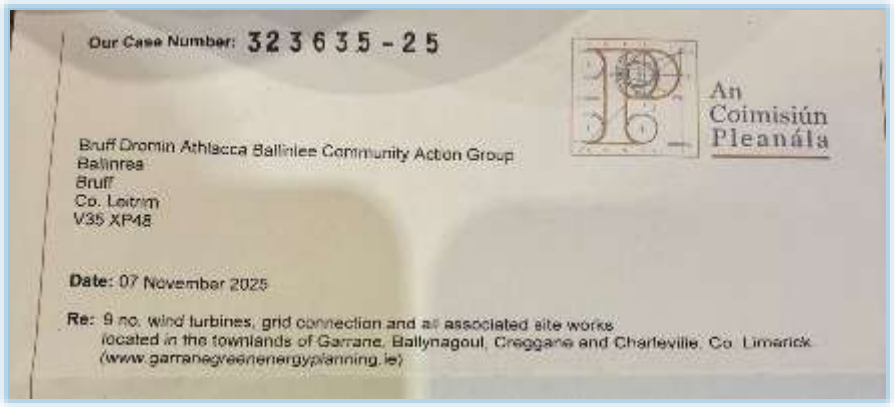
- We reported an issue regarding Chapter 06 which had not been opening for number of days, and asked for this to be corrected with immediate effect. WE also asked to receive notification when the Chapter was restored
- A follow up was sent on 3rd November 2025



- No replies have been received to our request
- Upon checking the relevant chapter later on the ACP website, the link was restored and the chapter was accessible
- As of 16th November, we have received no acknowledgement of our emails, replies or explanation

## Correspondence Concerns – Discrepancy with Address

- Our Group made a submission in respect of Garrane Wind Farm Case Ref 323635-25 on 31st October 2025, Observation Reference: SID-OBS-003078. We subsequently received postal confirmation letter but with an error in the address "Co Leitrim" instead of "Co Limerick"


Our Case Number: 323635-25

An Coimisiún Pleanála

Bruff Dromin Athlacca Ballinlee Community Action Group
Ballinree
Bruff
Co. Leitrim
V35 XP48

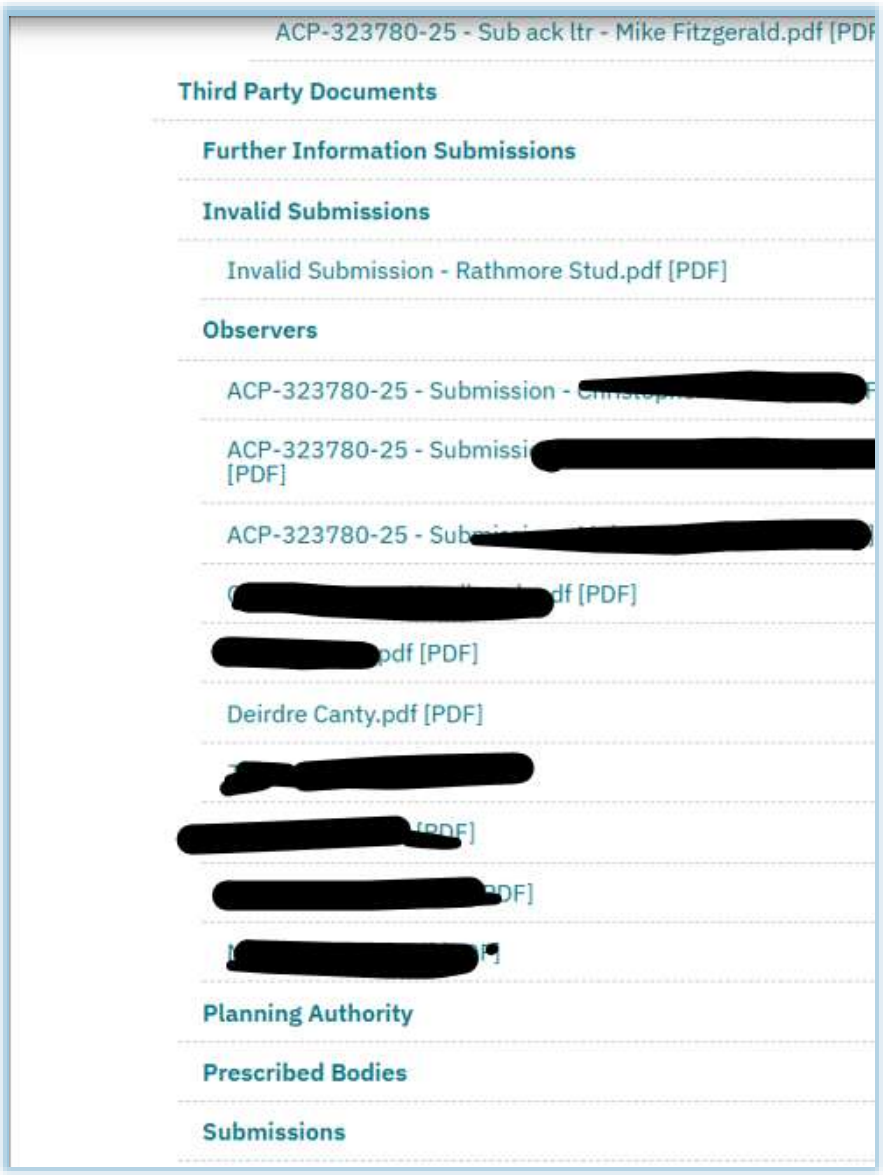
Date: 07 November 2025

Re: 9 no. wind turbines, grid connection and all associated site works
located in the townlands of Garrane, Ballynagoul, Creggane and Charleville, Co. Limerick
(www.garranegreenenergyplanning.ie)

## Correspondence Concerns – Delays in Submissions Being Visible Under Case Ref

- We have concerns over the delays with submissions being scanned under the Case Ref 323780. We are aware there is a backlog in your offices but it does pose concern over lack of visibility of potential Invalid Submissions and timelines for 3rd parties to rectify

- Community members have reported that after using the Online Uploader Facility to make submission, no email confirmation is being received despite on-screen acknowledgment and payment being taken
  An Coimisiún Pleanála | Observation on a Strategic Infrastructure Development Application
- Items scanned in the incorrect place – submission by below 3rd party shows only an acknowledgement letter and no actual Submission




## Correspondence Concerns – Incorrect Date on ACP Response Letter

- A notification sent to Rathmore Stud, advising that their submission was invalid due to non-payment of the mandatory €50 fee, clearly stated that the final date for lodgement of a valid submission was 28th November 2025. This is incorrect, as the official closing date for valid submissions, as published with the statutory notices and confirmed through all public

documentation, was 18th November 2025. The existence of conflicting official information during a statutory consultation period represents a material procedural error that may have misled the public, disadvantaged participants, and potentially undermined confidence in the fairness and transparency of the process.

**Our Case Number:** ACP-323780-25

An Coimisiún Pleanála

Rathmore Stud
Meanus
Killmaliock
Co. Limerick

**Date:** 06 November 2025

**Re:** 10 year planning permission for Ballinlee Wind Farm consisting of 17 no. wind turbines, a permanent 110kV substation and ancillary development
located in Ballincurra, Ballingayrour, Ballinlee North & South, Ballinrea, Ballyreesode, Camas North & South, Carrigeen, Knockuregare, Ballybane and other townlands in County Limerick.
(www.ballinleegreenenergyplanning.ie)

Dear Sir / Madam,

An Coimisiún Pleanála has received your recent submission in relation to the above mentioned proposed development.

Please be advised that in accordance with Article 217(1)(a) of the Planning and Development Regulations 2006, any submission / observation shall be made to the Commission within the specified period referred to in the public notice and must also be accompanied by a fee of €50.

As your submission was not accompanied by a fee of €50 it cannot be considered by the Commission at this stage. You are reminded, however, that the final date for the lodgement of a valid submission is 28th November 2025.

The documents lodged by you are enclosed.

More detailed information in relation to strategic infrastructure development can be viewed on the Commission's website: www.pleanala.ie.

If you have any queries in relation to the matter please contact the undersigned officer of the Commission. Please quote the above mentioned An Coimisiún Pleanála reference number in any correspondence or telephone contact with the Commission.

Yours faithfully,

Sinead White
Executive Officer
Direct Line: 01-8737202

# Appendix 11: Meenbog/Planree Judgement



**THE HIGH COURT**
**PLANNING AND ENVIRONMENT**

**2023/96 MCA**

**IN THE MATTER OF SECTION 160 OF THE PLANNING AND DEVELOPMENT ACT 2000**

**BETWEEN:**

**DONEGAL COUNTY COUNCIL**

**Applicant**

**AND**

**PLANREE LIMITED**
**and**
**MID-CORK ELECTRICAL LIMITED**

**Respondents**

**JUDGMENT OF MR JUSTICE DAVID HOLLAND DELIVERED 10 APRIL 2024.**

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## INTRODUCTION

1. The Applicant ("Donegal CC") as planning authority seeks injunctions pursuant to Section 160 of the Planning and Development Act 2000 ("s.160" and "PDA 2000") restraining the Respondents ("Planree" and "Mid-Cork Electrical") from further development of a 90mw[1] 19-turbine windfarm (the "Windfarm" and "Meenbog Windfarm") on a site of 990 hectares at the Barnesmore Gap, in the townlands of Meenbog, Croaghonagh and Cashelnavean, County Donegal[2] ("the Site") which entire Windfarm, Donegal CC asserts, is by reason of numerous material deviations (the "Material Deviations") from the applicable planning permission, unauthorised development within the meaning of the PDA 2000.

2. Planree's Meenbog Windfarm has been in gestation since at least 2013.[3] Mid-Cork Electrical is its contractor for the construction of the Windfarm. They are associated entities – I am unaware of the details

[1] The 2018 SID Permission was for a 91mw+ windfarm. Planree's application for leave to seek Substitute Consent describes it as a 90mw windfarm. I presume the increase derives from the Board's subsequent authorisation of larger turbines.
[2] The Site lies +12km north of Donegal Town and 9km south of Ballybofey, in south County Donegal. It abuts the Northern Ireland border with County Tyrone, along its eastern boundary.
[3] Affidavit of Brian Keville, Environmental Director of MKO, sworn 29 January 2024.

but Michael Murnane is a director of both and is a deponent for both. Save where necessary, I will refer to them collectively sub nom "Planree".

3. Planree has an SID Planning Permission[4] ("the SID Permission") dated 25 June 2018 for the Windfarm. It was amended in June 2019 by decision of the Board under s.146B PDA 2000, essentially allowing bigger turbines/longer rotor blades. By the SID Permission, the Windfarm is to be constructed within 10 years of 25 June 2018 and may operate for 25 years from its first commissioning. Due to the nature of Windfarm, the particular environmental sensitivity of the Site and their proximity to Natura 2000 sites, including an adjoining SAC,[5] the decision to grant the SID Permission was informed by both EIA[6] and AA.[7] Condition 1 to the Permission is in the usual form requiring completion of the project in accordance with the plans and particulars lodged. Condition 7 required full implementation of all construction methods and environmental mitigation measures, including operation monitoring requirements, as set out in the EIAR[8] and the CEMP.[9]

4. Planree says, variously, that about "90%" and "95%" of the groundworks are complete.[10] I lay little store in such percentages as mathematical assertions but accept that the Windfarm is at a very advanced stage of construction. Views differ as to whether the outstanding groundworks[11] are minor or significant. Thereafter, the main remaining element of the works is the installation of the turbines and rotors – which are in storage in nearby Killybegs.

## The Dispute – Essentials

5. Donegal CC asserts, in essence, that:

- By reason of the Material Deviations, the entire Windfarm is unauthorised development as one not in conformity with the SID Permission.
- As matters stand, as a matter of planning law, and pending any regularisation of that unauthorised status, the Windfarm can no longer be completed in conformity with the SID Permission.
- As a matter of environmental law, it is concerned as to the environmental effects of building out and operation of the Windfarm – given the Material Deviations have not been subjected to EIA Screening and AA.
- Accordingly, to permit the building out and operation of the Windfarm would be to undermine the integrity of the planning and environmental law systems and allow Planree to profit from its wrong in effecting the Material Deviations.
- It seeks, by this s.160 motion, to restrain all further works until, at least, the outcome of the Substitute Consent[12] process.

[4] Strategic Infrastructure Development – permission pursuant to s.37G PDA 2000 – Board Pleanála Order ABP-300460-17.
[5] Special Area of Conservation within the meaning of the Habitats Directive – Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.
[6] Environmental Impact Assessment within the meaning of the EIA Directive – Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment as amended by: Directive 2014/52/EU.
[7] Appropriate Assessment within the meaning of the Habitats Directive.
[8] Environmental Impact Assessment Report within the meaning of the EIA Directive.
[9] Construction and Environmental Management Plan.
[10] Details of works done and outstanding are set out in §4 of Planree's Planning report by MKO dated 8 July 2022 which accompanies its application dated 8 July 2022 for leave to apply for substitute consent. They include the wind farm access roads, electricity substation, turbine hardstands, turbine bases, peat repositories and borrow pit areas.
[11] Described at §2.4 of the MKO s.160 Report 24 May 2023 – Exhibit BK1 to Brian Keville's affidavit sworn 25 May 2023.





6. Planree's essential position is that it:

- Accepts that there are numerous deviations from the applicable planning permission.
- Now accepts that they are material deviations which constitute unauthorised development – not least as the Board has determined that they require EIA Screening and AA.
- Will make a Substitute Consent application to the Board to regularise the status of those deviations. That may take some years given backlogs in the Board in processing such applications.
- Should be allowed to build out the remaining, authorised, elements of the Windfarm and operate it pending the Board's decision on Substitute Consent.

7. Planree's position is argued, in essence, on the following bases:

- The Material Deviations are unauthorised development but do not render the entire Windfarm unauthorised.
- The Windfarm can now be built out in conformity with the Planning Permission as all remaining works conform to the relevant SID Permission.[13]
- Accordingly, there is no jurisdiction to injunct the completion and operation of the Windfarm.
  - This a "curate's egg" argument: that the Windfarm is authorised "in parts" and that I can injunct only the unauthorised parts.
- Alternatively, and even if the entire Windfarm is unauthorised development, I should exercise my discretion against an injunction.

8. The parties dispute whether to build out the remaining elements of the Windfarm would represent significant environmental risk unassessed in EIA Screening and AA.

9. As I have said, Planree now agrees that it has materially deviated from the scope of development permitted by the SID Permission. It has obtained leave to seek Substitute Consent for those Material Deviations and will make the Substitute Consent application presently.[14] However, it fears delay of perhaps years in the Board's deciding that application and financial losses in that interim. The crux of the case, in reality, is that it wants, meanwhile, to build out and operate its Windfarm, whereas Donegal CC seeks, by this s.160 motion, to restrain all further works until, at least, the outcome of the Substitute Consent process.

10. In consequence, the precise identification of the unauthorised works is disputed – not as to whether the Material Deviations are unauthorised (it is agreed that they are) – but as to whether they, as it were,

[11] Within the meaning of Part XA PDA 2000. Retention planning permission may not be granted for development of a kind which requires EIA and/or AA. The substitute consent procedure provides an exceptional means of retrospectively regularising unauthorised development of such a kind.
[12] See below.
[13] It has given an undertaking to the Court in that regard.

[OFFICIAL]



infect the planning status of the remainder of Windfarm on the basis that the development permitted must be considered as a whole. This is a question on which authority is surprisingly sparse.

11. The foregoing may oversimplify a complex dispute but indicates the main battlelines.

**THE SITE AND ITS ENVIRONMENTAL SENSITIVITY**

12. The Site is in an upland rural area characterised by a mix of mountains, blanket bog, forestry and agricultural fields. The Site itself is mainly in coniferous forestry on upland blanket bog. It includes the hills of Barnsmore (451m), Croaghanagh (433m), Cross Hill (350m) and Carrickaduff Hill (329m) and parts of five valleys, each drained as follows:[15]

- The first valley is drained by Mary Breen's Burn, on to the Mourne Beg River, the River Derg, and the Mourne River which flows into the River Finn SAC and the River Foyle and Tributaries SAC (NI[16]).
- The second valley is drained by the Bunadaowen River, several tributaries, and a network of small forest drains. The Bunadaowen River also joins the Mourne Beg which, as stated above, ultimately flows into the River Finn SAC and the River Foyle and Tributaries SAC (NI).
- The third valley is drained by the Shruhangarve Stream and a tributary. The Shuhangarve also joins the Mourne Beg which, as stated above, ultimately flows into the River Finn SAC and the River Foyle and Tributaries SAC (NI).
- The fourth valley is drained by the Glendergan River and its tributaries, which flows into the River Derg and the River Foyle and Tributaries SAC (NI).
- The fifth valley, the Barnesmore Gap, carries a tributary the Lowerymore River onto the Lough Eske and Ardnamona Wood SAC.

13. The Site is upstream of and drains into the SACs identified above. The SACs identified by the Board's Inspector[17] as relevant are as follows:

| Natura 2000 Site[18] | Relationship to the Site |
|---|---|
| Croaghonagh Bog SAC 000129 | Partly within the Site[19] |

[15] See Map exhibited at Exhibit MMcD4 Tab 11.
[16] Northern Ireland.
[17] Pettigo Plateau Nature Reserve SPA (IR004099) was also screened in for AA in the Permission process but has not been identified as relevant in the leave to seek substitute consent to which I refer below.
[18] List taken from Inspector's report 17/8/23 §4.2.
[19] "The AA in the Inspector's Report underlying the SID Permission records: "This SAC is located to the immediate N of the windfarm site boundary, it has been designated for its importance for Blanket Bog and a short (c.500m) section of the access road runs parallel to the SAC site boundary. ..... Although there is potential for some minor damage to a sliver of the Blanket Bog habitat where it interfaces with the access track, it was noted during my site inspection that this section was not in good condition and that any damage to the bog would soon begin regenerate once the works are complete. The N section of the site is connected to the SAC via on-site drainage ditches and watercourses and there is potential for indirect effects on water quality during the construction and operational phases. However, the EIAR construction phase mitigation measures would ensure that any fine sediments released during the excavation and construction works, or any contaminants resulting from accidental spills or accidents, would not reach the SAC."





| Natura 2000 Site[18] | Relationship to the Site |
|---|---|
| River Finn SAC 002301 | ≈1.1 km north-east of the Site (However MKO[20] records[21] this SAC as the closest to the Site – running along its south-eastern boundary and forming the border between Donegal and Tyrone.) |
| Lough Eske and Ardnamona Wood SAC 000163 | ≈5km south-west of the Site |
| River Foyle & Tributaries SAC (UK Ref. UK030320) | Encroaches on the southern corner of the Site |

14. As I have noted, the Site is largely blanket bog. In certain circumstances – especially on hillsides – water-laden peat can "slip" or flow much like a liquid. Works such as those permitted inevitably require excavation of large amounts of peat and require care in so doing to avoid peat slippages. Also, the excavated peat must be deposited somewhere. Typically, it is deposited in on-Site "peat cells" identified in the SID Permission and the EIA and AA which inform it. Such peat cells must be carefully engineered for stability. Accordingly, in 2017/2018, the SID Planning Application, EIAR, Inspector's report, EIA, AA and SID Permission all considered and addressed the stability of the peat on-Site, the risk of peat slippage due to construction of the Windfarm, the location of peat cells, the possible environmental effects thereof, including on European Sites and the mitigation of such risks.

15. The 2018 Inspector's report[22] recorded that,

> *"The proposed windfarm project would comprise extensive excavation works associated with the construction of the turbines, borrow pits,[23] met mast, substation and access tracks within an afforested upland peat environment."*

In this respect, the Inspector's report considered Planree's EIAR, Peat Stability Assessment Report, Peat and Spoil Management Plan, and CEMP – inter alia to the effect that there was "*no evidence of bog slides or peat instability within the site*". The works were to give rise to 247,075m³ of excavated peat. It and other spoils would be permanently placed in identified borrow pits and peat cells below ground level with no risk of instability or runoff. It was recognised that unregulated peat excavation and movement works had the potential to affect peat hydrology and drainage patterns in the area and cause peat instability and slippage, with resultant serious adverse environmental impacts, including pollution, by suspended solids, sediments and other pollutants, of watercourses flowing into the European Sites. But the proffered Peat Stability Assessment Report, CEMP and Peat and Spoil Management Plan were considered by the Board to be reassuring as to mitigation of those risks, such that the works would not give rise to peat instability or landslide risk. The Board's conclusion in EIA was that the environmental effects of the project would be acceptable – including that peat instability or slides were not anticipated as resulting from the works and

[20] McCarthy Keville O'Sullivan Limited (t/a MKO), Planning & Environmental Consultants to Planree.
[21] MKO s.160 Report 24 May 2023 – see below.
[22] 9.5 Peat stability.
[23] The Inspector in the application for leave to seek substitute consent (see below) explained: "The borrow pits are effectively quarries, that have been excavated for use of material as part of the approved wind farm development."

that the proposed Blanket Bog/Wet Heath habitat replacement project was an appropriate mitigation measure for the priority Annex 1 habitat[24] on Site, given that habitat was not within a European Site. In AA, the Board concluded that the proposed development would not adversely affect the integrity of European Sites in view of those sites' conservation objectives. While it does not imply, per se, that the EIA and AA were flawed, in fact and as matters turned out, those expectations were not realised.

**PEAT SLIDES & AFTERMATH**

16. Construction began in November 2019. On 12 November 2020, a major peat slide occurred in an area in which a digger was being used to lay timbers and brash for a permitted floating road[25] to Turbine 7. A 20m long section of road failed under the recently-loaded area as the loading from the construction had increased the applied stress through the full depth of the underlying peat over the full width of the road. This localised failure then spread.[26] Fehily Timoney[27] for Planree in a report[28] submitted to the EPA[29] estimated that about 86,240m³ of peat slid – of which about 65,740m³ left the "scar areas" and entered the Shruhangarve Stream[30] via which it flowed into the Mourne Beg River[31] and on to nearby European Sites, including in Northern Ireland, causing significant environmental damage.

17. Planree say that the November 2020 slide had been preceded by 2 "minor" slides in June 2020. However, their consultants, Fehily Timoney,[32] identified a total of 8 instances of "peat failure" on Site, including the November 2020 slide. In fairness, the numerical discrepancy is largely a matter of categorisation but citing a total of 3 rather than 8 slides does tend to convey a different impression.

- Fehily Timoney recorded 3 peat failures in June 2020 near a borrow pit between Turbines 5 and 6. They were arguably part of essentially the same incident. They were clearly due to the manner in which works were done. The manner of casting aside excavated peat caused excessive loading, resulting in failure of the underlying peat.[33] The total volume of peat involved was 40,000m³.[34] One of the slides extended downslope by 260m and another by 750m and, to contain it, Planree constructed a rock berm upslope of Turbine 8. Fehily Timoney considered that these slides were contained within the Site and were now stable.
- Fehily Timoney recorded 1 peat failure at Turbine 12 – also due to the manner of casting aside excavated peat. About 10,500m³ of peat failed over a 30m wide area and extended 200m downslope. Fehily Timoney considered that this slide was contained within the Site and is now stable.[35]

[24] Active blanket bog is a priority natural habitat type of Community interest listed in Annex I of the Habitats Directive as in danger of disappearance and for the conservation of which the EU has particular responsibility – see also Article 1(c)&(d) of the Habitats Directive.
[25] As I understand, a floating road is a road not laid on bedrock or similarly solid base. Various materials are introduced into the peat to strengthen it and the road is laid on the resulting surface. Those materials typically include such as tree trunks and branches (brash) and geogrid/geotextile. See EIAR 2017 – Exhibit MMcD1 Tab 4.
[26] Described at §3.1 of the MKO s.160 Report 24 May 2023 – Exhibit BK1 to Brian Keville's affidavit sworn 25 May 2023.
[27] Engineers.
[28] Peat Stability Assessment August 2021.
[29] Environmental Protection Agency.
[30] Fehily Timoney Peat Stability Assessment, August 2021, Figure 9: Extent of peat failure of 12 November 2020, Figure 10: Aerial image of upper and lower scars.
[31] Fehily Timoney Peat Stability Assessment, August 2021, §8.2.3, Description of Failure p39.
[32] Fehily Timoney Peat Stability Assessment, August 2021, Figure 2, §7.3. & Table 12: Summary of likely causes peat failures on site during construction.
[33] Fehily Timoney Peat Stability Assessment, August 2021 §7.3.1.
[34] Fehily Timoney Peat Stability Assessment, August 2021 3,000m³ + 11,000m³ + 27,000m³.
[35] Fehily Timoney Peat Stability Assessment, August 2021 §7.3.2 & Figure 6: Peat Failure at T12. & §7.3.5.





- Fehily Timoney recorded 3 others as minor instabilities – peat movements of a few metres. One took the form of concentric tension cracks in about a 30m radius around the plinth of Turbine 5. Again, these were identified as likely to have occurred due to the manner in which works were done. Inappropriate support to the plinth excavation caused peat to move in towards the excavation. This was stabilised by infilling the excavation to make the plinth.[36] I mention this instability as Donegal CC identifies it as allegedly illustrating risk of allowing the erection of Turbine 5.

18. Fehily Timoney considered the causes, sequence and mechanism of the November 2020 peat failure as multifactorial but as including Planree's works.[37] It was clarified at trial that the parties are agreed:

- that Planree's works caused or at least contributed to the occurrence of, the November 2020 slide.
- that those works were in conformity with the SID Permission. Nor is there evidence that the November 2020 slide was caused by negligence by Planree.
- that the November 2020 slide was not caused, or contributed to by the Material Deviations which are the subject of these proceedings.

19. In this light, one can only regard as puzzling, unhelpful and entirely unrealistic Planree's submission in writing (as late as in the Statement of Case submitted only days before the trial) that *"It is simply not true that the peat slide was caused as a result of the works conducted by the Respondents in carrying out the development. There is precisely no evidence to support that contention."* and *"There is … no evidence that the peat slide occurred as a result of the Respondent's actions"*. Planree's own experts, Fehily Timoney and MKO[38], had long since made the contrary quite clear.

20. There is no evidence that any the peat slides occurred during works not permitted by the SID permission. However, Fehily Timoney does, in each case, identify as causative the manner of conduct of those permitted works – primarily, and specifically in the case of the November 2020 slide, by the manner of casting aside excavated peat, causing "excessive loading" of the peat onto which it was cast. To put the multiple slides in context of the recognition of risk and the need for care in performing works, I think it proper to note that Appendix 4.2 of the 2017 EIAR was a Peat & Spoil Management Plan which explicitly stated[39] that:

> *"Inappropriate side-casting of material, notably as arisings from excavations, is considered one of the main peat stability risks during the construction phase of the wind farm. Control of general loading of the peat surface, such as placement of arisings, can greatly reduce the risk of peat instability."*
>
> *"This methodology includes procedures that are to be included in the construction to minimise any adverse impact on peat stability. The methodology is not intended to*

[36] Fehily Timoney Peat Stability Assessment, August 2021 §7.3.3 & Figure 7: Peat Failure at T5.
[37] Fehily Timoney Peat Stability Assessment, August 2021 §8.5 Sequence and Mechanism of Peat Failure. Also described at §3.2 of the MKO s.160 Report 24 May 2023 – Exhibit BK1 to Brian Keville's affidavit sworn 25 May 2023.
[38] Whose s.160 Report summarised Fehily Timoney's views.
[39] §7.

*cover all aspects of construction such as drainage and environmental considerations.*
*(1) All excavated peat and spoil shall be permanently placed in the 3 no. borrow pits or appropriately placed alongside excavated access roads …"*

21. That said, it is fair to observe that the Peat & Spoil Management Plan refers to reducing, not eliminating, such risks. I do not draw any inference adverse to Planree as to the manner of its conduct of those works as none was argued. However, on the assumption that the manner of conduct of those works was entirely proper, the facts demonstrate repeated occurrence of peat slides on Site despite due care being taken by Planree – and this on a Site of which it was found in EIA and AA that no such events were anticipated. Planree's experts now, and again, give similar assurances as to Site stability at present. It is not for me to doubt those assurances but the history emphasises, if emphasis were needed, the necessity of their careful scrutiny in EIA Screening and AA.

22. The November 2020 slide had significant environmental consequences. As to their description, Donegal CC is correctly critical of the "MKO s.160 Report"[40] for Planree, written explicitly for the purposes of these proceedings – that is, to inform the court. It explicitly purports to report, inter alia, on the "*Peat Slide and Restoration Works*"[41] and "*Adverse impacts of peat slide*".[42] It asserts, as is not disputed, that the works under way at the time in the area where the peat slide occurred, were permitted works and it essentially repeats the Fehily Timoney description[43] of the causes, sequence and mechanism of the November 2020 peat slide as multifactorial but including Planree's works. However, the MKO report notably fails to usefully describe the environmental damage caused by the November 2020 slide or the residual position after its remediation. It states that:

> *"With the exception of the peat slide in November 2020, no significant cases of sedimentation of streams were observed during the construction phase and there was no significant effect on the water quality of the streams within the site or downstream of the site. …… if any element of the wind farm development (excluding the peat slide), …..had given rise to indirect environmental effects on downstream watercourses or water-dependent habitats or species, … any such effects would have become apparent ….*"[44]

23. The exclusions in these passages (of the effects of the November 2020 peat slide) can reasonably be read as implying, or at least allowing, that the November 2020 peat slide had caused significant sedimentation of streams and effects on downstream watercourses or water-dependent habitats or species. That possibility is confirmed, if only in very general and uninformative terms, by MKO's observation that "*The peat slide did have an adverse impact on the environment, downstream of the slide area.*"[45] However, the

[40] MKO Report – Entitled "Project Report Meenbog Wind Farm, and matters arising as a result of notice of motion for relief under Section 160 of the Planning and Development Act." And dated 24 May 2024. §2.2 – Exhibit BK1 to Brian Keville's affidavit sworn 25 May 2023. It is referred to in affidavits as the "Project Report" but I will refer to it as the "MKO s.160 Report" as reflecting its status as a report to the Court in the proceedings.
[41] 9.5 Peat stability.
[42] MKO s.160 Report 24 May 2023 §3.
[43] MKO s.160 report 24 May 2023 §5.6.
[44] Peat Stability Assessment report by Fehily Timoney & Company (FTC) dated August 2021 submitted to the EPA.
[45] MKO s.160 report 24 May 2023 §5.3.
[46] MKO s.160 report 24 May 2023 §5.6.





report does not describe those adverse impacts – contenting itself with asserting that they were not due to deviations from the SID Planning Permission. Despite that, undoubtably correct, assertion, it was unrealistic to assume that the nature and degree of the adverse impacts of the November 2020 peat slide would not be canvassed in these proceedings or at least form part of the context relevant in the proceedings – not least when the relevant content of the MKO report was a response to an affidavit asserting the possibility of such impacts and that such impacts were to, or in the vicinity of, European Sites. As I observed at trial, the failure to describe those impacts in any useful way is regrettable.[46] That said, I do not think much of consequence ultimately turns on the omission.

24. All works on Site ceased after the November 2020 peat slide. An environmental liability investigation[47] ensued – led by the EPA, in conjunction with Donegal CC and the Loughs Agency.[48] In June 2022, Planree and Mid-Cork Electrical pleaded guilty in the District Court to offences relating to the pollution of the Shruhangarve & Mourne Beg streams by the November 2020 peat slide. Planree effected a considerable remediation programme under the supervision of the EPA and Donegal CC.

25. The Fehily Timoney Peat Stability Assessment of August 2021[49] considered peat stability over the Site generally, not just in the area of the November 2020 slide. It concluded[50] that, subject to specified mitigation measures, *"the construction of the wind farm can be completed safely without further peat instability"*.

26. Ultimately, Donegal CC by letter dated 11 July 2022 and the EPA by letter dated 28 September 2021[51] agreed that Planree had acceptably remediated the November 2020 Peat Slide and its environmental effects, inter alia, in light of the Fehily Timoney Peat Stability Assessment of August 2021. The EPA considered it *"important that the mitigation measures proposed are implemented for the remaining works to be completed at the site."*[52] – thereby implying its satisfaction that the remaining works could be completed. Donegal CC's letter lists aspects of the remediation works with which it is satisfied, commends those works as "*very well-designed and executed*" and specifically notes that *"the monitoring data obtained for the Shruhangarve and Mournebeg has been satisfactory."* Had there been residual adverse effects of the November 2020 Peat Slide of consequence after remediation, this would have been the letter in which to record it. But no such record is made.

27. I reject Donegal CC's suggestion that such residual effects are implied by an EPA report on a Shruhangarve water quality survey of September 2022.[53] It records that,

[46] Day 3 10:04 et seq.
[47] Pursuant to the European Communities (Environmental Liability) Regulations 2008, (SI 547 of 2008), which effects the Environmental Liability Directive (2004/35/EC).
[48] The Loughs Agency is an agency of the Foyle, Carlingford and Irish Lights Commission. It is a cross-border body under the 1998 Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of Ireland (better known as the "Good Friday Agreement"). A cross-border Multi-Agency Working Group also included representatives from Northern Ireland Water, the Rivers Agency, Northern Ireland Environment Agency, National Parks and Wildlife Service, and Derry City and Strabane District Council.
[49] Supplemented by a Peat Stability Quantitative Assessment dated August 2021 by Ionic Consulting.
[50] §11.
[51] Both letters are in Exhibit MM1.
[52] Emphasis added.
[53] Exhibit JRA1.

- the river had been impacted by the November 2020 peat slide but had been improving ever since.
- the September 2022 survey suggested a decline in water quality again – "*indicating poor ecological condition with suspected toxic pollution*".

There is no suggestion in this EPA report, or ground for inference, that this decline was due to the November 2020 Slide (from which the Shruhangarve had, prior to September 2022, made appreciable recovery) or was otherwise due to Planree's works.

28. An updated site stability assessment[54] by AFRY[55] for Planree in October 2023 asserts that the Site and its peat are stable and Brian Keville of MKO is of the same view.[56]

29. Accordingly, I have formed the view that the residual effects of the November 2020 Peat Slide should not concern me in these proceedings and that the peat on-Site is, at least currently, stable. In that light, the failure to describe properly the effects of the November 2020 Peat Slide recedes in immediate importance in these proceedings – though those effects seem likely to provide useful information in any EIA or AA process as it relates to the Site and works thereon.

## THE DEVIATIONS

30. For present purposes, a main significance of the November 2020 Peat Slide is that, incidentally but unsurprisingly, it prompted a more general planning enforcement investigation by Donegal CC of the Windfarm works. Inter alia, Planree were required to identify, by both as built-drawings and written statement, all deviations from the SID Permission – from the works as thereby permitted. Expert reports by consultants for both Planree and Donegal CC ensued – as did dispute as to the identification of deviations, their materiality, whether the Windfarm works as done constituted unauthorised development, whether Substitute Consent was required to regularise their status and as to the presence or absence of environmental risk.

31. Donegal CC retained SLR Consulting to review the ecological risks associated with the deviations. Notably, the resultant "SLR Deviations Report"[57] identified some deviations as of "higher" and "medium" ecological risk which, as they had not been included in the project description in the SID Permission process, had not been considered in EIA and AA prior to the grant of that permission. SLR considered – and still do[58] – that the effects of and risks posed by the Material Deviations include suspended solid pollution during construction, peat instability post-construction, loss of features used by protected species, loss of habitat and compromising the ability to restore peat bog habitats.

[54] Exhibit MM4 to the affidavit of Michael Murnane sworn 18 January 2024.
[55] AFRY Ireland Ltd – formerly Ionic Consulting.
[56] Affidavit sworn 26 January 2024.
[57] SLR Consulting Ecological Assessment of Planning Deviations, 18 March 2022 – exhibit RA1 to the Affirmation of Richard Arnold of 10 February 2023.
[58] Affirmation of Richard Arnold of 8 June 2023.





32. The s.160 Notice of Motion lists the deviations from the SID Planning Permission upon which it relies. It is now agreed that the deviations in respect of which s.160 relief is sought are material in planning terms such as to represent unauthorised development. Of note, some of the Material Deviations consist of works outside the "red line boundary"[59] of the Site. It is fair to say that Planree's explanations of why it deviated from the SID Planning Permission are, for the most part, very general. Generally, additional peat cells were said to have been required to accommodate more excavated peat than the volumes estimated pre-construction – though I have not been directed to an explanation of why the estimated volumes proved so greatly underestimated in the 2017 planning application. I list below the Material Deviations listed in the Notice of Motion.[60]

### TABLE – LIST OF DEVIATIONS

| Deviation per Notice of Motion[61] | SLR Ecological Risk Designation[62] | Planree's Explanation[63] | Substitute Consent?[64] | Note/Comment |
|---|---|---|---|---|
| Donegal CC considered items (1) to (9) to be material both in planning and environmental terms. | | | | |
| (1) The realignment and relocation from that permitted of an access road to Turbine 10.[65] | Medium | Realignment followed more favourable ground and natural topography. Turning Head not constructed. | Yes - #3 | The road was moved a maximum of 15m east over a length of 200m. |
| | | | | |
| (2) The development and use of a borrow pit south of Turbine 12, including by blasting rock. The permitted size of the borrow pit was =0.2 hectares. As built it is =2 ha.[66] | Higher | An existing forestry borrow pit was expanded to win stone on site before gaining access to the designated borrow pits. Area already partially | Yes - #4 | The reference to 0.2 hectares was in fact to a pre-existing borrow pit. There was no permission for its use as either a borrow pit/quarry or as a peat cell.[67] Planree blasted/ |

[59] The requirement that a planning application include a location map "marked so as to identify clearly: (i) the land or structure to which the application relates and the boundaries thereof in red" is imposed by Article 22 PDR 2001. (Planning And Development Regulations 2001 – 2023).
[60] I have edited the text of the list for clarity. References to "Turbines" are to their permitted locations as they have not yet been installed.
[61] Deviation numbers in the footnotes below refer to the numbering of deviations in the "Unauthorised Developments / As Constructed Deviation Matrix" ("Deviations Matrix") prepared by Martin McDermott of Donegal CC – Tab 41 Exhibit MMcD5 to his Affidavit sworn 29 March 2023.
[62] SLR Consulting Ecological Assessment of Planning Deviations, March 2022.
[63] As recorded in the Deviations Matrix and in Planree's application for Leave to Seek Substitute consent.
[64] Was the item included by Planree in its list of 25 deviations for which it obtained leave to seek substitute consent.
[65] Deviation 4 – §39(a) Affidavit of Martin McDermott sworn 29th March, 2023.
[66] Deviation 5 – §39(b) Affidavit of Martin McDermott sworn 29th March, 2023. See as built Layout Sheet 7 exhibit MMcD5 Tab 19.
[67] Compare 2017 EIS Figure 4.1 and 2017 Site Layout Plan 3 (Exhibit MMcD1 Tab 4) with "Plot 2a" in the map attached to the Notice of Motion. As recorded above, the 2017 Peat & Spoil Management Plan had stated that "All excavated peat and spoil shall be permanently placed in the 3 no. borrow pits or appropriately placed alongside excavated access roads ..." Figure 6 of that Plan identified those 3 borrow pits.

| Deviation per Notice of Motion[61] | SLR Ecological Risk Designation[62] | Planree's Explanation[63] | Substitute Consent?[64] | Note/Comment |
|---|---|---|---|---|
| | | reinstated with peat storage. It is intended to place further peat here to further reinstate this area. | | excavated the existing 0.2 ha to a total of 2 ha and used rock thereby gained in the works. It backfilled the excavation as a peat cell with a 2m high retaining wall. Donegal CC can't precisely calculate the total volume of peat in the cell but roughly calculate it at up to 360,000m$^3$. That is likely an overestimate but it is clear that a very large volume of peat was deposited and is to be deposited<br><br>It is not apparent to me that one "reinstates" a quarry by making it a peat cell or that doing so justifies unauthorised quarrying |
| | | | | |
| (3) The movement of the access road to Turbine 8 from the route permitted.[68] | Medium | The road was amended to approach the southern side of Turbine 8 and align with the Peat Containment berm placed | Yes - #7 | This berm was a response to the peat slides of June 2020.[69] Why the berm necessitated realignment of the access road is not apparent. The road has been |

[68] Deviation 7(b) – §39(c) Affidavit of Martin McDermott sworn 29 March 2023.
[69] See above.





| Deviation per Notice of Motion[61] | SLR Ecological Risk Designation[62] | Planree's Explanation[63] | Substitute Consent?[64] | Note/Comment |
|---|---|---|---|---|
| | | south of T8 as a safety measure. | | moved a maximum of 25m south over length of 250m. |
| | | | | |
| (4) The realignment from that permitted of the floating access road at Turbine 4.[70] | Medium | Slightly amended to provide a more effective alignment for delivery vehicles. | Yes - #10 | The road has been moved about 10m over length of 100m. |
| | | | | |
| (5) Enlargement from that permitted of a borrow pit south of Turbine 15.[71] | Medium | None beyond stating what was done. | Yes - #11 | |
| | | | | |
| (6) Peat storage cells, totalling ≈2ha, at Turbine 15.[72] | Higher | None beyond stating what was done to accommodate more excavated peat than the volumes estimated preconstruction. | Yes - #17 & #18 | These cells were not permitted. Again, Donegal CC can't calculate the total volume of peat in these cells but it is clear that they contain a large volume of peat. |
| (7) Peat storage cells at Turbine 17.[73] | | | | |
| | | | | |
| (8) The enlargement from that permitted of a layby storage compound for containers and welfare services southwest of Turbine 10.[74] | Medium | None beyond stating what was done and that the site office and welfare facilities will be removed on completion of construction. | Yes - #19 | |
| | | | | |
| (9) The realignment | Medium | None beyond | No | |

[70] Deviation 10 – §39(d) Affidavit of Martin McDermott sworn 29 March 2023.
[71] Deviation 11 – §39(e) Affidavit of Martin McDermott sworn 29th March 2023.
[72] Deviation 18 – §39(f) Affidavit of Martin McDermott sworn 29th March 2023.
[73] Deviation 19 – §39(g) Affidavit of Martin McDermott sworn 29th March 2023.
[74] Deviation 25 – §39(h) Affidavit of Martin McDermott sworn 29th March 2023.

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| Deviation per Notice of Motion[61] | SLR Ecological Risk Designation[62] | Planree's Explanation[63] | Substitute Consent?[64] | Note/Comment |
|---|---|---|---|---|
| from that permitted of a road to Turbine 16 and the revised hard standing base for Turbine 16.[75] | | stating what was done. | | |
| | | | | |
| (10) The following material deviations: | Donegal CC considered the deviations listed in Item 10 to be material only in planning and not in environmental terms. They represent breaches of Condition 1 of the SID Permission. | | | |
| (i) A revised access road to Turbine 12 – located adjacent to permitted access road, at the location of a previous bog slide in June 2020.[76] | | The natural topography required a slight realignment. The road was moved west, and downslope about 30m. This avoided excessive cut at this location. | Yes - #5 | Why these items were not included in the scheme submitted for EIA in 2017 is not explained. |
| (ii) Access road to Turbine 1 - revised from the permitted alignment ≈10m to the northeast for a length of ≈60m.[77] | | Slightly amended to provide more effective alignment for delivery vehicles. | Yes - #8 | |
| (iii) Access road to Turbine 2 - revised ≈10m to the northeast of the permitted alignment for a length of ≈60m.[78] | | | Yes - #9 | |
| (iv) Hardstanding area at Turbine 15 rotated 90° from that permitted.[79] | | The natural topography and rotating the hardstand allowed direct access to T15 off the main spine road – avoiding the need | Yes - #12 | |

[75] Deviation 35 – §39(i) Affidavit of Martin McDermott sworn 29th March 2023.
[76] Deviation 6 – §41(i) Affidavit of Martin McDermott sworn 29 March 2023.
[77] Deviation 8 – §41(ii) Affidavit of Martin McDermott sworn 29 March 2023.
[78] Deviation 9 – §41(ii) Affidavit of Martin McDermott sworn 29 March 2023.
[79] Deviation 12 – §41(iv) Affidavit of Martin McDermott sworn 29 March 2023.





| Deviation per Notice of Motion[61] | SLR Ecological Risk Designation[62] | Planree's Explanation[63] | Substitute Consent?[64] | Note/Comment |
|---|---|---|---|---|
| | | for the permitted road to T15. | | |
| (v) Realigned access road to Turbine 17 in lieu of permitted alignment.[80] | | The road was built along a pre-existing road/firebreak. The difference of alignment was minor. | Yes - #13 | |
| (vi) Upgrade of 220m of existing forestry track near Turbine 13.[81] | | Obviated the need for a section of new permitted road | Yes - #14 | |
| (vii) Turning head near Turbine 14 moved from permitted layout.[82] | | To suit natural topography. | Yes - #16 | |
| (viii) Access road to Turbine 19 realigned from that permitted.[83] | | Slight widening and curve realignment to increase horizontal bend radius for turbine blade delivery. | Yes - #21 | |
| (ix) Access road to Turbine 9 – built on existing forest track to east of permitted alignment.[84] | | SLR considered this a slight relocation. Planree said it was a minor difference of alignment. | Yes - #22 | The Inspector, in reporting to the Board on Planree's application for leave to seek Substitute Consent[85] said that this deviation was in response to a peat slide and done After engagement with Donegal CC and |

[80] Deviation 13 – §41(v) Affidavit of Martin McDermott sworn 29 March 2023.
[81] Deviation 14 – §41(vi) Affidavit of Martin McDermott sworn 29 March 2023.
[82] Deviation 17 – §41(vii) Affidavit of Martin McDermott sworn 29 March 2023.
[83] Deviation 28 – §41(viii) Affidavit of Martin McDermott sworn 29 March 2023.
[84] Deviation 29 – §41(ix) Affidavit of Martin McDermott sworn 29 March 2023.
[85] Inspector's Report 20/10/23 p14 & 17.

| Deviation per Notice of Motion[61] | SLR Ecological Risk Designation[62] | Planree's Explanation[63] | Substitute Consent?[64] | Note/Comment |
|---|---|---|---|---|
| | | | | the EPA.[66] |
| | | | | |
| Items (11) to (13) relate to development outside the "red line" delimiting the Site. | | | | |
| (11) A section of new access road off the N15 (60m long x 5m wide) and associated accommodation site/development works – substantially outside the Site.[67] | Higher | Minimal works were required to construct a bypass in lieu of upgrading the existing hairpin bend access road. This provides a safer and more sensible approach to the Site by eliminating a sharp, blind bend in the main entrance road to the Site.<br><br>The existing hairpin bend was unsafe as it did not provide adequate line of sight for vehicles using the road. This was a safety concern that only came to light when prior to construction and after it was established that the as-built route was feasible from a | Yes - #1 | The description of the deviation in the Notice of Motion is misleading – I accept unintentionally. This section of road is just inside the main Site entrance and is part of the main access road into the Site.<br><br>The SID Permission envisaged the maintenance of an existing hairpin bend around a small depression/valley. The road was laid straight across the depression to eliminate the bend. In fact, the road itself, as laid, is inside the "red line" delimiting the Site. What is outside the "red line" is made ground or embankment supporting the road laterally as it crosses the depression. This was to assist delivery of turbine elements |

[66] He makes a similar remark as to works in the region of the access route to Turbine 7 but these works are not listed in the Notice of Motion. Presumably these were the remediation works at the site of the November 2020 peat slide to which Donegal CC and the EPA had agreed.
[67] Deviation 1 – §§47-50 Affidavit of Martin McDermott sworn 29 March 2023. See also "Plot 2a" marked on Site Location Map – Exhibit MMcD4 Tab 14.





| Deviation per Notice of Motion[61] | SLR Ecological Risk Designation[62] | Planree's Explanation[63] | Substitute Consent?[64] | Note/Comment |
|---|---|---|---|---|
| | | geotechnical perspective with the benefit of site investigations. The as-built alignment would have required a reduced construction footprint compared to the permitted. | | by large lorries.<br><br>It is difficult to understand Planree's explanation. The hairpin bend is perfectly obvious on any map in the papers before me and must have been just as obvious to engineers surveying the site for the 2017 planning application. Yet we are told the safety issue "only came to light when prior to construction and after it was established that the as-built route was feasible." On that view, the safety issue was identified after and did not prompt the investigation of the alternative route. |
| | | | | |
| (12) Two peat cells, a borrow pit, retaining walls, and associated accommodation site/development works – all southeast of the substation and substantially outside the Site.[68] | Higher | None beyond stating what was done to accommodate more excavated peat than the volumes estimated preconstruction. | Yes - #2 | Donegal CC and SLR state that<br>• This is c. 0.7km south of Croaghonagh Bog SAC and upslope of the adjoining Mary Breen's Burn |

[68] Deviation 3 – §§51 - 54 Affidavit of Martin McDermott sworn 29March 2023. See also "Plot 2b" marked on Site Location Map – Exhibit MMcD4 Tab 14.

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| Deviation per Notice of Motion[61] | SLR Ecological Risk Designation[62] | Planree's Explanation[63] | Substitute Consent?[64] | Note/Comment |
|---|---|---|---|---|
| | | | | River.<br>• mitigation is unknown;<br>• the impact, including flood risk, and impacts on part of the Lough Eske and Ardnamona Wood SAC, were not assessed |
| | | | | |
| (13) A borrow pit and peat cells near Turbine 18, and associated accommodation/site development works – substantially outside the Site.[65] | Higher | None beyond stating what was done to accommodate more excavated peat than the volumes estimated preconstruction. | Yes - #15 | There was no permission for a borrow pit or peat cell here.[66]<br>SLR asserts this has no silt curtains or settlement lagoon. Donegal CC asserts a risk of peat cell wall failure or over-topping with wet peat and reaching the Bunadaowen River.<br>Planree disputes these criticisms. |

33. Donegal CC is concerned that recommencement of works would present the following concerns:[67]

- About 10,000 tonnes of stone is required to cap the roads with up to 300mm of cover (as advised by Planree's Michael Murnane during site inspections. The MKO s.160 Report[68] records that about 17km of

[61] §§55 - 58 Affidavit of Martin McDermott sworn 29 March 2023 & his affidavit sworn 6 June 2023 §62. See also "Plot 2c" marked on Site Location Map – Exhibit MMcD4 Tab 14.
[62] Compare 2017 EIS Figure 4.1 and 2017 Site Layout Plan 3 (Exhibit MMcD1 Tab 4) with "Plot 2c" in the map attached to the Notice of Motion. As recorded above, the 2017 Peat & Spoil Management Plan had stated that "All excavated peat and spoil shall be permanently placed in the 3 no. borrow pits or appropriately placed alongside excavated access roads ..." Figure 6 of that Plan identified those 3 borrow pits.
[63] §91 Affidavit of Martin McDermott sworn 29 March 2023.
[64] MKO s.160 Report 24 May 2023 P5 – Exhibit BK1 to Brian Keville's affidavit sworn 25 May 2023. It is recorded that 21km of new and upgraded roads had been completed and the permitted wind farm access roads are substantially complete with the exception of the further widening of the existing road to T18. Clearly this largely excludes capping as Table 2.2 Summary of civil works to be completed records "Approx. 80% of roads to be capped". 21 x 80% = 17km





road remains to be capped.)

- Recommenced works from September 2022 to November 2022[69] had included rock breaking:
  - at Turbine 16 to enable construction of its base.
  - in the borrow pit beside Turbines 13 and 16 – directly downslope from the origin of the November 2020 peat slide and upslope of large unauthorised surface peat cells near Turbine 15.
  - the rock from which was used to create the remaining hardstanding areas/access pads for turbines and provide additional stone material for road widening/capping, etc.
- Planree had advised Donegal CC[70] that it intended to deliver, install and commission 8 to 10 turbines within 6 weeks.
- Storage of peat dug out from September to November 2022 had left no capacity to store peat.
- The borrow pit near Turbine 13[71] was still being used to make peat storage space; (While SLR were not concerned by this "*additional excavated borrow pit and peat storage cell*", Planree included it as Deviation 25 in its Substitute Consent application.[72])
- The Turbine 8 base remained to be dug out and 2.5km of the road to Turbine 18 remained to be widened – but where the excavated material would be deposited is unknown absent unused permitted peat storage capacity.

## The Red Line Issue

34. As I have said, Donegal CC alleged that some of the Material Deviations included development outside the "red line" – the planning application site boundary – required by regulation to identify the Site. Others were said by SLR to be outside the "consented footprint". I understand that description to allege development within the red line but outside the footprint of actual development permitted. While, in fairness to Planree, the allegation was not disputed, it caused some confusion – if only on my part – in part due to the nature of windfarm development. On the ground, as it were, it consists primarily of access roads to individual turbine sites, those turbine sites and the turbines on each. In plan, this presents as something like a tree (the main access road) and branch (the roads off the main access to each turbine) layout or a web layout, in which the part of the overall site actually developed may be quite small.

35. From the Site layout maps which formed part of the 2017 planning application and on which the SID permission is based, it is clear that the red line hugs, as it were, the main access road, from the public road to the west, into the Site and the hugs the substation about halfway along that road. However, from where the main access road splits in two to allow access via further "branches" to the turbine sites, the red line no longer hugs the development footprint. Rather, it encircles the entire and general area in which that footprint is situate. As a result, it is clear that the actual development footprint represents only a small part of the total Site area. So Planree's emphasis on the size of the Site as rendering deviations from the SID Permission understandable[97] is, at least in some degree, misplaced – though I accept Planree is

[69] See further below.
[70] At site inspections on 28 October 2022 and 25 November 2022.
[71] Variously described as Borrow Pit B and Borrow Pit 3.
[72] Deviations Matrix, Tab 41, Exhibit MMcD3 to the Affidavit of Martin McDermott sworn 29 March 2023.
[97] To use a neutral word.

environmentally responsible, as it were, for the entire Site and my decision does not turn on my view that its emphasis is misplaced.

36. For present purposes however, I confirm that I am satisfied that Donegal CC is correct in its specific assertions of development outside the "red line" – the planning application site boundary.[98]

**SUBSTITUTE CONSENT APPLICATION FOR DEVIATIONS & APPROVAL OF REMEDIATION OF PEAT SLIDE**

37. In July 2022, Planree sought leave to seek Substitute Consent,[99] not for the entire Windfarm development as-built to that time, but for a single "subject development", consisting of *"25 no. deviations from the permitted development"*.[100] The accompanying MKO Planning Report[101] dated 8 July 2022 asserted that

- there was no unauthorised development.
- the application was *"made at the request of DCC but without prejudice to Planree's belief that substitute consent is not required"*, *"and in order to adhere to DCC's expressed preference."*
- the 25 deviations were unconnected to the peat slide of November 2020.
- *"The works associated with the Meenbog wind farm, which are the subject of this application for leave to apply for substitute consent, are described as follows:*

  *Alterations to the permitted Meenbog wind farm development, including:*
  *> Alteration to alignment of permitted internal wind farm roads, road junctions, turning heads and or turbine hardstands;*
  *> Additional peat storage areas;*
  *> Extension or repositioning of previously permitted borrow pit;*
  *> Additional borrow pit in place of previously permitted borrow pit at alternative location;*
  *> Peat containment berm;*
  *> All ancillary works associated with the above, including environmental mitigations measures and water quality (drainage design) protection measures."*[102]

[98] See, for example, the Ionic "As Built Layout Overview" Map MNBG-8024-1.0 dated 15/12/20202 attached to the Notice of Motion and the MKO "Explanatory Map" 220623 – 03 dated 21.03.2024 which, though not exhibited, was before me by agreement.
[99] The leave application was required by s.177C (2)(b) – since repealed.
[100] Exhibit BK2 – MKO to An Bord Pleanála 8 July 2022.The 25 deviations for which leave to seek substitute consent was sought were as follows:
1.Alteration of internal road alignment in area of N15 access junction.
2.Additional peat storage cell in area southeast of substation.
3.Alteration to alignment of the T10 access road.
4.Additional borrow pit south-west of T12 (also associated additional peat storage space) in place of permitted borrow pit in alternative location.
5.Alteration to alignment of the T12 access road.
6.Construction of peat containment berm near T8.
7.Alteration to alignment of the T8 access road.
8.Alteration to alignment of the T1 access road.
9.Alteration to alignment of the T2 access road.
10.Alteration to alignment of the T4 access road.
11.Expansion of borrow pit BP2 south of T15.
12.Alteration to hardstand and access road for T15.
13.Alteration to alignment of the T17 access road.
14.Alteration to alignment of the T13 access road.
15.Provision of enlarged peat cell north-west of T18.
16.Alteration to alignment of turning head at T14.
17.Additional peat cell north near T15.
18.Additional peat cell near T17.
19.Provision of layby with welfare facilities south of T20.
20.Provision of layby north-east of T15.
21.Alteration to alignment of the T19 access road.
22.Alteration to alignment of the T9 access road.
23.Alteration to alignment of the T7 access road including additional storage.
24.Provision of roadside berms and settlement ponds adjacent to road corridor
25.Repositioned borrow pit and peat storage cell at T13.
[101] Exhibit BK2.





38. That MKO Planning Report also recorded as follows.[103] (I have supplemented its account somewhat on foot of information appended to that Report.)

- That Donegal CC had engaged SLR in 2021 to review the ecological risks associated with the deviations.
- There was some difference between Donegal CC and Planree as to the identification of and number of deviations – though this seems to have been at least in large part due to sub-division of deviations for purpose of identification/analysis. It is not apparent to me that there is real disagreement in this regard significant for present purposes. It suffices to note that SLR reported 47 deviations to Donegal CC and the Notice of Motion lists 21. The real disagreements, at that time though since resolved, were not as to the identification of the deviations but as to their materiality.
- It appended SLR's Deviations Report which included an AA Screening report to the effect that about 1/3 of the deviations posed medium or higher ecological risk, with half of those (i.e. 1/6) posing a higher ecological risk. So SLR considered that *'likely significant effects'* on European Sites could not be excluded and AA was required.
- Donegal CC wrote accordingly to Planree on 27 April 2022[104] citing SLR's Deviations Report and NPWS's[105] agreement with it. Donegal CC opined that the only *"route to regularisation"* available to Planree was via Substitute Consent. However, DCC did not direct Planree to apply for leave to seek Substitute Consent.
- Planree seeks leave to apply for Substitute Consent for 25 of the 47 deviations considered by SLR. The other 22 do not require substitute consent.

39. Donegal CC made a submission, dated 15 August 2022,[106] on that leave application. It objected that Planree had sought leave as to only 25 deviations and, in particular, had omitted 6 of those SLR had identified as medium or high ecological risk. It asserted that these too required regularisation via Substitute Consent. However at trial, Donegal CC did not pursue this particular criticism.

[103] MKO Planning Report 8 July 2022 §5.
[104] §5.1.
[105] Appended to the MKO Planning Report dated 8 July 2022.
[106] NPWS is the National Parks and Wildlife Service of the Department of Housing, Local Government and Heritage and manages and advises the Minister on the State's nature conservation responsibilities, including the designation and protection of European Sites.
[106] Exhibit BK3.

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40. Once Planree got confirmation from the EPA[107] and Donegal CC[108] that its remediation works, as they related to the November 2020 Peat Slide and its effects, were satisfactory, and on legal advice, Planree took the view that it could properly recommence development works – which it did in September 2022. It ceased works again late November 2022 on receipt of Enforcement Notices[109] issued by Donegal CC requiring, inter alia, cessation of works. In essence, these Notices invoked the deviations as a matter distinct from the peat slide. Planree has not recommenced works since. On judicial review, the Enforcement Notices were quashed by consent on 27 February 2023 – at which time, it seems, Donegal CC intimated the present s.160 proceedings. Planree has understandably taken the view since then that remobilisation of the Site was not prudent.

**S.160 MOTION, S.160 & THE CONCEPT OF UNAUTHORISED DEVELOPMENT**

41. These proceedings started by originating notice of motion dated 3 March 2023. An amended notice of motion issued on 19 May 2023. I have identified above the 21 Material Deviations listed in the amended notice of motion. Planree urges that Donegal CC has not sought orders to prevent the carrying out of any future or additional unauthorised development.[110] To reject that argument I need only note that the amended notice of motion seeks orders under s.160(1) PDA 2000 as follows:

- requiring Planree to cease and restraining Planree from continuing its "unauthorised development" on the Site. It asserts that the development is unauthorised by reason of the listed Material Deviations.
- directing Planree to do or not to do, or to cease to do, anything that the Court considers necessary.
- Interim and/or interlocutory relief – including of the kind described above.
- such further or other order as the Court shall deem fit.
- liberty to apply if Planree gets substitute consent.

42. There was the usual exchange of affidavits. Donegal CC filed affidavits of Martin Mc Dermott, Executive Planner and affirmations of Richard Arnold, ecological consultant of SLR Consulting. Planree filed affidavits of Michael Murnane and of Brian Keville, environmental scientist and the environmental director of MKO. It is fair to say that the affidavits preceding the Board's decision of 13 October 2023[111] to grant leave to seek Substitute Consent were considerably taken up by disputes as to the materiality of the Deviations – a dispute settled for practical purposes by the Board's decision to grant leave. At trial, the materiality of the Deviations was agreed – though significant disputes as to environmental risk remain. Those disputes are pointed to the extent that Mr Arnold, for Donegal CC, consider the MKO position to be non-evidence based and to consist primarily of a series of assertions and hypotheses.[112] Mr Keville replies in kind as to the bases of Mr Arnold's opinions.[113]

[107] In fact, earlier – by EPA letter dated 28 September 2021.
[108] By letter dated 21 July 2022.
[109] Pursuant to s.154 PDA 2000.
[110] Planree's written submissions §9.
[111] See below.
[112] Affirmation of Richard Arnold 8 June 2023 – see generally.
[113] Affidavit of Brian Keville 19 June 2023 – see generally.





43. As relevant s.160 PDA 2000 reads as follows:

> *"160.—(1) Where an unauthorised development has been, is being or is likely to be carried out or continued, the High Court or the Circuit Court may, on the application of a planning authority or any other person, whether or not the person has an interest in the land, by order require any person to do or not to do, or to cease to do, as the case may be, anything that the Court considers necessary and specifies in the order to ensure, as appropriate, the following:*
>
> *(a) that the unauthorised development is not carried out or continued;*
>
> *(b) in so far as is practicable, that any land is restored to its condition prior to the commencement of any unauthorised development;*
>
> *(c) that any development is carried out in conformity with —*
> *(i) in the case of a permission granted under this Act, the permission pertaining to that development or any condition to which the permission is subject, or .....*
>
> *(2) In making an order under subsection (1), where appropriate, the Court may order the carrying out of any works, including the restoration, reconstruction, removal, demolition or alteration of any structure or other feature.*
>
> *(3) (a) An application to the High Court or the Circuit Court for an order under this section shall be by motion and the Court when considering the matter may make such interim or interlocutory order (if any) as it considers appropriate. ....."*

44. It will be seen from s.160 that unauthorised development past, present or foreseen, is a precondition to an injunction and that an injunction may only be granted to ensure that unauthorised development is not carried out or continued, that any development is carried out in conformity planning permission and to effect restoration of the land. In the very particular circumstances in which Planree wants to continue development, and on the arguments made, it becomes necessary to discern whether to do so would continue unauthorised development or whether, as Planree says, such continued development is authorised.

**UNAUTHORISED DEVELOPMENT – CONCEPT & SIGNIFICANCE**

45. The concept of "unauthorised development" is not a negative one that a mere regulatory requirement is lacking. Nor is it a matter of not having crossed some t's or dotted some i's. It is a positive matter. To be clear: it is a matter of the rule of law to say that unauthorised development is forbidden by law. That prohibition is not overridden by developers'[114] perceptions of pragmatism, inconvenience, industry norms or expense – or even environmental benefit. Its premise is that the acceptability of development,

[114] For the avoidance of doubt, I use the word "developer" and cognates here in their broadest sense – encompassing all who would develop land and not particular to commercial developers. Nor do I suggest that any particular subgroup of those who would develop land is more or less prone to unauthorised development.

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including environmental benefit, is decided not by developers or landowners but before development occurs and strategically by national and local government, and in particular instances by planning authorities,[115] in the public interest and with due regard to the private rights and interests of all concerned, including the developer. **S.32(1) PDA 2000** states that permission shall be required in respect of any development of land, not being exempted development. **S.32(2) PDA 2000** states that *"A person shall not carry out any development in respect of which permission is required except under and in accordance with a permission .."*[116] If, which it does not, **S.32(2)** left any doubt outstanding in this regard, it is dispelled by **S.151 PDA 2000**, which is quite plain: *"Any person who has carried out or is carrying out unauthorised development shall be guilty of an offence."* Indeed, by **s.156 PDA** it is an indictable offence punishable by a fine of up to €12,697,380.78 and/or 2 years' imprisonment and is continuing offence after such conviction such that further prosecution may ensue. Of course, I can take judicial notice that prosecutions are relatively rare and penalties of that order even rarer. A very proper discretion and proportionality attends decisions whether to prosecute for unauthorised development. Very properly, smaller hammers (such as s.160) are provided by statute and are typically used, at least initially, to crack the nuts of unauthorised development. And statute also provides for remediation of unauthorised development via retention permissions and Substitute Consent. But sight should not be lost of the legal fact that a planning permission is a permission to do something which, but for that permission, is a criminal offence. See, more pithily in this regard, McKechnie J in **Murray**.[117]

46. S.2 PDA 2000 defines "unauthorised development", in relation to land, as *"the carrying out of any unauthorised works (including the construction, erection or making of any unauthorised structure) or the making of any unauthorised use;"* As relevant, it defines *"unauthorised works"* as

> *"any works ... other than ... (b) development which is the subject of a permission .... and which is carried out in compliance with that permission or any condition to which that permission is subject;".*

So, the default position is that all development is unauthorised. Development is authorised only if exempted from the need for permission or permitted by a permission. In my view there is no discernible difference in meaning between the words *"in compliance with"* in the definition of unauthorised works in s.2 and the words *"in conformity with"* in s.160(1)(c). A development not carried out in conformity with an applicable permission is unauthorised development and illegal.

**MATERIALITY & UBIQUITY OF DEVIATIONS**

47. Planree's position is essentially summarised in its following assertion:

> *"Although there is a dispute as to the extent and materiality of the deviations on the site, the Respondent accepts that there is unauthorised development on the site, as is uniformly the case for projects of this scale. The Respondent is seeking to complete its 95% completed and fully authorised windfarm and to address the unauthorised development in the context of building out the site.*
>
> *All of the evidence ... is that the site is stable and that there are no significant environmental effects from the unauthorised development. The Respondent is perfectly happy to consent to an Order directing the cessation of unauthorised development and an Order directing the removal or remediation (as appropriate) of the unauthorised development in phasing to be agreed and under (as required) the supervision of the Council or the Honourable Court."*[118]

48. By his first affidavit[119] Michael Murnane, director of Planree and Mid-Cork Electrical, cited MKO[120] for his averment that he was *"advised that the deviations from the planning permission granted in this case as alleged are not material."* He recorded that MKO had advised that:

> *"The deviations from the permitted development are mostly minor in scale, occur in similar habitats and locations to the previously assessed and permitted plans, do not change the nature or scale of the development originally permitted, and in addition do not materially alter the environmental impacts associated with it.*
> *Such deviations are not considered to represent a material departure from the terms of the consented project. "*

49. Mr Murnane also asserted[121] that

> *"... in developments of this scale it is inevitable that deviations will occur ..... It is not feasible to conduct very detailed ground surveys on the entirety of a site of this size. Therefore, when construction works commence, minor alterations to the development are normally required so as to respond to the ground conditions encountered.*
>
> *.... these deviations generally arise as a result of circumstances which present on the site and in the sub-surface once personnel and equipment are on the site and construction commences. I say that this is an entirely normal and acceptable manner of approaching construction of this scale and complexity that is universally applied. I say that frequently non-material deviations are needed to avoid unnecessary environmental damage or because there is a safer, less intrusive and more effective way of achieving the completed development. Deviations are not implemented to cut corners or save costs, instead deviations are undertaken after careful engineering and environmental considerations are applied to issues that present on site and are implemented only where strictly necessary."*

50. Mr Keville of MKO for Planree avers that:

[115] Including the Board.
[116] Emphases added.
[117] Meath County Council v Murray [2018] 1 IR 189.
[118] Statement of Case §30.
[119] Sworn 26 May 2023.
[120] Brian Keville's affidavit sworn 25 May 2023 & MKO s.160 report 24 May 2023 – Exhibit BK1 thereto.
[121] Affidavit sworn 29 May 2023.

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*"..... it is neither practical nor environmentally advisable to ignore the ground conditions encountered on a large-scale construction site and carry on with a development to the letter of a planning permission. Planning applications and the assessments made in respect of same can only provide a certain level of detailed information on ground conditions, and as further information comes available prior to and once on-site once construction commences, engineering and construction plans must be adjusted accordingly. Invariably, there are ground conditions encountered which require changes to construction practices, sequencing or management, and some deviations are an inevitable and universal practice for works on projects of this size, scale and complexity."*[122]

Planree submitted in writing[123] that, by the foregoing, Mr Keville had stated that *"deviations are ubiquitous and inevitable and that it is neither possible nor environmentally prudent to ignore on-site conditions and rigorously stick to the letter of a grant of planning permission."*

51. These assertions by Mr Murnane and Mr Keville are practical and in accordance with law and with the flexibility proper to planning permissions – but, and vitally, only as predicated on the deviations in question being *"minor"* and *"non-material deviations"*. It should be said that those averments were made before the Board's grant of leave to seek Substitute Consent and so were made while both deponents were still disputing the materiality of the deviations. Mr Murnane and Mr Keville do not, and could not in accordance with law, seek to excuse on pragmatic grounds material deviations from planning permissions or, in particular, deviations material as requiring EIA or AA. Such a proposition, as it would in effect enable developers to ignore planning permissions in material respects, and as was said in another context, *"would be incredibly destructive of planning law."*[124] The protestation that one cannot be bound by the "letter" of a planning permission sets up a straw man. No-one says one is so bound. Everyone accepts that there is flexibility. Minor deviations are permitted. But developers are bound by law to material compliance with planning permissions. To be plain, one cannot excuse material deviations by relying on the pragmatic flexibility of planning permissions.

52. The introduction to MKO's s.160 Report interestingly states: *"Planree is of the view that the deviations or alterations were not material and did not give rise to any additional environmental impact either individually or cumulatively/in combination with existing works."*[125] In a s.160 application there is a fundamental difference between the legal significance of the of view of a developer (a non-expert and not entitled to put its opinion in evidence) and that of its planning consultant (an expert and entitled to put its opinion in evidence) as to these crucial matters. Donegal CC repeatedly agitated the complaint that MKO, rather than expressing its own opinion, expresses Planree's.[126] There is merit in that complaint and that MKO created a basis for it is regrettable. All that said and perhaps taking an indulgent view, it is on balance apparent from the rest of MKO's s.160 – including its conclusion – that MKO holds the same views as Planree. In any event, Mr Keville later confirmed, and I accept, that MKO's s.160 Report does reflect his

[122] Affidavit of Brian Keville 19 June 2023.
[123] Updated statement of case 14/3/24 Appendix 1, §11, & written submissions §30.
[124] Bailey v Kilvinane Windfarm [2016] IECA 92.
[125] Emphasis added.
[126] Affidavit of Martin McDermott sworn 6 June 2023. Affirmation of Richard Arnold made 8 June 2023.





expert view.[127]

53. While it was prudently "walked back" at trial, Planree audaciously submitted in writing (as late as in the Statement of Case submitted only days before the trial) that, *"there is unauthorised development on the site, as is uniformly the case for projects of this scale"* and that such unauthorised development *"is typical for projects of this scale."*[128] This clearly suggests that in large projects unauthorised development – illegality – is endemic, routine, to be expected and is not a matter for concern. I cannot say if that surprising submission is correct as to fact. In fairness to them, it goes beyond the averments of Mr Murnane and Mr Keville, which were confined to minor deviations. But I unhesitatingly assert that to any extent it is correct as to fact it is unacceptable in law. It is all the more unacceptable as to development unauthorised for want of necessary EIA, EIA screening or AA. And it bears recollection that satisfaction of the exceptionality requirement of Substitute Consent *"is no easy achievement"* and cannot be *"in any way standard, typical or routine"*.[129]

54. I have earlier sought to elucidate the importance and legal significance of the concept of "unauthorised development" as forbidden by law and as a criminal offence. I hasten to disavow any suggestion that prosecution or penalty of the order cited above is likely in this case or deserved. That is not my decision to make and, as I have said, such events are rare. A very proper discretion and proportionality attends decisions whether to prosecute for unauthorised development. Nor do I ignore the view of the relevant regulators that Planree dealt very properly with the November 2020 Peat Slide and its consequences. My purpose, rather, is to explain my unhesitating rejection of any proposition that *"unauthorised development ... is uniformly the case for projects of this scale"* represents an acceptable position. I note in passing that in **Luxor**,[130] cited by Planree, the court predictably rejected the proposition that an *"industry norm"* – in that case as to phasing of development – could trump the legal obligations imposed by planning conditions.

55. **Browne**,[131] considering planning injunctions, cites **O'Connell**[132] and **Cliftonhall**[133] to the effect that the nature of the breach of a planning permission may be relevant to the question whether there has, in fact, been any unauthorised development at all, as planning permissions are to be interpreted to allow for a tolerance of "slight" or "immaterial" deviations. That is so as the practical reality is that buildings can sometimes not be built precisely as the plans indicate. He cites **St Margaret's 2017**[134] for the proposition that a breach of planning permission may be significant at two levels. First, it may be sufficiently immaterial or trivial as not to amount to unauthorised development. Second, even if there has been unauthorised development, the trivial or immaterial nature of any breach may be such that it is not appropriate as a matter of discretion to grant s.160 relief. *"However, the measure of tolerance allowed is in respect of immaterial deviations."* – **Forest Fencing**.[135]

[127] Affidavit of Brian Keville sworn 19 June 2023 §17 et seq.
[128] Updated Statement of Case 14 March 2024 §§29 & 46 – emphases added.
[129] See below and McQuaid & Ballycoe Quarries cases §85 & §91. Citing Barrett J. An Taisce v An Bord Pleanála (McQuaid Quarries) [2018] IEHC 315.
[130] Luxor Investments Ltd v Wave Point [2018] IEHC 775.
[131] Simons on Planning Law, 3rd Edition §11-536 et seq.
[132] O'Connell v Dungarvan Energy Ltd., Unreported, High Court, Finnegan J., 27 February 2001.
[133] County Council v Cliftonhall, Unreported, High Court, Finnegan J., 6 April 2001.
[134] St Margaret's Concerned Residents Group and Others v Dublin Airport Authority plc [2017] IEHC 694.
[135] Wicklow County Council v Forest Fencing [2007] IEHC 242 §40. See also Krikke v Barnanafaddock Sustainability Electricity Ltd [2019] IEHC 825.

56. I do not suggest that Planree's site investigation and the information provided by Planree which informed the Board's EIA in 2018 was inadequate: there is no evidence before me to that effect and the EIA is long-since immune from challenge. However it is the developer, not the environment, which bears the risk in that regard if material deviation from the resultant planning permission is considered necessary.

57. For the foregoing reasons and also given the necessity that EIA and AA precede development,[136] it is important to say that Planree's submission, though "walked back" that "*unauthorised development … is uniformly the case for projects of this scale*" is fundamentally misconceived. Equally misconceived is the submission that allowance for such "*unauthorised development*" is necessary on a pragmatic basis. So too is the vaguely articulated suggestion that there is some sort of a get out for "*unauthorised development*" in the case of large-scale projects (itself an inherently vague and elastic concept) as opposed, presumably, to smaller scale projects. While any such proposition is problematic, it seems especially so of any project which has been subjected to a process – AA – which, as a matter of the jurisdiction of the competent authority (here, the Board), permits development consent only for projects of which it has been determined, prior to development consent being given and as a matter of certainty beyond reasonable scientific doubt in the light of the best scientific knowledge in the field, that it will not adversely affect the integrity of any European Site.[137]

58. Lest the contrary be thought, I should say that the law does take a pragmatic approach. Where development occurs under the cloak of a permission, all of the development as built must stay within the scope of that permission. But that scope does allow for flexibility and the practical considerations and unpredictability of construction work. Deviations from the precise terms – the "letter" – of the permission can fall within that flexibility. But to allow unlimited deviations within that flexibility would undermine the concept of authorised development and, as a matter of the rule of law, the integrity of the planning code. So, unless the law requiring prior development consent, EIA and AA for the project actually built is to be undermined, there must be a criterion for allowing that flexibility while limiting the degree of pragmatic deviation from the terms of the planning permission. Materiality is that criterion – materiality that is, in planning and environmental terms. Materiality of deviation is the divisor between the authorised and legal on the one hand and the unauthorised and illegal on the other. Immaterial deviation is authorised development precisely because it comes within the flexibility of the planning permission. Material deviation renders the development unauthorised precisely because it does not come within that flexibility. In **Krikke**[138] Simons J cited the "*characteristic clarity*", of Fennelly J. in **Kenny**[139] in identifying "*some simple matters of common sense … concerning planning permissions*":

> "*There will inevitably be small departures from some or even many of the plans and drawings in every development. There can be discrepancies between and within plans, drawings, specifications and measurements; there can be ambiguities and gaps. It seems improbable that any development is ever carried into effect in exact and literal compliance with the terms of the plans and drawings lodged. If there are material departures from the terms of a permission, there are enforcement procedures.*"

[136] See further below.
[137] Case C-127/02, Waddenzee, Judgment of 7 September 2004 and many cases since, including Sweetman (Case C-258/11) EU:C:2013:220; Kelly v An Bord Pleanála (2014) IEHC 400; Balz v An Bord Pleanála [2016] IEHC 134 and An Taisce v An Bord Pleanála & Kilkenny Cheese, [2022] IESC 8, [2022] 1 ILRM 281.
[138] Krikke v Barranafaddock Sustainability Electricity Ltd [2019] IEHC 825.
[139] Kenny v Dublin City Council & Trinity College Dublin [2009] IESC 19.





Here we see the divisor: immaterial deviations are authorised development; material deviations are unauthorised development and subject to enforcement procedures such as under s.160.

59. This analysis seems to me consistent with the view of pragmatism taken as to the imposition of "Boland Conditions", leaving detail to be agreed between the developer and the planning authority, having regard to "*the desirability of leaving to a developer who is hoping to engage in a complex enterprise a certain limited degree of flexibility having regard to the nature of the enterprise*".[140] The words "*a certain limited degree*" are notable – as is their inclusion in wording expressly referable to a "complex enterprise". In similar vein, in **Borg Developments**[141] as to the scope of a Boland condition, O'Neill J said: "*Needless to say in order to keep faith with the planning permission generally and the scheme in respect of which it was given, such degree of change would have to be of a very limited and technical nature and not such as to excite significant public interest and/or objection.*" If such limited and technical matters require agreement with planning authorities such that conditions are imposed to that effect, a fortiori a developer's scope for making changes unilaterally in reliance on the flexibility of a permission can be no greater.

60. In fairness, Planree's recent acceptance[142] that its position that the Deviations were minor and not material became untenable at latest once the Board – an authority competent in EIA and AA – determined in granting leave to seek Substitute Consent[143] that the deviations "for" which Planree had sought leave had not been considered in the EIA and AA which preceded the 2018 SID Permission and that EIA screening and AA thereof are required. In my view, as unauthorised development is a statutory precondition of such leave[144] – the Board's granting leave rendered inevitable Planree's concession that at least the 25 deviations identified in its leave application are Material Deviations.

## IDENTIFICATION OF THE UNAUTHORISED DEVELOPMENT – ANAYSIS & DECISION

### THE ISSUE

61. The premise of this issue is that, jurisdictionally, s.160 permits restraint of the works required to complete the Windfarm only if those works are unauthorised development.

62. Donegal CC asserts that:

[140] Boland v An Bord Pleanála [1996] 3 I.R. 435.
[141] O'Connor v Dublin Corporation & Borg Developments, Unreported, High Court, O'Neill J, 3 October 2000.
[142] Planree's written submissions §15.
[143] See below.
[144] See further below.

- the Windfarm comprises a single development the entire of which Planree rendered unauthorised by the multiple deviations they now acknowledge as material. It cites **Horne v Freeney**.[145]

- completion of the Windfarm while the Material Deviations remain unauthorised would constitute unauthorised works and/or would result in an unauthorised development in the form of a Windfarm not in compliance/conformity with the SID Permission within the meaning of unauthorised development and unauthorised works in s.2 PDA 2000 and/or s.160(1)(c) PDA 2000.

- the permitted Windfarm was subjected to EIA and AA and comprises a single project for EIA and AA purposes. The as-built Windfarm was not subjected to EIA and AA as, by reason of the Material Deviations from the SID Permission, it is, considered as a whole, a materially different project to that for which EIA and AA were done and, as to AA, on the outcome of which, as a matter of scientific certainty, the jurisdiction to grant development consent was conditional.

63. Planree says that:

- There is one development – the Windfarm. It is authorised but contains unauthorised elements – the Material Deviations. The remaining works remain authorised as, considered discretely, they continue to comply with the SID Permission.

- There is no authority that, because a development effected pursuant to a planning permission contains material deviations, the entire development as so effected is unauthorised development.[146] *"There is no basis in law for suggesting that works carried out in pursuance of a valid permission could be rendered unauthorised by other works elsewhere on a development site."*[147] *"There is no intention to carry out, or prospect of, any future unauthorised development ..."*[148]

- The view that a single material deviation renders unauthorised the entire development across 1,000 hectares,[149] is unsupported by authority and would make the planning system unworkable. The only plausible interpretation is that the works carried out in compliance with the planning permission on the Windfarm are development and not unauthorised development.
  - As I have said, the foregoing is the "curate's egg" argument: that the Windfarm is authorised "in parts", that I can injunct only the unauthorised parts and that the works remaining to complete the Windfarm are authorised by the SID Permission.

- Donegal CC has not suggested that construction of the balance of the Windfarm will lead to further unauthorised development.[150]
  - That is simply incorrect – it is precisely what Donegal CC has suggested.

[145] [1983] ILRM 426, 1982 WJSC-HC 2157, [1982] 7 JIC 0702.
[146] Planree's written submissions §62.
[147] Planree's written submissions §68.
[148] Planree's written submissions §77.
[149] In fact somewhat less but nothing turns on it.
[150] Planree's written submissions §85.





- Alternatively, the Material Deviations are each individual unauthorised developments that fall outside the ambit of the authorised development.
  - The Substitute Consent process has, it seems been initiated on a similar premise of identifying the Material Deviations, though collectively rather than individually, as development separate from the rest of the Windfarm: that *"The 25 no. alterations which make up the Subject Development for which substitute consent is being sought and which are the subject of the rEIAR and rNIS ...."*[151]

- S.160 is directed to *"specific unauthorised development and does not encompass developments that incorporate unauthorised elements."*[152]

## Analysis

64. As a preliminary observation, I confess that I cannot see how the proposition, apparently proffered as one of principle, that s.160 is directed to *"specific unauthorised development and does not encompass developments that incorporate unauthorised elements"* flows from the terms of s.160 or provides, or even usefully contributes to, a workable approach to the identification of unauthorised development and its regulation by s.160.

65. The parties were unable to direct me to any authority directly on this point of precise identification of the unauthorised development. That may be because it is unusual to seek in a s.160 process to continue actively developing a development which includes material deviations from planning permission while awaiting the regularisation by the planning authority or the Board of the status of those deviations. Or it may be because in many such cases the issue of precise identification of the unauthorised development and whether the material deviations infect the entire development need not be resolved given the view taken as to the exercise of discretion to refuse s.160 relief – for example as disproportionate – or as to the exercise of the discretion to grant limited relief focussed on the specific problem which renders the development unauthorised. Whatever the reasons, it seems there is no authority quite on point. However there are some which at least assist.

### The SID Permission

66. It seems to me that, as to identifying the development in question, the SID Permission itself, which is the inevitable source of the authority to develop, is the proper starting point. It is also clear that the "proposed development" for planning purposes is, as is required by statute and as it must be to avoid incoherence, the same as the "project" for EIA and AA purposes. As Finlay Geoghegan J said in **FitzPatrick** – *"The EIA Directive requires an EIA to be carried out of the project or proposed development for which the planning permission is sought."* [153]

[151] MKO "Scoping Report" of 10 January 2024 Exhibit B64, Affidavit of Brian Keville 29 January 2024.
[152] Statement of Case, Appendix 1, Respondent's response §6.
[153] Fitzpatrick v An Bord Pleanála, Galway County Council And Apple, [2019] 3 IR 617; Coyne V An Bord Pleanála & Enginemode [2023] IEHC 412.

[OFFICIAL]



67. Planree clearly proposed and got permission for a windfarm – one windfarm comprising all its parts. It did not get permission for multiple developments consisting discretely of those parts. That windfarm was the project subjected to EIA and AA accordingly. True, the description of the development in the Board's order does not use the word "windfarm".[154] But that is the common sense of it and the most cursory consideration of the documents confirms that that is what it is. The 2017 SID Permission application letter said: *"Please find enclosed a Planning Application for the proposed Meenbog Wind Farm……."*. The EIAR is entitled accordingly and states *"The proposed development comprises the construction of a wind farm comprising 19 wind turbines and all associated works."*[155] It repeatedly refers to *"the proposed wind farm"*. Its essential characteristic and only purpose – generating capacity – is described in terms of the entire windfarm – as *"in excess of 50 MW"*.[156] While it has many components, and though the permission is for *"up to"* to 19 turbines, The Windfarm was not proposed or permitted as comprising dissociated turbines. I suppose it is conceivable that the turbines could discretely end up in separate ownership and operate as separate enterprises, but that has not been argued – I suspect wisely. The permitted development is clearly to function as a single windfarm – a single enterprise producing a single output of electricity to the grid. The word "windfarm" conveys the collective consideration of its turbines – one would not call a single turbine a windfarm any more than a single cow makes a dairy farm. This analysis applies to ancillary works: the main internal road serves the turbines collectively; the peat cells can store peat indiscriminately from all over the Site. A similar observation can be made of the borrow pits, the electrical substation, control buildings with welfare facilities, associated electrical plant and equipment, security fencing, the waste water holding tank and the meteorological mast.

68. In all this, a windfarm is distinguishable from, for example, a housing estate or apartment block. While they have common areas and common services such as roads they, at least typically, are intended, designed for and/or facilitate subdivision of ownership and in any event discrete occupation of distinct dwellings. One need not invoke the Englishman and his castle to recognise dwellings as serving a social function individually particular to their respective occupants and they are constitutionally and discretely protected accordingly. A warrant to search an apartment does not authorise search of the apartment next door.

69. The dividing line between projects considered as unitary and those considered severable may not be precise or susceptible to minute logical analysis – Browne suggests that it may raise questions of fact and degree.[157] But having considered – and by no means discounting – the detail, examining the matter broadly confirms that what was considered in the planning application and in EIA and AA and permitted in the SID Permission was a single and entire Windfarm permitted as such in June 2018.

70. So, in my view, the starting point is that, as to what is built in reliance on the SID Permission and

[154] Or "wind farm".
[155] Non-Technical Summary P 3.
[156] Later 80mw – see above.
[157] See below.





the EIA and AA which informed it, a single Windfarm is the "development" to be considered as to whether it is authorised or unauthorised.

**Some Caselaw**

71. As I have said, there seems to be no case directly on point – all can be distinguished in greater or lesser degree but some at least assist.

Save Cork City – a workable and coherent planning code

72. Planree correctly cites Woulfe J. in **Save Cork City**[158] for the important obligation to read the PDA 2000 (and I would add, the planning code generally) to produce a *"workable and coherent interpretation"*. Of course, I entirely accept that proposition. However, it is a general proposition – not a view to be taken solely from the viewpoint of the developer. It must incorporate due regard for the purposes, objectives and integrity of the Planning Code and the many associated legislative regimes (in particular environmental law) and the legitimate interests of the public and all stakeholders. Indeed, at base, all planning law is, in its essence, a system of development control in the public interest while respecting private rights and interests. The developer, the competent authorities and the public all need reasonable certainty as to what the former can, and cannot, develop on foot of a permission. The aim is a *"workable and coherent"* planning code from all those points of view. As they inevitably conflict in varying degrees, compromises inevitably result – both in the express terms of the code and in its interpretation. Despite Planree's repeated invocation of its view of "pragmatism", I do not see the need for a *"workable and coherent"* as much assisting its argument.

Kilronan Windfarm – a wind farm project as a whole

73. **Kilronan Windfarm**[159] was a claim for an injunction to prohibit works to provide a grid connection for which planning permission had not been granted to a wind farm for which planning permission had been granted. Browne cites it as a case in which the environmental significance of a deviation rendered it material.[160] Baker *J* refused to refuse relief – for various reasons including the following:

> *"I do not accept that what has occurred is a technical or trivial breach. ….. the issue engages questions of environmental protection and the need ….. to have regard to the environmental framework of a wind farm project as a whole. Therefore, while I accept that no specific individual environmental factors have been identified ….. because the grid connection must be considered as part of the overall project, and as the overall project is one of significant potential for environmental damage, a description of the breach as being trivial, minor or technical fails to reflect the broader environmental context in which this application was brought."*[161]

[158] Save Cork City v An Bord Pleanála [2022] IESC 5.
[159] Daly v Kilronan Windfarm [2017] IEHC 308. Citing also Ó Grianna v An Bord Pleanála (No. 1) [2014] IEHC 632.
[160] Simons on Planning Law, 3rd Ed'n, (Browne) §11-583.
[161] Emphases added.

Martin – a real and sensible view of what constitutes the development

74. In **Martin,**[162] Mr Martin argued that a proposed incinerator comprised two projects for EIA and development consent purposes: respectively its construction and its operation. The Supreme Court held that though development consent might consist of the decisions of multiple competent authorities, and each might complete part of the overall EIA, as to the necessity of completion of EIA before development consent in the EIA Directive *"development consent"* meant a decision which entitled the developer to proceed with the whole, and not just part, of the project. Murray CJ held that a real and sensible view was required:

> *"It seems to me wholly artificial and unreal to seek to divide the development in this case into two, as the applicant seeks to do, thus requiring two development consents. To regard it as two projects would do violence to ordinary language. It is manifestly clear that the project in this case is for a "waste installation".*"

Horne – permitted development indivisible

75. Donegal CC, understandably, cite **Horne**[163] in particular. It was an application for a planning injunction prohibiting further works in the construction of a partly-built amusement arcade. Ms Horne said Mr Freeney had departed from the applicable planning permission in that:

- The roof was built of steel, whereas permission was for a 10-inch thick concrete slab roof.
- The ground floor as built included 30 pillars separate rooms, whereas permission was for an open space for dodgem cars.
- The first floor lacked the permitted toilet and other facilities and instead comprised an open area - apparently for the use of dodgem cars.[164]

76. The question was whether development was being effected *"in conformity with permission"*. Murphy J held not. He held that

> *"..... Planning Permission is indivisible: that it authorises the carrying out of the totality of the works for which approval has been granted and not some of them only. A developer cannot at his election implement a part only of the approved plans as no approval is given for the part as distinct from the whole. Accordingly I propose to grant an injunction ..... prohibiting the carrying on of further development works."*

Notably for present purposes, Murphy J gave liberty to apply to lift the injunction if retention permission was granted.

[162] Martin v ABP & Indaver [2008] 1 IR 336, [2007] 2 ILRM 401.
[163] Horne v Freeney [1982] 7 JIC 070 and [1983] ILRM 426 (Headnote only).
[164] Murphy J inferred that Mr Horne had in essence transposed the permitted ground floor use to the first floor.





77. Horne is relevant as:

- Murphy J's reference to implementation of "part only" was not in contemplation merely of the omission of part of a permitted development. On the facts of Horne, the deviations consisted in substituting in the development elements different from those permitted. In that, the case is similar to the present case.
- The works were incomplete and their completion was injuncted.

In their day, **Galligan,**[165] **Simons,**[166] and **Dodd**[167] cited **Horne** to the effect that a permission is indivisible. That was repeated as recently as in **Bonar's Quarry**.[168] **Browne** is perhaps less dogmatic[169] – but specifically by reference to **Dwyer Nolan**, to which I will come. And he distinctly considers the question of severability of a permission – to which I will also come.

Dwyer Nolan – multi-dwelling developments

78. Lest alarm be caused, for example as to the planning status of houses in partially completed housing developments, I refer to and respectfully endorse **Dwyer Nolan**. In that case Carroll J, explicitly considering her view to be consistent with Horne, and considering also the English decisions of **Lucas**[170] and **Pilkington,**[171] made clear that:

- at least some permissions are divisible to the effect that though left part-built, what has been built is authorised development.
- *"partial development is authorised development provided it can be regarded as severable"*. So whether a partly-completed development is an authorised development depends on satisfaction of a proviso: that it be severable development.
- this conclusion is consistent with Horne in which it was held that *"permission to construct a new building to replace existing buildings had to be carried out in all its specifications as the permission was not divisible at the option of the owner. He was obliged to carry out all the works*[172] *or obtain a variation."*
- For example, one could not build the bottom storey of a two storey house and leave it unfinished for use as a bungalow. That could not be regarded as authorised partial development since the permission was to build a two-storey house.

[165] Irish Planning Law & Practice, 1997, p92.
[166] Planning and Development Law Second Edition, 2007, §2-67.
[167] Planning Acts 2000 – 2007 Annotated and Consolidated, 2008, §1-60.
[168] Donegal County Council v P Bonar Plant Hire Ltd [2021] IEHC 342.
[169] Simons on Planning Law, 3rd ed'n (Browne) §2-145: "Horne v Freeney would appear to suggest that in the case of works, a planning permission is indivisible in that it authorises the carrying out of the totality of the works for which the permission has been granted and not some of them only. Apparently, a developer cannot, at his election, implement a part only of the approved plans as no approval is given for the part as distinct from the whole." See also §2-106: "..... although works affecting the interior of a structure are exempted development, a planning permission is indivisible and a developer is apparently nevertheless required to adhere to the plans submitted with the planning application; ..." (citing Horne v Freeney).
[170] F. Lucas and Sons Ltd v Dorking and Horley Rural District Council (1964) 2 Q.B.R. 491.
[171] Pilkington v Secretary of State for the Environment [1974] 1 All ER 283, [1973] 1 WLR 1527 at 1532.
[172] i.e. all the works permitted.

- the legislature could not have intended that the purchaser of a house in a partially completed scheme should be left vulnerable, if the entire scheme was not completed, to enforcement procedures which might deprive them of their houses and of the money which they would have invested in those houses, whether or not they built them themselves.

- failure to complete a housing scheme does not mean that the partial development which has taken place is unauthorised.

Horne & Dwyer Nolan, taken together

79. Horne & Dwyer Nolan taken together, as Carroll J in the latter case was content they should be, seem to me to be authority that:

- The default is that permitted developments are indivisible – such that partly-completed development and non-conforming development (which is to say, by material as opposed to immaterial deviations from planning permission) renders the entire unauthorised.

- The completion of a partly-completed and non-conforming development may be restrained by s.160 injunction.

- Nonetheless and by way of exception to that default position, some types of development, including and notably multiple-dwelling developments (no doubt they do not exhaust the list), are regarded as severable such that unauthorised elements of the development (whether by commission or omission) do not render unauthorised those elements of the development which, considered discretely, have been built in conformity with planning permission.

Ironborn – severance by law as opposed to self-severance.

80. In **Ironborn**[173] Mulcahy J recently noted legislative change after Horne was decided[174] such that he distinguished severance of a planning permission by operation of law (its expiry when the development is as yet part-finished)[175] from *"…… the legal effect of a developer deciding not to complete a development in accordance with the terms of the permission by omitting elements, or incorporating new or different elements, i.e. seeking to 'self-sever' certain elements of the permission …"*. Here we are concerned with the latter – the developer's decisions – not the former, and Mulcahy J did not cast doubt on **Horne** in that regard.

[173] Ironborn Real Estate Limited v Dun Laoghaire-Rathdown County Council [2023] IEHC 477.
[174] S.2 of the Local Government (Planning and Development) Act, 1982 provided that a permission ceases to have effect after its expiry but without prejudice to the validity of anything done pursuant thereto prior to its expiry. See now s.40 PDA 2000.
[175] Citing Dwyer Nolan Developments Ltd v Dublin County Council [1986] IR 130.





Browne – whether a permission is severable?[176]

81. Browne considers the relevant caselaw. Inter alia, he:

- cites **Moore**[177] to the effect that a planning permission must generally be completed in its entirety except where any particular permitted element of the development[178] is severable from the rest.

- says severance may depend on the wording of the permission and whether it was subject to EIA or AA. In my view, all three considerations tend against severability in the present case.

- cites **Lucas** as English law that permission need not be implemented in its entirety unless a condition of it so requires. **Hillside Parks**,[179] to which I will come, is to the same effect. But Browne contrasts Irish law in that regard, as stated in **Horne**, to the effect that *"a planning permission is indivisible in that it authorises the carrying out of the totality of the works for which the permission has been granted and not some of them only. In other words, a developer cannot, at his election, implement a part only of the approved plans as no approval is given for the part as distinct from the whole."*

- interprets the "net effect" of Dwyer Nolan as "not inconsistent" with Horne – to the effect that the development should be completed. In this he echoes the view of Carroll J in Dwyer Nolan that her view was consistent with that taken in Horne.

- suggests that, at least generally, where a specific condition provides that the development is to be implemented in accordance with the plans and particulars, it is not open to the developer to deviate from what was lodged. Similarly, where the application was subject to EIA or AA, it is arguable that the permission must be implemented in full.

- cautiously suggests that the position is *"somewhat less certain where the permission is clearly and unambiguously severable and where the divisible components are not functionally interdependent. In that case, it is possible that it is a question of fact and degree."*

Hillside Parks

82. Caution is required in considering English cases given their appreciably different statutory context. Hillside Parks is mostly a case about inconsistent multi-dwelling permissions – which is not the issue here. The UKSC held that a multi-dwelling permission was not to be construed, absent clear express provision, as separately permitting multiple independent acts of development. Rather it was to be construed as authorising a single scheme which could not be disaggregated in that way as *"planning permission for a multi-unit development is applied for and is granted for that development as an integrated whole."*[180] And it

[176] Simons on Planning Law, 3rd ed'n (Browne) §5.08 et seq.
[177] Moore v Minister for Arts, Heritage and the Gaeltacht [2016] IEHC 150 §455 in which Barrett J considered the cases on severability. The decision was later overturned ([2018] 3 IR 265) but not in this regard.
[178] The text reads "any particular development" but I think the added words conform to Browne's meaning.
[179] Hillside Parks Ltd v Snowdonia National Park Authority [2022] 1 WLR 1077.
[180] §50.

held that *"from a spatial point of view, a planning permission to develop a plot of land is not severable into separate permissions applicable to discrete parts of the site."* As indicated above, Browne suggests that Horne differs from Lucas – and so necessarily also from Hillside Park in this respect[181] – as to whether a developer must finish a development. But, if by a different reasoning though expressing the same view as to legislative intent,[182] Hillside Park arrives at the same conclusion as Dwyer Nolan. That is that where a multi-dwelling planning permission authorised a single scheme, failure or inability to complete the whole scheme did not make development already carried out pursuant to that permission unlawful.

83. In my view, paraphrasing Hillside Parks and nonetheless reiterating the caution required in deriving principles from English cases, planning permission for the Windfarm was applied for and was granted for it as an integrated whole – all the more so as it was subjected to EIA and AA as an integrated whole.

84. The UKSC held in Hillside Park that "a planning permission is not to be construed as authorising further development if at any stage compliance with the permission becomes physically impossible." It cited **Pilkington**[183] – on which its decision was based – for that proposition and for the view that the decision in Pilkington did not depend on the fact that building the second bungalow on the site in that case would be a breach of a planning condition, pursuant to which the earlier bungalow was built, that it be the only dwelling on the site. What mattered was whether it was physically possible to carry out the development authorised by the terms of the unimplemented permission. I confess, with appreciable diffidence, that I am not clear that that was quite the point Lord Widgery was making in **Pilkington** – which seems to have related to the law as to terms of an enforcement notice. I say this as Planree stressed that it remained physically possible to build out the Windfarm by works, considered discretely, permitted by the SID Permission. For my part, I would delete the word "physically" and say that "a planning permission is not to be construed as authorising further development if at any stage compliance with the permission becomes impossible."

85. The UKSC noted, and Donegal CC emphasises, that the Snowdonia National Park Authority had not argued,

> *"... that the continuing authority of a planning permission is dependent on exact compliance with the permission such that any departure from the permitted scheme, however minor, has the result that no further development is authorised unless and until exact compliance is achieved or the permission is varied. ..... The ordinary presumption must be that a departure will have this effect only if it is material in the context of the scheme as a whole: ... What is or is not material is plainly a matter of fact and degree."*[184]

[181] Lucas was in another aspect disapproved in Hillside Park.
[182] "... it would create intolerable uncertainty and potential unfairness, not least for parties who purchased completed units, ... where, for example, the developer ran out of money or simply decided to stop construction work but it remained physically possible to complete the development. Parliament cannot have intended accrued property rights to be made vulnerable to enforcement action taken under the Planning Acts in such circumstances, ..."
[183] Pilkington v Secretary of State for the Environment [1974] 1 All ER 283, [1973] 1 WLR 1527 at 1532.
[184] Emphases added. As indicated, I have omitted text for purposes of exposition of the point at issue. The omitted text reads "That would be an unduly rigid and unrealistic approach to adopt and, for that reason, would generally be an unreasonable construction to put on the document recording the grant of planning permission—all the more so where the permission is for a large multi-unit development."





86. The logic of this passage is that where a departure is material in the context of the permitted scheme as a whole, it will have the effect that no further development is authorised unless and until compliance is achieved or the permission is varied.

Cases and an example cited by Planree

87. Planree cites a number of cases as, it says, supportive of its proposition that an unauthorised element of a development does not render the entire unauthorised. It cites:

- **Centz**[185] – in which, Planree says, Simons J restrained the retail sale of certain goods and ordered removal of certain unauthorised signage rather than the demolition of the three separate retail premises at issue[186] or the cessation of all activities therein.
    - This case is irrelevant. The entirely unsurprising purpose of Simons J was to return one of the buildings to its permitted use as a retail warehouse[187] and to stop the unauthorised sale therein of convenience goods,[188] clothing and footwear. As to the other two premises, all retail use was prohibited as unauthorised. As to all three premises there is no suggestion that demolition was in any way in issue or was conceivably proportionate to a contravention consisting of unauthorised use. The case is simply an example of the granting of s.160 relief proportionate to the circumstances. It sheds no light on the identification of the unauthorised development in the present case.

- **Kenny**[189] – Planree cites the rejection of Mr Kenny's contention that a compliance submission and a resulting compliance order *"constituted a material variation and was, therefore, unauthorised development"*. Planree observes that there was no suggestion that the material variation of a boiler room rendered the entire 300-bedroom development unauthorised.
    - This case is also irrelevant. First, a case not argued by Mr Kenny is a case not decided. Second, the case had a complex background. The s.160 motion was dismissed on Trinity's application as an abuse of process and as bound to fail where an earlier judicial review[190] had already determined that there was no unauthorised development as any deviations were very minor and the court declined to "*become involved in such microscopic examination of matters of detail.*"[191] Indeed, it is from that 2009 decision in judicial review that I have cited the excerpt from the judgment of Fennelly J above as to the flexibility in planning permissions.

[185] Waterford County Council v Centz Retail [2020] IEHC 634.
[186] In Waterford city, Dungarvan and Tramore respectively.
[187] The term "retail warehouse" is defined in Annex 1, Glossary, Retail Planning Guidelines 2012 as "A large single-level store specialising in the sale of bulky household goods such as carpets, furniture and electrical goods, and bulky DIY items, catering mainly for car-borne customers."
[188] The term "Convenience Goods" is defined in Annex 1, Glossary, Retail Planning Guidelines 2012 as: food; beverages; tobacco and non-durable household goods.
[189] Kenny v Trinity College Dublin [2020] IESC 54, §53.
[190] Kenny v Dublin City Council & Trinity College Dublin [2009] IESC 19.
[191] Kenny v Trinity College Dublin [2020] IESC 54, §38.

- **Cantwell**[192] – Planree cites this as a case of complaint as to subsurface excavation works to facilitate services to 61 houses in which there was no suggestion that the entire 61 houses had thereby become unauthorised.

    - Roderick Murphy J was dealing with a s.160 complaint as to laying an allegedly unauthorised storm water sewer in the public roads between the housing development and an outfall to a stream some distance away. As at trial the sewer had been laid, the s.160 application was limited to restricting its use. Murphy J dismissed the application as it was clear to him that the development was executed in conformity with the relevant planning permission, the works were not unauthorised and the use of the sewers was not unauthorised.[193] So no question of precisely identifying an unauthorised development arose. And again, a case not argued by Cantwell is a case not decided. The case does not assist Planree.

- **Warrenford**[194] – Planree cites this case on the same basis as that on which it cites Cantwell. As to its facts, it resembles Centz – at issue was the use of 3 units in a retail warehouse park in Waterford for the sale of goods defined as comparison goods. The Board had declared it a material change of use and had declared internal works to amalgamate the units to be directly related to the change of use and, for that specific reason, not exempted development.[195] Finlay Geoghegan J emphasised the public interest in securing compliance with the planning code – including the Development Plan Retail Strategy – and any Planning Permission and the conduct of the parties as nearly always relevant matters to be taken into account. By the time judgment was given, the main dispute was whether there should be an order to reinstate the 3 units by reversing their amalgamation – which the landlord opposed. The court declined to so order as, on agreed cesser of the unauthorised use, the amalgamations would be (or perhaps be the factual equivalent of[196]) exempted development in any letting for a use compliant with the applicable planning permission and costly reinstatement would be disproportionate and punitive.

    - Again, this case does not buttress Planree's case. The question was not one of precisely identifying the unauthorised development or of prohibiting completion of development in light of such identification. It was simply one of identifying an order proportionate to the need to bring the use of the units into conformity with the permission. Ordering demolition would have been even more disproportionate than ordering de-amalgamation and neither would have achieved any sensible end. The Court's purpose was clearly, and entirely unsurprisingly, to bring the use of the units into conformity with the permission.

- **Krikke**[197] – Planree cites this as a case in which some only of the wind turbines were identified as unauthorised as not in conformity with the planning permission, in which the High Court's orders

[192] Cantwell v McCarthy [2005] IEHC 351.
[193] Certain aspects of the decision in Cantwell have been doubted – see Quinn v An Bord Pleanála [2022] IEHC 699. But that does not seem to affect any view I might take of the argument for which Planree cites it.
[194] Warrenford Properties v TDI Ireland [2010] IEHC 310.
[195] MacMenamin J refused to quash the Board's declaration - [2010] IEHC 13.
[196] The judgment is not entirely clear but nothing turns on that.
[197] Krikke v Barronfaddock Sustainability Electricity Ltd [2020] IESC 42 §§ 1- 3 are cited.





related only to those turbines and in which it was never suggested that the entire wind farm therefore constituted unauthorised development.

    - For similar reasons, this case does not assist Planree. The orders sufficed (ignoring the specific issues which brought the case to the Supreme Court) to bring the entire windfarm into conformity with the planning permission and so nothing turned, as so often it does not turn, on the precise identification of the unauthorised development as being merely and discretely the non-compliant turbines or the windfarm considered generally.

- Planree suggests, by way of example, that if Donegal CC is correct that, by reason of the many Material Deviations, the entire Windfarm is unauthorised, then by that logic, a dormer window larger than that permitted in a house absurdly renders the entire house unauthorised development such that the court could direct its demolition.

    - This postulate does not assist Planree. First, the question would arise whether the deviation was material. If not, there would be no unauthorised development. That is the primary means of avoiding absurdity. Second, and if the deviation was material and assuming it rendered the entire house unauthorised development, the question which would arise in any reality of which I can conceive would be of a proportionate s.160 order to bring the house into conformity with the applicable planning permission. Not merely is an order that the house be demolished not a logical consequence of the unauthorised status of the house in such an instance, it is an extremely unlikely order. A smaller window, rather than demolition of the entire house will ensue.

**Are the Material Deviations severable from the Windfarm?**

88. To paraphrase Murray CJ in Martin, it seems to me wholly artificial and unreal to seek to divide the development in this case into two, as Planree seeks to do, consisting of the Material Deviations of the one part and the rest of the Windfarm works on the others, with a view to deeming the former unauthorised and the latter authorised development. The same may be said with even more force of Planree's alternative argument that each Material Deviation is a discrete development severable from the Windfarm. It is clear from the briefest consideration of the substance of the Material Deviations – as to access roads, peat cells, borrow pits and the like that all, without exception, have no purpose or sensible existence other than as ancillary to and hence as part of the overall development of the Windfarm. The Windfarm is their raison d'etre and they are not sensibly severable from it.

89. Having excluded severance, the Windfarm is not composed of numerous developments, some authorised, some unauthorised. There is only one "development" – the Windfarm. However else a deviation from planning permission may be categorised, it must fall into one of two categories – material and immaterial. Immaterial means "does not matter" in planning terms. Material means "does matter" in planning terms. If the deviations are material, the entire development is unauthorised as development not in conformity with the planning permission. That is what "material" means. There is no sub-division of

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material deviations into sub-types some of which render the entire development unauthorised and some of which do not. Planree has identified no principle on which such a subdivision might be effected. Nor has it cited authority for the proposition - I do not see that its citation of **Luxor**[199] assists it in this regard. Nor has it identified any limiting factor whereby such a proposition could be restrained from undermining the legal requirement for permission, and for EIA and AA where required, before development is effected. And, as I have said, the whole point of distinguishing material from immaterial deviations is to provide the necessary divisor of the authorised from the unauthorised.

In my view Planree's inevitable concession that the deviations which it admits are material is decisive that its Windfarm as built is unauthorised development. Materiality of the deviations would compel that conclusion in any case but it is all the more inevitable given the Board's statutory finding that the deviations are such as to require EIA and AA.

90. On that view, the unauthorised development at issue in this case consists of the Windfarm considered as a whole.

**In What Would Completion of the Windfarm result?**

91. By way of further testing this conclusion, I think it useful and illustrative to consider what the planning status of the Windfarm would be between its completion as Planree advocates and any grant of Substitute Consent or, which amounts to the same thing in my view, after any refusal of Substitute Consent. In both cases what is left is a windfarm in non-conformity with the SID Permission by reason of 25 Material Deviations from the SID Permission. That is not to suggest that the removal or demolition of the entire Windfarm would be necessarily inevitable. Any decision in that regard would have to await enforcement proceedings of one sort or another. It might be, for example, that some form of remediation works could bring the Windfarm into conformity. I should not rule out that possibility even if Substitute Consent had been refused – though, in that event, s.160 relief might be pre-empted, in whole or in part, by the Board's ordering remedial works under s.177L PDA 2000.

92. For present purposes, I think I need only say that it seems to me clear that in either instance the Windfarm, taken as a whole, would constitute an unauthorised development. Of that analysis, any course I might take now permissive of further works of completion of the Windfarm would be permissive of the completion of an unauthorised development and so inconsistent not merely with a proper approach to environmental risk but also with proper vindication of the integrity of the systems of planning and environmental law.[199]

[199] Luxor Investments Ltd v. Wave Point Ltd [2018] IEHC 775
[199] Tesco Ireland v Statebre Transport [2024] IECA 46.





**DECISION – IDENTIFICATION OF UNAUTHORISED DEVELOPMENT**

93. For all of the foregoing reasons, I prefer the analysis of Donegal CC, to that of Planree. I hold that the unauthorised development at issue in these proceedings consists, by reason of the Material Deviations, of the entire Windfarm and not, discretely considered, of each or all of the Material Deviations. On that basis I hold that I have jurisdiction, if I think it proper, to restrain Planree's further development of the Windfarm – at least pending regularisation of its present planning status.

**ALTERNATIVE DECISION – INTERPRETATION OF S.160**

94. If I am wrong in my view that the entire Windfarm is at present unauthorised, I would in any event hold that I have jurisdiction pursuant to s.160 to restrain Planree's further development of the Windfarm – at least pending regularisation of the planning status of the Material Deviations. The presence of unauthorised development is a necessary and jurisdictional precondition to the making of such an order. There is no doubt that the Material Deviations, even on Planree's view, comprise unauthorised development. In that sense the jurisdictional precondition is undoubtedly satisfied – although Planree say it is a jurisdiction limited to orders relating to the Material Deviations themselves.

95. However, once that jurisdictional precondition – the presence of unauthorised development – is satisfied, s.160 empowers the High Court to require any person to do or not to do, or to cease to do, anything that the Court considers necessary to ensure that any development is carried out in conformity with the permission pertaining to that development or any condition to which the permission is subject. In my view, even if the unauthorised development is identified as being limited to the Material Deviations, the proposal to complete the Windfarm is to complete a development of which, as matters stand, those Material Deviations – being unauthorised development – will form part once the Windfarm is completed.

96. Even on that view, the unauthorised development is intrinsically part of the Windfarm the completion of which will produce an unauthorised Windfarm not in conformity with the SID Permission – even if by works, considered discretely – permitted by the SID Permission. I cannot see that interpretation of s.160, which jurisdictionally prohibited the Court from making an order restraining the completion of such an unauthorised windfarm, is consistent with a purposive interpretation of the s.160 as designed to ensure conformity of development with applicable planning permissions or is required by the literal text of s.160. Indeed, in my view the words "any development" and are consistent with the broad jurisdiction which Baker J identified **Shillelagh Quarries**[200] – indeed identified in **Luxor**[201] as "extremely wide" – to do "*anything that the Court considers necessary*" to secure planning compliance in the context of the identified unauthorised development.

[200] McCoy v Shillelagh Quarries Ltd [2015] IEHC 838.
[201] Luxor Investments Ltd v Wave Point Ltd [2018] IEHC 775.

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**EIA & AA – TIMING, REMEDIAL EIA & AA & SUBSTITUTE CONSENT**

97. Having decided that, on either of the foregoing views, I have jurisdiction to restrain the completion of the Windfarm, I turn to the question whether, in the exercise of my discretion, I should do so. First, however, it is necessary to place the law as to the exercise of that discretion and the question of the application of that laws in the present case, in the context of the law as to EIA, AA and Substitute Consent.

98. It is a matter of the rule of law to say that unauthorised development is forbidden by law and that, save for specific exceptions, prior authorisation of development is required by law. Retention planning permission is available to regularise genuine error in compliance and is not an alternative to be envisaged in advance, much less to be planned for, when embarking on development. It is a matter of the rule of law to say that "retention culture" if it exists in practice – in the sense of, develop and *"we'll sort it out afterwards"* – has no place in Irish law or in the development practices it regulates. That is not to impugn the motives or mindset of Planree in developing the Site or to suggest what matters planning authorities may consider in deciding retention applications. It is, rather, to place Irish law in the context of the analysis of EU law which follows.

**EU LAW**

99. One may I think, start with the insistence of EU Law that EIA be "comprehensive". In **Namur-Est**,[202] Kokott AG said: *"The starting point is the objective of a comprehensive assessment of all environmental effects"* in EIA. The CJEU in **Case C-50/09**[203] cited the requirement in EIA of *"as complete an assessment as possible"*. Essentially the same requirement in AA is expressed in terms of the necessity for certainty of absence of adverse effect on European sites. Generally, it seems logical and clear that compliance with this obligation prior to the granting of development consent requires that the project has, in EIA and AA, been described accurately and completely in all material respects. I emphasise the word "material" as immaterial deviations are irrelevant. But put simply, it is the project that has been subjected to EIA and AA and received development consent which is the project which must be built. The EIA and AA and development consent do not authorise the building of a materially different project.

100. It is a matter also of European Law to say that any "retention culture" has no place in the law as to developments requiring EIA and AA. That EIA and AA must precede development consent and that development consent must precede development are fundamental tenets of EU law on EIA and AA. As was said as to windfarm development in the first **Derrybrien Windfarm** decision of the CJEU (**"Derrybrien #1"**)[204]

> *"... unless the applicant has applied for and obtained the required development consent and has first carried out the environmental impact assessment when it is required, he cannot commence the works ..."*

The CJEU in substance accepted the Commission's submission[205] that Ireland's retention permission system, in allowing EIA of projects after their execution, undermined the *"principal objective"* of the EIA Directive that environmental effects be taken into account, via EIA, at the earliest possible stage in all planning and decision-making processes and so undermined the effectiveness of the EIA Directive. So, projects requiring EIA *"must be identified and then – before the grant of development consent and, therefore, necessarily before they are carried out – must be subject to an application for development consent and to"* EIA.

101. The Irish Substitute Consent process[206] was introduced in response to **Derrybrien #1 –** the logic of which was further explained in the second Derrybrien Windfarm decision of the CJEU (**"Derrybrien #2"**).[207] The CJEU found the retention planning permission system, as applied to EIA projects, incompatible with EU law as to EIA. Those decisions flowed from the underlying logic of the EIA Directive, which is the prevention of environmental damage, in preference to its remediation.[208] EU environmental policy is based on the precautionary and preventive principles.[209] That logic results in the *"fundamental"* objective set in Article 2(1) of the EIA Directive, to ensure that projects likely to have significant effects on the environment are subjected to EIA before development consent is given and before development is effected – see also **Inter Environnement Wallonie**[210] and **Stadt Wiener Neustadt**.[211] The issue of timing is, if anything, even more imperative and fundamental in AA as Article 6(3) of the Habitats Directive prescribes, as to possible effects of projects on European Sites, that *"the competent national authorities shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the site concerned."* That EIA and AA must pre-date the works was recognised by the Supreme Court in the **McQuaid & Ballysax Quarries** cases[212] – *"Otherwise, the requirements of the EIA Directive are being ignored."*

102. If those requirements of the EIA Directive are breached as to a project which *"... is under way or has already been completed"* then remedial EIA is necessary and *"Where national law allows, the competent national authorities are required to suspend or set aside the consent already granted, so as to enable it to be regularised or a new consent to be granted that meets the requirements of the directive."* – **Derrybrien #2**[213] and **Aalter & Nevele Wind Turbines**.[214] The obligation to remedy such breach *"applies to*

[202] Case C-463/20 Namur-Est Environnement ASBL v Région Wallonne, Opinion of Kokott AG 21/10/21, §§41, 57, 60, 72.
[203] Case C-50/09 Commission v Ireland, judgment of 3 March 2011. Cited in this regard in Balz –v- An Bord Pleanála [2016] IEHC 134.
[204] Case C-215/06 Commission v Ireland, judgment of July 3, 2008, [2009] Env L.R. D3. §§51-61 – citing in particular Articles 2(1), 4(1) and 4(2) and Recital 1 of the 1985 EIA Directive and Recital 5 of the 2011 amending Directive according to which "projects for which an assessment is required should be subject to a requirement for development consent [and] the assessment should be carried out before such consent is granted".

[205] §41 of the judgment.
[206] Part XA PDA 2000 – s.177A et seq.
[207] C-261/18 European Commission v Ireland, judgment of 12 November 2019.
[208] C-215/06 European Commission v Ireland, judgment of 3 July 2008 §58 & C-261/18 European Commission v Ireland, opinion of Pitruzella AG of 13 June 2019 §31. C-261/18 European Commission v Ireland, judgment of 12 November 2019 §72 & 73, citing judgment of 7 January 2004, Wells v Secretary of State for Transport, Local Government and the Regions, C-201/02, EU:C:2004:12, §42 and judgments of 3 July 2008, Commission v Ireland, C-215/06, EU:C:2008:380, §58, and of 26 July 2017, Comune di Corridonia and Others, C-196/16 and C-197/16, EU:C:2017:589, §33.
[209] Environmental assessments of plans, programmes and projects: Rulings of the Court of Justice of the European Union (2020), EU Commission, p92 citing Case C-332/04 Commission v Spain.
[210] Case C-411/17 Inter-Environnement Wallonie ASBL and Bond Beter Leefmilieu Vlaanderen ASBL v Conseil des Ministres, Opinion of Kokott AG delivered on 29 November 2018 §58 citing Judgments of 18 October 2011, Boxus and Others (C-128/09 to C-131/09, C-134/09 and C-135/09, EU:C:2011:667, §41), and of 17 November 2016, Stadt Wiener Neustadt (C-348/15, EU:C:2016:882, §29).
[211] C-348/15, Stadt Wiener Neustadt v Niederösterreichische Landesregierung, Judgment of 17 November 2016, (2016) All ER (D) 120 (Nov).
[212] An Taoiseach v An Bord Pleanála, McQuaid Quarries & Browne, [2020] IESC 39, [2021] 1 IR 119 §75.
[213] C-261/18 European Commission v Ireland, opinion of Pitruzella AG of 13 June 2019 §36, Judgment of the CJEU of 12 November 2019 §75. See also Coastal Concern v Minister for Housing [2024] IEHC 139 – though it does not make new law in this regard.
[214] Case C-24/19, Judgment of the Grand Chamber, 25 June 2020 §83.



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*every organ of the Member State concerned" "within the sphere of its competence".*[215] And "*subject to the limits laid down by the principle of procedural autonomy of the Member States*",[216] that obligation may require "*revoking or suspending consent already granted, in order to carry out such an assessment*".[217] Clearly, an injunction pending decision of a Substitute Consent application would, on the facts of this case, not merely be within the jurisdictional scope of the domestic law power provided by s.160, but be consistent with that contemplation of suspensive effect. The State must also, under the principle of sincere cooperation laid down in Art. 403 TEU,[218] "*nullify the unlawful consequences caused by a failure to implement or properly implement or utilise the EIA Directive.*"[219]

103. Importantly, the option of retrospectively regularising a breach by remedial EIA and/or AA of a project already built or part-built, is permissible only exceptionally[220] and must encompass its environmental impact prior to the date of remedial assessment as well as into the future. The option may not encourage or incentivise developers to bypass the EIA Directive.[221] Indeed, that they be positively dissuaded from doing so is intentionally a key objective of the EIA Directive.[222] The exceptionality requirement which is "*an essential requirement of EU law*",[223] "*heavily circumscribes*"[224] the possibility of remedial EIA or AA. It is grounded in the views, taken by the CJEU that,

- provision for remedial EIA must not offer developers the opportunity to circumvent the rules of EU law or to dispense with their application, and
- were remedial EIA of projects after their execution not exceptional, it "*may have the effect of encouraging developers to forgo ascertaining whether intended projects satisfied the criteria of art.2(1) and consequently not to undertake the action required for identification of the effects of those projects on the environment and for their prior assessment.*"

See in these regards **Derrybrien #1**[225] And **Stadt Wiener Neustadt**.[226]

104. The words "*ascertaining whether*" describe the developer's duty of active inquiry. As applied to deviations from planning permission, it identifies the developer's duty of active inquiry, when contemplating and in any event before effecting a deviation, whether it may be material in the sense of requiring EIA, AA or screening for either.

[215] Judgment of 7 January 2004, Wells, C-201/02, EU:C:2004:12, §64.
[216] Judgment of 7 January 2004, Wells, C-201/02, EU:C:2004:12, §65. §67 states: "The detailed procedural rules applicable are a matter for the domestic legal order of each Member State, under the principle of procedural autonomy of the Member States, provided that they are not less favourable than those governing similar domestic situations (principle of equivalence) and that they do not render impossible in practice or excessively difficult the exercise of rights conferred by the Community legal order (principle of effectiveness)."
[217] C-261/18 European Commission v Ireland, judgment of 12 November 2019 §75 citing judgment of 7 January 2004, Wells, C-201/02, EU:C:2004:12, §64 and judgment of 26 July 2017, Comune di Corridonia and Others, C-196/16 and C-197/16, EU:C:2017:589, §35.
[218] Treaty of the European Union.
[219] McQuaid & Ballysax Quarries cases §77. C-261/18 Commission v Ireland, Judgment of 12 November 2019 §75.
[220] C-261/18 European Commission v Ireland, judgment of 12 November 2019 §76 – citing judgments of July 2008, Commission v Ireland, C-215/06, EU:C:2008:380, §61; of 17 November 2016, Stadt Wiener Neustadt, C-348/15, EU:C:2016:882, §37 & 38 and of 26 July 2017, Comune di Corridonia and Others, C-196/16 and C-197/16, EU:C:2017:589, §§37 & 38.
[221] McQuaid & Ballysax Quarries cases §91.
[222] McQuaid & Ballysax Quarries cases §94.
[223] McQuaid & Ballysax Quarries cases §82 – following a review of the EU caselaw.
[224] McQuaid & Ballysax Quarries cases §76, Comune di Corridonia v Provincia de Macerata (Joined Cases C-196/16 and C-197/16) §§35 & 43.
[225] Commission v Ireland, C-215/06, EU:C:2008:380, §58.
[226] C-348/15, Stadt Wiener Neustadt v Niederösterreichische Landesregierung, Judgment of 17 November 2016, (2016) All ER (D) 120 (Nov).





105. There is no evidence of such inquiry in this case. Though not a formal necessity, it would seem prudent on a developer's part to record such active inquiry. That is not least because satisfaction of the exceptionality requirement "*is no easy achievement*"[227] and cannot be "*in any way standard, typical or routine*".[228] And in case of error as to materiality, such a record may well assist the developer seeking Substitute Consent in demonstrating that the error was reasonable. Conversely, the absence of such a record may, depending on circumstance, contribute to a contrary finding. The Supreme Court has cited the EU cases as demonstrating "*the restrictive nature of how and when such a process may be availed of*".[229] Its dissuasive logic was very directly described in **Ardagh Glass**[230] – "*Easy regularisation would encourage developers to ignore the criteria of art 2(1) and the Directive*" and exceptionality required that it be made "*plain that a developer will gain no advantage by pre-emptive development and that such development will be permitted only in exceptional circumstances.*"

106. The same general approach was identified by Stack J in **St Margaret's Recycling**[231] in the context of her consideration of the retention and Substitute Consent regimes: she,

- cited the unequivocal EU law obligation on the State to adopt all measures to ensure a fully compliant EIA as the basis for development consent,
- cited the EU Law requirement to deter circumvention of a requirement to submit to EIA,
- and observed that:

> "*... a strict approach is warranted in discouraging avoidance of EIA requirements through the system in place in the State for the regularisation of unauthorised development. The rationale for the strict approach, .... is to serve a deterrent purpose. ..... a lenient approach serves to encourage circumvention of the requirement to submit to screening for EIA and full EIA.*"

107. While remedial EIA and/or AA must consider the past effects "*from day one*" of the development of a project already built or part-built,[232] it seems to me obvious that EU law requires that such a remedial EIA and/or AA, in considering future effects, must consider them in the context of past effects and of the receiving environment in its condition at the time of performing the remedial EIA and/or AA. That is required by the high level of environmental protection identified by Article 114 TFEU as a "*base*" of environmental protection and by Article 191 TFEU as an "aim" of EU environmental policy. Also, Recitals 32 and 33 of the EIA Directive 2014 require that the data and information on which EIA is based be complete and of high quality and Article 8(6) requires that EIA be "up to date" when development consent is granted. And the absence of scientific doubt required in AA must exist on the best reasonably available evidence and at the date of the decision – "*It is at the time of adoption of the decision authorising implementation of the project that there must be no reasonable scientific doubt remaining as to the absence of adverse effects on the*

[227] McQuaid & Ballysax Quarries cases §85. Citing Barrett J. An Taisce v An Bord Pleanála (McQuaid Quarries) [2018] IEHC 115.
[228] McQuaid & Ballysax Quarries cases §91.
[229] McQuaid & Ballysax Quarries cases §77.
[230] Ardagh Glass Ltd v Chester City Council [2009] EWHC 745 §§101 & 102. [2009] All Er (D) 111 (Apr) and [2010] EWCA Civ 172, [2011] 1 All ER 476.
[231] St. Margaret's Recycling and Transfer Centre Ltd v An Bord Pleanála [2024] IEHC 94 §95 & 96 – citing McMenamin J in Usk v An Bord Pleanála [2010] 4 I.R. 113, Simons J. in Mount Juliet Estates Residents Group v Kilkenny County Council [2020] IEHC 128, and the CJEU in Case C-215/06, Commission v Ireland.
[232] Comune di Castelbellino v Regione Marche (Case C-117/17) EU:C:2018:129 §30, McQuaid & Ballysax Quarries cases §77, Comune di Corridonia v Provincia di Macerata and Comune di Loro Piceno v Provincia di Macerata (Joined Cases C-196/16 and C-197/16) [2017], An Taisce v McTigue Quarries Ltd [2018] IESC 54 §18, Hayes v An Bord Pleanála [2018] IEHC 338.

*integrity of the site in question …"*[233] In the **Shannon LNG** case[234] the CJEU, considering an analogous question of AA in the context of a development consent extending the construction period for a project, considered that

- relying only on a previous AA of the project[235] can't rule out the risk that it will have significant effects on the protected site unless, inter alia, *"there are no changes in the relevant environmental and scientific data, no changes to the project and no other plans or projects that must be taken into account"* and
- the competent authority must consider whether the AA *"must relate to the entire project or part thereof, taking into account, inter alia, previous assessments that may have been carried out and changes in the relevant environmental and scientific data as well as changes to the project and the existence of other plans or projects."*

108. That identification of the receiving environment is important in this case. Whereas the 2018 EIA was sanguine as to the risk of peat slides, their repeated occurrence since then and the reports, procedures and other events which ensued seem likely to represent enlightening additional information as to the actual degree of such risk and as to the necessary requirements of greater care in peat excavation and management of excavated peat than was appreciated in 2018. And any remedial EIA will necessarily reflect those considerations. Counsel for Planree agreed with these propositions.[236] The position as to Remedial AA must be the same for similar reasons – see, for example, **O'Sullivan**[237] as to the need for up to date information and data and the best scientific evidence. Further, these requirements must apply whatever the definition of the "project" for purposes of remedial EIA and AA in substitute consent – whether by way of "intra-project" cumulative/in combination effect if the project is defined as the entire Windfarm or by "inter-project" cumulative/in combination effect if the project is defined for purposes of Substitute Consent as merely the Material Deviations from the SID Planning Permission – as to "intra-project" and "inter-project" cumulative/in combination effect in securing comprehensive EIA, see **Coyne**.[238]

**IRISH LAW – SUBSTITUTE CONSENT**

109. In response to Derrybrien #1, Ireland introduced Substitute Consent by way of Part XA PDA 2000. It has been authoritatively said (in my view with some restraint) that the complexity of the Substitute Consent legislation is perhaps explained by *"the myriad of circumstances and the timeframe which it has endeavoured to cover"*.[239] There are three gateways to Substitute Consent. Obviously, all relate to built development which required EIA or EIA Screening or AA which were not done or were defectively done – otherwise the need for Substitute Consent does not arise. Common to all three gateways is *"a precondition to the issue of a substitute consent that there was a prior unauthorised development. The purpose of the grant of a substitute consent is to allow the development to continue as authorised development."* – **O'Brien**.[240] The first gate

[233] Case C-239/04, Commission v Portuguese Republic, judgment of 26 October 2006 §24.
[234] Case C-254/19, Friends of the Irish Environment v An Bord Pleanála and Shannon LNG, ECLI:EU:C:2020:655 et seq.
[235] Though in that case there had not been one.
[236] Day 3 p42 – 44.
[237] O'Sullivan v An Bord Pleanála & Irish Amateur Rowing Union [2022] IEHC 117. Citing Ackolaikarmanias v Periwallontos (Case C-43/10 §§117 & 155).
[238] Coyne v An Bord Pleanála & Enginerode [2023] IEHC 412, §403.
[239] An Taisce v An Bord Pleanála (McQuaid Quarries); An Taisce v An Bord Pleanála and Sweetman v An Bord Pleanála (Ballysax Quarry) [2020] IESC 39.
[240] O'Brien v An Bord Pleanála [2017] IEHC 510 §54.





opens where the applicable planning permission was defective and exceptional circumstances exist. There was nothing wrong with the permission in this case – it is the development that is wrong. The third gate relates to quarries. The second gate, with which we are concerned, opens on proof of "exceptional circumstances".

110. Until December 2023, the architecture of Part XA permitted a Substitute Consent application only on instruction of a planning authority[241] or by leave of the Board.[242] The Board could grant leave only if it satisfied of various matters,[243] including the existence of exceptional circumstances. It was obliged to set a time limit by which the resultant Substitute Consent application was to be made – including submission of a Remedial EIAR and/or Remedial NIS.[244] But the Board was able extend the time limit.[245] Interestingly, even where leave was granted, by s.177K PDA 2000, in making its Substitute Consent decision the Board had to consider afresh whether exceptional circumstances existed.

111. To December 2023[246] and thereafter subject to transitional provision as to processes already in train, and considering, both in deciding whether to grant leave[247] and whether to grant substitute consent,[248] whether exceptional circumstances exist, the Board shall *"have regard"* to:

- (*a*) whether regularisation of the development would circumvent the purpose and objectives of the EIA Directive or the Habitats Directive;[249]
- (*b*) whether the applicant had or could reasonably have had a belief that the development was not unauthorised;
- (c) whether the ability to carry out an EIA or an AA of the development and to provide for public participation therein has been substantially impaired;
- (*d*) the actual or likely significant effects on the environment or adverse effects on the integrity of a European site resulting from the carrying out or continuation of the development
- (*e*) the extent to which significant effects on the environment or adverse effects on the integrity of a European site can be remediated;
- (*f*) whether the applicant has complied with previous planning permissions granted or has previously carried out an unauthorised development;
- (*g*) such other matters as the Board considers relevant.

112. Given the well-established lightness of the *"have regard to"* obligation and item (g) of the list above, it is clear that the Board has a wide discretion, circumscribed only by rationality and bona fides, as to identification of the matters it may consider relevant to the question whether exceptional circumstances exist. However it is equally clear that, however wide that discretion, its discretion as to the weight it may

[241] S.177B PDA 2000.
[242] S.177C & s.177D PDA 2000.
[243] S.177D(1A), (2) & (3) PDA 2000.
[244] S.177D (7) PDA 2000.
[245] S.177E (4) PDA 2000.
[246] By the Planning and Development, Maritime and Valuation (Amendment) Act 2022 (29/2022), s.40(b), S.I. No. 645 of 2023.
[247] S.177D (2) PDA 2000.
[248] S.177K (1a) PDA 2000.
[249] I have edited the wording of this list slightly for clarity.

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attribute to those matters is "*heavily circumscribed*"[250] by the logic of the exceptionality and dissuasion requirements of EU Law as described above.

113. From December 2023[251] and subject to transitional provision as to processes already in train, s.177C was repealed[252] and s.177E was amended, such that leave to make a Substitute Consent application is no longer required. A developer may simply make such an application where it considers the criteria are satisfied. Inter alia, s.177K was amended to insert the same list of factors to which regard is to be had in considering whether exceptional circumstances exist.[253] We need not concern ourselves with why the leave stage was abolished – though **Slattery**[254] observes that, at least as to (*d*) and (*e*), the exceptionality questions are difficult to resolve without the kind of information that would be necessary to complete the Substitute Consent assessment.

114. Until December 2023,[255] and thereafter subject to transitional provision as to processes already in train, s.177E(2A) PDA 2000 provided that Substitute Consent applications other than those via the exceptional circumstances gateway might be made in relation to —

- (I) that part of a permitted development that had already been effected.
- (II) that part of a permitted development that had already been effected and all or part of the permitted development that had not already been effected.

From December 2023, s.177E(2A) is notably amended. It now provides that:

> *"Where an application for substitute consent is made in respect of development of land for which planning permission has been granted, that application may be made in relation to—*
> *(a) that part of the development permitted under the permission that has been carried out at the time of the application, or*
> *(b) subject to subsection (2B), that part of the development referred to in paragraph (a) and all or part of the development permitted under the permission that has not been carried out at the time of the application."*

115. No Substitute Consent process is challenged in these proceedings and it would be wrong of me to express any firm view on the scope and effect of these provisions. Suffice it to say that care is required as to identifying the scope of the development to which a Substitute Consent process relates and there may be advantage or disadvantage as between the pre-December 2023 and post-December 2023 regimes.

[250] McQuaid & Ballyvae Quarries cases §78, Comune di Corridonia v Provincia de Macarata (Joined Cases C-196/16 and C-197/16) §§35 & 43.
[251] By the Planning and Development, Maritime and Valuation (Amendment) Act 2022 (29/2022), s.40(b), S.I. No. 645 of 2023.
[252] As was s.177B as to notices by planning authorities requiring Substitute Consent Applications.
[253] S. 177K(1)(i) PDA 2000.
[254] Simons on Planning Law, 3rd ed'n, §16-31.
[255] By the Planning and Development, Maritime and Valuation (Amendment) Act 2022 (29/2022), s.40(b), S.I. No. 645 of 2023.





**Activity Cessation Orders**

116. Under both the pre-December 2023 and post-December 2003 regimes and by s.177J PDA 2000, once the Board has received a Substitute Consent application it may, of its own motion direct cesser of all or part of the applicant's activity or operations at the site of the development the subject of the application if the Board is of the opinion that its continuation is likely to cause significant adverse effects on the environment or adverse effects on the integrity of a European site.[256] S.177J requires some comment:

- First, s.177J creates a statutory discretion in the Board which it may exercise of its own motion. As it is a statutory and not a common law discretion, it follows as a matter of domestic administrative law that the Board must actively consider and decide in each substitute consent application whether to exercise that discretion and if so in what terms – **Stapleton**.[257]

- Second, s.177J concerns a risk that an already existing development which has unlawfully escaped EIA and/or AA may have caused, be continuing to cause or be about to cause significant adverse effects on the environment or adverse effects on the integrity of a European site. Though s.177J imposes no time limits and an activity cessation order can be made at any time in the process, that risk which an activity cessation order is required to address necessarily implies an urgency – commensurate with the circumstances and consistent with the statutory process – in the Board's first making a decision for the purposes of s.177J.

- Third, the obligation to decide whether to exercise that discretion and, if so, in what terms appears to me to imply, at least, an entitlement in the Board to notify the applicant for Substitute Consent of any decision not to issue an activity cessation order.

117. The urgency of making a decision derives from:

- the high level of environmental protection identified by Articles 114 and 191(2) TFEU as a "*base*" and an "aim" of EU environmental law, and the associated precautionary principle of EU law.

- the preventive principle of EU environmental law identified by Article 191(2) TFEU as "a priority"- the underlying logic of the EIA and Habitats Directive being the prevention of environmental damage, in preference to its remediation.[258] That logic results in the "*fundamental*" objective of EIA and AA before development is effected.

- the exceptional nature of the jurisdiction to retrospectively authorise unauthorised development which otherwise would be subject to enforced cessation in early course.

[256] S.177J PDA 2000. The section involves the service of a draft direction to the applicant and a decision once the applicant has had opportunity to comment.
[257] Stapleton v ABP & Savona [2024] IEHC 3, §257.
[258] C-215/06 European Commission v Ireland, judgment of 3 July 2008 §58 & C-261/18 European Commission v Ireland, opinion of Pitruzzella AG of 13 June 2019 §31, C-261/18 European Commission v Ireland, judgment of 12 November 2019 §§72 & 73, citing judgment of 7 January 2004, Wells, C-201/02, EU:C:2004:12, §42 and judgments of 3 July 2008, Commission v Ireland, C-215/06, EU:C:2008:380, §58, and of 26 July 2017, Comune di Corridonia and Others, C-196/16 and C-197/16, EU:C:2017:589, §33.

- the importance of protection of habitats and species protected pursuant to the Habitats Directive – they are protected precisely because they are particularly valuable and, in the case of priority species,[259] under threat and in the case of priority habitats *"in danger of disappearance"*.[260] Active Blanket Bog is a priority habitat[261] and is present on Site.[262]

- The weight of the prohibition on development imposed by Article 6(3) of the Habitats Directive – which requires proof prior to development and beyond reasonable scientific doubt of the certain absence of effect on the integrity of European Sites. This derives from the stringency of the precautionary principle as applied in Article 6(3).[263]

- The weight of the requirement of strict protection of species imposed by Articles 12 and 13 of the Habitats Directive.

118. Accordingly, I must expect that, on receipt of a Substitute Consent application as to the development at issue in this case, the Board will expeditiously decide whether to make an activity cessation order. If it does so it will be promulgated in the ordinary way. If it decides not to make such an order it will, in all likelihood, inform Planree accordingly.

119. I have considered whether s.177J is to be interpreted as implying a presumption that a developer may persist in a development requiring Substitute Consent pending a decision on a Substitute Consent application. That presumption might be said to derive from the fact that s.177J requires pro-action by the Board in making an activity cessation order. I have come to the view that there is no such presumption – that s.177J is in the nature of a belt and braces approach to enforcement of EIA and AA law. The power is given to the Board by s.177J to enable it to respond to the circumstances of the case as a supplement to the existing law as to unauthorised development – which is illegal and subject to enforcement process under planning law. To infer the posited presumption, at least as a general presumption, would be to infer statutory acquiescence in active continuation of an unauthorised development, which is a criminal offence and has, ex hypothesi, been identified as in breach of EU Law requirements as to EIA and AA. Such an inference is possible as a matter of domestic law but should not be lightly drawn. Such a general presumption would also be inconsistent with the exceptionality requirement of the Substitute Consent process as it relates to EIA and AA and with the required dissuasive effect.

120. That said, the premise of Substitute Consent is that the preservation of the development is at least a possibility and any general requirement of reversal of an unauthorised development awaiting a Substitute Consent decision would be inconsistent with that premise – at least unless the reversal was itself reversible. In **Balz**[264] the Supreme Court, considering the possibility of staying certiorari of an invalid planning permission, said that s.177J implied that,

[259] Habitats Directive Article 1(d) & Annex II.
[260] Habitats Directive Article 1(d) & Annex I.
[261] Habitats Directive Article 1(d) & Annex I #7130.
[262] 2017 NIS §3.1.2.1.
[263] Case C-127/02 – Waddenzee, Judgment of 7 September 2004 §58.
[264] Balz v ABP [2020] IESC 22, [2020] 5 JIC 050.





> *"... a determination of invalidity does not automatically mean that what was permitted under the invalidated permission should cease, or any works reversed. At a more mundane level, in applications under s. 160 of the PDA 2000, it is relatively common for courts to exercise a discretion as to whether to adjourn the proceedings themselves, or put a stay on any order for a limited period to permit the regularising of the permission if possible, or at least to permit a decision to be made on the planning merits.*

121. It seems to me that the general premise pending a Substitute Consent decision is preservation of the status quo – subject to the considerable caveat that any steps necessary to avoid significant adverse effects on the integrity of European sites pending that Substitute Consent decision must be taken and the possibility of steps necessary to avoid significant adverse effects on the environment more generally pending that Substitute Consent decision must be considered by the Board with an urgency commensurate to the circumstances. While the analysis may be different as to uses already in train, and in any event case-by-case consideration may be required, I do not see that, as to development works, s.177J creates a general presumption at planning law that their continuation pending a Substitute Consent decision is acceptable unless the Board takes steps under s.177J. It may well be therefore that the position pending a Substitute Consent decision will differ as between a wind farm already in operation when the need for Substitute Consent is seen, and a windfarm as to which the need for Substitute Consent is seen before it is complete. But I do not see unfairness, much less illegality, in any such difference. That is because the overarching circumstance is that unauthorised development has been effected which required EIA and/or AA but did not get it. Whatever about existing circumstances of works already done or use already in train, exacerbation of that legal deficit by additional such works may be considered differently to preservation of a status quo.

## The Board's Decision To Grant Leave To Seek Substitute Consent & Options Open to Planree

122. By decision of 13 October 2023,[265] the Board granted Planree leave to apply for Substitute Consent. Though, surprisingly and regrettably, the Board's Order and Directions don't recite its attitude to its Inspector's report, the parties agree, as do I, that its acceptance is broadly apparent.

123. The Inspector, by report dated 17 August 2023, had advised that the statutory criteria for granting leave had been satisfied and recommended that leave be granted.[266] In doing so he noted:

- that "*Leave to apply for substitute consent is sought for 25 No. deviations from the permitted development*".
- the without prejudice basis of the application and Planree's view that none of the deviations required substitute consent.

[265] ABP-314062-22.
[266] Inspector's Report §§7 & 8.

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124. It is useful to state the Inspector's conclusions first. He recommended, and the Board as competent authority decided, that leave to seek Substitute Consent should be granted. In doing so, the Inspector noted that s.177D(1)(b) PDA 2000 provided, inter alia,[267] that the Board,

> *"…. shall only grant leave to apply for substitute consent where it is satisfied that an environmental impact assessment, a determination as to whether an environmental impact assessment is required, or an appropriate assessment, was or is required in respect of the development concerned …"*

The Inspector advised that leave be granted as to the deviations in part because:

- the likelihood of significant effects on the environment could not be excluded and so EIA screening was required.[268]
- he was unable to state whether *"significant effects on the environment or adverse effects on the integrity of a European site required remediation or could be remediated"*[269] and so AA was required.[270]

In its decision, the Board recorded its satisfaction to that effect. So, the Deviations require EIA screening and AA and are material for that very reason.

125. I have no hesitation in saying that in view of those conclusions, and given the imperatives of the EIA and Habitats Directives as described above, it became impossible to argue that the Deviations which had been the subject of the application for leave to seek Substitute Consent were minor or non-material. Planree properly accepted that at trial.

126. It is fair to say that the Inspector's general view was sympathetic to Planree – he said that:

> *"Many of the deviations identified only came to light on forensic analysis undertaken by both the applicant and Planning Authority and it can be expected that similar issues would arise at other large scale development sites."*[271]

If this passage is to be read (it can be so read but perhaps it is not to be so read) as a sanguine acceptance that similar deviations, unauthorised and material as in breach of EU law requirements of EIA and AA, conducted prior to effecting development and by way of deviations from planning permission, are commonplace or tolerable, it must be clearly stated that such a view is inconsistent with law. That such deviations would be commonplace is not legally tolerable and its toleration is inconsistent with the insistence of EU law that remedial EIA and AA be exceptional. It is exceptional for the very reason that such toleration *"may have the effect of encouraging developers to forgo ascertaining whether intended projects satisfied the criteria of art.2(1) and consequently not to undertake the action required for identification of the effects of those projects on the environment and for their prior assessment."* – **Derrybrien #1**.[272] Only non-material deviations are tolerable.

[267] Leaving aside the criterion of exceptional circumstances.
[268] Inspector's Report §6.4.5.
[269] Inspector's Report §6.6.18.
[270] Inspector's Report §6.5.11 & 12.
[271] Inspector's Report §5.2.6.
[272] Case C-215/06 Commission v Ireland, Judgment of 3 July 2008, EU:C:2008:380, §58.





127. The Inspector noted *"from the application documents that the applicant is of the view that there is a tolerance for minor deviations from the approved planning-stage designs, in response to actual conditions encountered on the ground, and that such an approach to construction of large-scale construction projects is commonplace."*[273] MKO had said the same in its s.160 Report – though on the premise, not borne out by the Board's decision to grant leave, that the Deviations were in fact minor and non-material in planning and environmental terms.[274] In its own terms, the Inspector's is an uncontroversial observation – but only as limited to tolerance for *"minor deviations"*. Though he doesn't expressly adopt Planree's view or say so, it seems to follow that the Inspector mobilised this consideration in satisfaction of the criterion that the *"applicant had or could reasonably have had a belief that the development was not unauthorised"*. In other words, Planree's error was to mistake deviations as minor when in fact they were material as requiring EIA Screening and AA. I confess to being puzzled as to how, of itself and logically, the existence of a commonplace, proper and pragmatically necessary tolerance of minor deviations rendered such an error reasonable – and so reasonable as to appreciably contribute to exceptionality of circumstance. I would have thought that the reasonableness of such error (in this case, 25 such errors) of identification of deviations as minor, when in fact they were material, would have to be related to the specifics of the errors as opposed to a general and proper tolerance of minor deviations, if the exceptionality criterion is to be maintained. However, the leave decision is not impugned and these comments are obiter.

128. The Inspector noted that, in submitting that the criterion of exceptional circumstance was satisfied, Planree stated:

> *"The applicant could reasonably have had a belief that the subject deviations were not unauthorised. It is common for largescale developments such as wind farms to have a degree of built-in flexibility to allow for further refinement of construction activities in response to on-site conditions. The subject deviations are not considered to be material changes."*[275]

> *"The subject deviations do not result in any significant effects on the environment or adverse effects on the integrity of a European site."*[276]

However, given the Inspector's conclusion as to the need for EIA screening and AA, he cannot be read as agreeing that the Deviations were in fact or in law minor or non-material or environmentally insignificant. Nor can he properly be read as approving of a general practice that a commonplace approach to construction of large-scale construction projects may lawfully deliberately engage in material – as opposed to immaterial – deviations from planning permissions.

129. In his assessment, the Inspector advised, inter alia, that:

[273] Inspector's Report §6.6.8.
[274] MKO s.160 Report 24 May 2023 §4.2.1. – Exhibit BK1 to Brian Kivlehan's affidavit sworn 25 May 2023.
[275] Inspector's Report §5.2.2.
[276] Inspector's Report §5.2.4.

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*"In accordance with the requirements of the legislation, the Board's determination in this case, whether or not to grant leave to make such an application, must be confined solely to the retention elements of the development. This application relates to 25 No. identified deviations from the approved wind farm development."*

*"The alterations to internal access roads and turbine access roads/hardstanding areas involved groundworks/excavation, deposition of heavy stone material and alterations to the site surface water drainage network. The alterations to the access route to T7 and hardstanding at T9 were in response to a peat slide .... These works have the potential to affect the groundwater regime on this peatland site and have the ability to affect the quality and content of surface water discharges from the site."*[277]

*"The borrow pits involved deep excavation and removal of materials, in a number of instances with the excavated pit reused as a peat store. I observed substantial standing water in each of the borrow pits on my visit to the site. I consider the works have the potential to affect the groundwater regime on this peatland site and have the ability to affect the quality and content of surface water discharges from the site."*[278]

*"..... the Planning Authority's submission on the application expresses the view that a number of the deviations pose medium or higher ecological risk.* [279]

*"Having regard to the above, I am of the opinion that the likelihood of significant effects on the environment cannot be excluded by the Board and that there is a requirement for a determination as to whether EIA is required .."*[280]

*SLR considered that that same of the deviations "pose either a 'medium' or 'higher' ecological risk .... The higher ecological risks relate primarily to the borrow pits and peat cells, with medium risks relating primarily to access road alterations."*[281]

*The subject deviation works involve excavation, deposition and construction activities of a similar degree to those involved with the wider wind farm project and include works that were a direct response to a peat slide event. I consider the works have the potential to affect the groundwater regime on this peatland site and have the ability to affect the quality and content of surface water discharges from the site. In this regard I consider the deviations have the potential to give rise to significant effects on those European sites that are hydrologically connected, similar to impacts identified as part of the NIS submitted with the parent application. In view of the above assessment, I conclude that the subject development requires Appropriate Assessment."*[282]

*He also stated that that he was unable to state whether "significant effects on the environment or*

[277] Inspector's Report §6.4.3 p14.
[278] Inspector's Report §6.4.3 p14.
[279] Inspector's Report §6.4.4.
[280] Inspector's Report §6.4.5.
[281] Inspector's Report §6.5.10.
[282] Inspector's Report §6.5.11 & 12.





*adverse effects on the integrity of a European site required remediation or could be remediated.*[283]

130. Planree intimated its intention to expeditiously make the Substitute Consent application for which it has leave, including the necessary Remedial EIAR and Remedial NIS.[284] It further asserts[285] that,

- the information to hand in preparing the Remedial EIAR and Remedial NIS discloses no adverse environmental effects to date due to the Deviations. It is difficult to attribute weight to these assertions. More importantly, it is for the Board in the Substitute Consent process to weigh them.
- it furnished a scoping report with a view to the Remedial EIAR and Remedial NIS to Donegal CC in January 2024 and by reply of 25 January 2024 Donegal CC expressed itself *"satisfied with the approach"* of that Scoping Report.

131. In truth that MKO "Scoping Report" of 19 January 2024[286] is better described by the phrase in which it is more accurately entitled: "*Informal Environmental Scoping Request*" with a view to the rEIAR[287] to be submitted in the Substitute Consent application. It issued to 35 listed consultees and said that MKO, as to a proposed rEIAR, "*would welcome any comments that you might have in relation to the Subject Development, including baseline data, survey techniques or potential impacts that should be considered*". While there is nothing wrong with it, it is in quite general terms – it does not, for example, state MKO's preliminary list of "*potential impacts that should be considered*". Though it refers to the intention to prepare an rNIS[288] it does not seek similar comment – though that may not have deterred recipients. However it's most salient feature – correct given the terms of the request for, and grant of, leave to seek Substitute Consent – is that it lists;

> *"The 25 no. alterations which make up the Subject Development for which substitute consent is being sought and which are the subject of the rEIAR and rNIS ...."*

132. In other words, as I have said above, leave to seek Substitute Consent was sought and granted not for the as-built Windfarm and the remaining parts of it yet to be built, but for a single "subject development", consisting of the 25 Deviations. Donegal CC consider that Substitute Consent should be sought for the entire Windfarm, including the outstanding works, all of which has been rendered unauthorised and which, it says, constitutes the *"development concerned"* within the meaning of s.177K(1) PDA 2000. There was discussion at trial as to which approach is correct.

133. However, as the leave granted has not been challenged, I must presume it valid and Planree may make its application accordingly. It may be that, if it wished, Planree could, and might in the long run be wiser, to abandon that process and simply make a new Substitute Consent application under the regime in place since December 2023. It is not for me to advise Planree in these regards or predict the outcome of any

[283] Inspector's Report §6.6.18.
[284] Affidavit of Brian Keville 29 January 2024.
[285] Affidavit of Brian Keville 29 January 2024.
[286] Exhibit BK4, Affidavit of Brian Keville 29 January 2024.
[287] Remedial Environmental Impact Report.
[288] Remedial Natura Impact Statement.

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course it may take. For now it is clear that Planree can make at least some Substitute Consent application. It has undertaken to the Court to do so expeditiously. As a revised application would take further time, the duration of which cannot be precisely predicted and notwithstanding any resultant difficulties of enforceability, I accepted an undertaking in the somewhat vague terms of "expedition" and on the basis that Donegal CC has liberty to apply to me to revise my decision in the event a difficulty as to such expedition arises.

134. In part, the original and amended versions of s.177E(2A) PDA 2000[230] may bear on the question which is the correct approach. It is of course the law that the "project" to be subjected to EIA and AA is that for which development consent is sought and so the developer is, as it were, in the driving seat as to the identification of that project – **Fitzpatrick**[231] – subject to considerations such as those which arose in **O Grianna**.[232] However, that view of the law is premised on the circumscription by the resultant development consent of the scope and extent of a development yet to be effected. Different considerations may arise where a development is already effected and, in seeking Substitute Consent, the applicant seeks to retrospectively carve elements out of that development for the purpose of identifying them as a "development" for which Substitute Consent is sought. In that context, it may be that the comments, set out above, of Murray CJ in **Martin**[233] as to what is "*artificial and unreal*" may have some application. On the other hand, it might be that Annex II §13 of the EIA Directive allowing the identification, prospectively as opposed to retrospectively, as projects of changes or extensions to projects already authorised, executed or in the process of being executed, is relevant in substitute consent. In any event,, as will be appreciated, these comments are obiter and tendered with some diffidence as the present case did not require a detailed consideration of this aspect of the complexities of the law as to Substitute Consent.

135. The net position seems to me to be that I should now proceed on the footing that:

- Planree will expeditiously make a Substitute Consent application – indeed it may have done so since trial.
- Thereafter, and with an expedition appropriate to the circumstances, the Board will decide whether to make an activity cessation order under s.177J PDA 2000.
- In its submission on the Substitute Consent application, Donegal CC may make submissions as to the possibility of an activity cessation order under s.177J PDA 2000.[234]

[230] Supra.
[231] Fitzpatrick v An Bord Pleanála, Galway County Council and Apple, [2019] 3 IR 617.
[232] O Grianna v An Bord Pleanála [2014] IEHC 632.
[233] Martin v ABP & Indaver [2008] 1 IR 336, [2007] 2 ILRM 401.
[234] The parties were agreed in this regard - Day 3 p75.





## SCOPE OF S.160 & DISCRETIONARY FACTORS

### INTRODUCTION

136. From the voluminous caselaw[234] the following principles as to the exercise of the jurisdiction created by s.160 are apparent:

(a) In at least two senses, the "starting point" is unauthorised development.
- First, it is a jurisdictional precondition to an injunction. I have considered this issue above.
- Second, it creates a prima facie entitlement to s.160 relief subject only to the question of discretion.[235]

It has been said that "*The core focus of s.160 is on whether or not there is an unauthorised development*".[236]

(b) If the prima facie entitlement to s.160 relief is established, the discretion to refuse it will be sparingly and rarely exercised.[237] Its exercise in refusal of relief requires "*exceptional circumstances*".[238]

(c) In considering whether to refuse to make an order under s.160 or whether to limit the scope of such an order, even temporarily pending a retention or Substitute Consent application, it must be borne in mind that,
- it is not the function of the High Court to act as a planning authority and to licence the temporary unauthorised use of lands.
- In the case of development requiring EIA and/or AA or screening for either, to allow the development to continue, even temporarily, in the absence of a concluded assessment which would legally enable it to be permitted, could itself be a breach of European law.[239]

(d) If relief is to be granted, the court has an "extremely wide" power to order anything that the Court considers necessary and specifies in the order to ensure the achievement of the aims listed in s.160.

### POSSIBLE ORDERS

137. Possible orders seem to me to include the following:

- Refuse all relief.

[234] Including, but not limited to, Morris v Garvey [1983] IR 319, Leen v An Bianta [2003] 4 IR 394, Wicklow County Council v Forest Fencing [2007] IEHC 242, McCoy v Shillelagh Quarries Limited [2015] IEHC 838, Bailey v Kilvinane Windfarm [2016] IECA 92, Luxor Investments Ltd [2018] IEHC 775, Meath County Council v Murray [2018] 1 IR 189, An Taisce v McTigue Quarries Ltd. [2018] IESC 54; [2019] 1 ILRM 118, Ferry v Caulderbanks [2021] IEHC 97; [2021] 2 JIC 0507, Ferry v Caulderbanks [2021] IECA 345; [2022] 2 I.C.L.M.D. 65, Kelly Dunne v Guesford Limited [2022] IECA 223, Doody v Corrigan [2022] IECA 6, Tesco Ireland Limited v Stateline Transport Limited [2024] IECA 46.
[235] Bailey v Kilvinane Windfarm [2016] IECA 92, §90.
[236] An Taisce v McTigue Quarries [2018] IESC 54.
[237] Cork County Council v Slattery Precast Concrete [2008] IEHC 291 §12.1, McCoy v Shillelagh Quarries [2015] IEHC 838, §66.
[238] Meath County Council v Murray [2018] 1 IR 189 §86 et seq, citing Morris v Garvey (1983) IR 319. Also, Wicklow County Council v Forest Fencing [2007] IEHC 242, [2008] 1 ILRM 357 and An Taisce v McTigue Quarries Ltd [2018] IESC 54.
[239] Tesco Ireland v Stateline Transport [2024] IECA 46.

- Order cesser of all development on Site simpliciter and permanently.
  - This was not seriously pursued.

- Order cesser of all development on Site giving all parties liberty to apply to vary or vacate that order.
  - Though any such order would not be so confined, the possibility of liberty to apply to vary or vacate would, in reality, be in contemplation of developments in the envisaged Substitute Consent process.

- Order cesser of only specified development on Site – giving all parties liberty to apply to vary or vacate that order.
  - During the trial Planree made in some detail, and Donegal CC rejected, an offer to submit to such an order.

- Order remediation of the Material Deviations.
  - Donegal CC did not seek remediation at this point, though reserving the right to return to court for it.
  - Planree advocated such an order as an alternative allowing it to get on with the works generally. It is fair to say that, this option fell away at trial, largely for the reasons identified in Stateline – the difficulty of the court's defining, and assessing the effects of such works as compared to the Board's expert capacity in those regards.

**ONUS OF PROOF**

138. Browne[300] cites, inter alia, **Sweetman v Shell**[301] for the proposition that the applicant for s.160 relief – here Donegal CC – bears the onus of proof both of unauthorised development and that the court should exercise its discretion to make a s.160 order. But, while the authority is correctly cited, it appears to me that the proposition that the onus of proof as to the exercise of discretion is on the applicant for relief, is inconsistent with the many decisions to the effect that:

- proof of unauthorised development generates a prima facie entitlement to s.160 relief.
- the discretion to refuse it requires exceptional circumstances and is sparingly and rarely exercised.
- the "*defaulter is seeking the indulgence of the court*" as to what consequences he should face.[302]
- the weight of the public interests at stake (see below, both in domestic planning law and EU environmental law) are such that, once unauthorised development is proven, the proper focus of inquiry is not on why a s.160 order should be made but on why it should not be made.[303]

139. Though arguably obiter,[304] the following appears in the judgment of the Court of Appeal in

[300] Simons on Planning Law 3rd Ed'n §11-32 et seq.
[301] [2006] IEHC 85. Also Amphitheatre Ltd v HSS Developments [2009] IEHC 464 §28.
[302] Meath County Council v Murray [2018] 1 IR 189 §91.
[303] Meath County Council v Murray [2018] 1 IR 189 §124.
[304] Costello J said: "I would not entertain any appeal against the exercise by the trial judge of his discretion." But, as is not unusual, she did in fact consider the issue and concluded: "Even if the issue of the exercise of his discretion were properly part of the appeal, I would not interfere with his order."





**Guessford**:[305]

> *"As is clear from Morris, once unauthorised development has been established it would require exceptional circumstances before the court would refrain from making an order under the section. The onus rests on the offending party to establish those circumstances to the satisfaction of the court and the appellant failed in this regard. That being so, it was not appropriate not to grant relief."*

In **Morris**[306] Henchy J had said,

> *"It would require exceptional circumstances (such as genuine mistake, acquiescence over a long period, the triviality or mere technicality of the infraction, gross or disproportionate hardship, or such like extenuating or excusing factors) before the court should refrain from making whatever order (including an order of attachment for contempt in default of compliance) as is 'necessary to ensure that the development is carried out in conformity with the permission'. ...."*

140. In my view, on a proper understanding of the authorities, once the applicant for relief discharges the onus of proving unauthorised development, it is for the developer to convince the court that the exceptional discretion should be exercised in its favour by way of refusal of relief under s.160.

**DISCRETIONARY FACTORS**

**General Observations**

141. The discretionary factors at play may apply both to the question whether relief should be granted and the terms in which it should be granted. In practice, the analysis of these two issues will often properly be elided. However, in my view the caselaw indicates that the discretion to fashion a remedy suited to the circumstances is necessarily, and much, wider than that to refuse relief. Indeed, in some degree, the discretion to fashion a remedy will be exercised in most, if not all cases, in which s.160 relief is granted.

142. As *"the courts have tended to individualise each case and decide it accordingly, rather than to inquire as to whether the resulting circumstances fell within any of the illustrations mentioned in"* Morris v Garvey,[307] it follows that the list of discretionary factors is not closed. But in a given case, they may include the following list taken from **Meath County Council v Murray**[308] and since repeatedly applied, including by the Supreme Court in **McTigue Quarries**,[309] and recently by the Court of Appeal in **Stateline**.[310] In that case, Butler J, citing McKechnie J in Murray, considered it important to note that:

[305] Kelly Dunne v Guessford Limited [2022] IECA 223.
[306] Morris v Garvey (1983) I.R. 319.
[307] McKechnie J. in Leen v Aer Rianta [2003] 4 I.R. 394; Finlay Geoghegan J in Warrenford Properties v TJX Ireland [2010] IEHC 310.
[308] Meath County Council v Murray [2018] 1 IR 189. See also Leen v Aer Rianta [2003] 4 I.R. 394.
[309] An Taisce v McTigue Quarries Ltd [2018] IESC 54.
[310] Tesco Ireland Limited v Stateline Transport Limited [2024] IECA 46.

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- The list is non-exhaustive.
- It is of *"factors to be considered rather than as a checklist of criteria which must be met in each case"*.
- The discretionary factors *"are not isolated or stand-alone …but will inevitably interact with each other …"*
- *"The weight to be attributed to each factor will be determined by the circumstances of a given case …"*
- *"Some, because of their importance, may influence whether an order is or is not in fact made: others, the scope, nature or effect of that order"*.

143. In similar vein, in **Leen,** McKechnie said:

> *"It would, I believe, be unhelpful, unnecessary and, in any event, probably impossible to identify what public interest considerations one must take into account in this area of the law. It seems to me that, in general, any element or feature of public interest which arises from the particular circumstances before the court are elements or features which the court can take cognisance of when exercising its discretion under s 160."*[311]

Also, as the various factors combine in informing an overall assessment it is impossible, and would be inappropriate, to analyse them entirely discretely. Nonetheless, and accepting overlap and interaction between them, the various headings set out below are useful organisationally though not determinative.

**The integrity of the systems of planning and environmental law.**

144. In **Forest Fencing**[312] Charleton J identified *"the duty of the court to uphold the principle of proper planning for developments under clear statutory rules"*. In **Murray**, McKechnie J.

- identified the *"public interest imperative in upholding and maintaining planning control, planning regulation, orderly and sustainable development and the rule of law."*
- identified s.160 as underlain by a *"policy aspiration … of legislative compliance so that orderly development takes place in a regulated and coherent manner"* and as part of planning enforcement *"armoury … to ensure that the environmental and ecological rights/amenities of the public are preserved and enhanced and that the integrity and efficacy of planning control is maintained."*
- considered that, in the consideration of discretionary factors, that public interest *"will be ever present"* and *"most likely will stand first in the queue for consideration."*[313]
- observed that unauthorised development is a criminal offence punishable by *"imprisonment and fines on indictment up to over €12m. This is a significant expression of the high level of public concern there is in regulating orderly and sustainable development. The fact that one can apply for retention permission impacts very little, if at all, on this point …"*[314]

McKechnie J was speaking of a case of no planning permission rather than one of breach of a planning permission. While on the facts of a given case that distinction may be relevant, it does not seem to me a

[311] Leen v Aer Rianta [2003] 4 IR 394, §35.
[312] Wicklow County Council v Forest Fencing [2007] IEHC 242.
[313] See also Ferry v Cauldertanks [2021] IEHC 97, [2021] 2 IC 0507, Doorly v Corrigan [2022] IECA 6.
[314] A factor also emphasised by Kelly J in Curley v Galway Corporation Ex Tempi, 11 December 1998,[1998] Lexis Citation 6781.





distinction of principle. In either case, the development in question is unauthorised and a crime. And as I have said, a proper proportionality and discretion is brought to bear on decisions whether to prosecute. Significantly, McKechnie J framed s.160 as part of an armoury concerned, inter alia, with upholding the rule of law. Counsel for Planree described that, I think not inaccurately, as a *"moral hazard"* issue.

145. This logic as to the low weight of the prospect of retention in the exercise of the discretion applies, a fortiori, to Substitute Consent given the CJEU's insistence on its exceptionality and on dissuading breach of EIA and AA law. So, in general and ceteris paribus, s.160 relief should not be deferred pending a decision on Substitute Consent – though the discretion as to the precise relief to be granted may be affected by the prospect of such a decision and the relief may be later reviewed in light of statutory decisions in the Substitute Consent process.

146. On the facts of Murray, the public interest informed the correct approach: the proper focus of inquiry was not on why a s.160 order should be made but was on why it should not be made.[315] In other cases it has been said that there is a *"strong public interest"*[316] *"in ensuring that the planning laws are adequately enforced and the judicial failure to make mandatory orders in s.160 proceedings may dilute this effective enforcement and encourage others into thinking that they might profit from their own breaches of the planning laws"*. Such a position *"would be incredibly destructive of planning law."*[317]

147. As O'Donnell CJ said in **Krikke**:

> *"The enforcement of planning law is … of benefit to the wider community. This, if anything, has become more apparent since the implementation in Irish law of the Environmental Impact Directive …… The courts, in applying the law, must seek to find a balance between restraining unauthorised development which might be harmful to the built and natural environment and to the legitimate interests of people affected, and permitting protracted litigation to obstruct and perhaps preclude development where the breach, if one exists, may be minor and where the development is clearly permissible in principle and of benefit to the community and the wider economy."*[318]

The word "minor" here is important. And the operation of a windfarm was restrained in Krikke despite the public interest in the provision of renewable energy given the restraint would have a minimal effect in the national context.[319]

148. Though the issue in **Krikke** was as to a stay pending appeal of a s.160 order restraining the operation of a windfarm, and it must be emphasised that cases turn on their individual circumstances, O'Donnell J's judgment is illustrative in agreeing with O'Malley J that the decision of the Court of Appeal to stay the injunction,

[315] Meath County Council v Murray [2018] 1 IR 189 §124.
[316] Kerry County Council v McElligott [2021] IEHC 542, [2021] 7 JIC 3003, Doorly v Corrigan [2022] IECA 6.
[317] Bailey v Kilvinane Windfarm [2016] IECA 92.
[318] Krikke v Barnanaladdock Sustainability Electricity Ltd, [2020] IESC 42, [2020] 7 JIC 1702.
[319] Krikke v Barnanaladdock Sustainability Electricity Ltd, [2020] IESC 42, [2020] 7 JIC 1702.

*"... gave too much weight to the financial loss which might be suffered by the appellant developer if the appeal were to succeed. I also agree that it follows that insufficient weight was given to the public interest in the enforcement of planning law and, in this case, the law protecting the environment, which should have significant weight .."*

149. Furthermore, **Leen**[120] is authority that the *"very integrity"* of the planning code demands equality of enforcement – there is *"every reason"* why that should be so. While the court must take into account the individual circumstances of each case and apply the law accordingly, respect for planning law cannot be insisted upon from some and not others; otherwise, disrepute would follow and the entire regime would suffer.

150. The integrity of the EIA and AA processes fall within this category of strong public interest. Browne[121] cites **Shillelagh Quarries**[122] and **Kilronan Windfarm**[123] as suggesting that the inherent discretion in s.160 proceedings is more curtailed if there has been or continues to be a breach of EU law – the respect for which is in the public interest, as is the public interest in preserving public amenity. The imperative of ensuring compliance with EU law – the requirements of the EIA and the Habitats Directives – limits the court's discretion to refuse relief as significantly curtailed to sparing use. In such circumstances to allow unauthorised development to continue would fail to respect the integrity of the environmental legislation. The judgment of Baker J. in **Shillelagh Quarries**[124] is instructive. The context was, inter alia, one of compliance with the EIA and Habitats Directives. She considered that the discretion to refuse s.160 relief,

*"..... must be exercised sparingly, that the imperative of Community law must be respected in the exercise of discretion, and that the court should have as its starting point the fact that a development is unauthorised and that it may not by the exercise of its discretion "tacitly accept" the breach ..."*[125]

Baker J. considered that *"the public interest in the observance of environmental legislation and of determinations made by the competent authorities is a weighty imperative that guides me."* – though she said so in a context in which, on oral evidence, *"the likelihood further damage to the environment has been shown"*.[126] The judgment of Baker J is, however notable, also in that substantive environmental concerns were not her only concern. She said:

*"83. It is not merely the matter of the protection of the landscape, and the role of the court in determining whether a landscape is exposed to an environmental hazard, but the exercise, having regard to the statutory provisions, seems to me to be one where my discretion is limited and ought to be sparingly used, as any other approach would involve a failure of the court to recognise the statutory imperative, and a failure of the court to recognise the decision of the Oireachtas to determine that the operation of this quarry is unlawful.*

*84. I consider myself constrained further by the requirements of European Community law, and especially the EIA Directive and the Habitats Directive as each of these mandates that an Environmental Impact Statement is required in respect of the operation of this quarry.*

*85. Accordingly, were I to refuse injunctive relief or grant injunctive relief with respect to some of only of the operation, I consider that my decision would be one which could be characterised as a failure to respect the integrity of the environmental legislation, and allow the development to continue when it is unauthorised under Irish and when Irish law arises as a result of the obligations of Ireland and Community law."*

151. As to the integrity of the system of EU environmental law, I refer again and generally to the Derrybrien caselaw considered above.

152. In **Krikke**[127] Simons J, in granting a s.160 injunction, said that the discretion to *"forgive"* a material breach of EIA law is more limited. He cited Article 10a of the EIA Directive as to the necessity of effective, proportionate and dissuasive penalties for infringements of EIA Law and said, *"There has been a breach of EU law, and this court is obliged to ensure that there is an effective and dissuasive remedy for same."* To be clear, s.160 injunctions are not punitive. But I agree with Simons J that, as a matter of the strong public interest in the integrity of the planning, EIA and AA processes, they are expected not merely to be effective to restrain development non-complaint with EIA and AA law and planning law but also to be dissuasive of such development. Indeed such dissuasion is part of the method whereby the integrity of planning and environmental law is protected. While the decision of the High Court in Krikke was later overturned, it does not seem to me that the basis on which it was overturned impugned the analysis of Simons J in this regard. The same may be said for his observation that

*"It would not, however, be appropriate to allow the operation of the wind turbines to continue uninterrupted pending the outcome of an application for leave to apply for substitute consent. This is similar to the approach which had been adopted by the Court of Appeal in Bailey v. Kilvinane Wind Farm. There has been a breach of EU law, and this court is obliged to ensure that there is an effective and dissuasive remedy for same."*

153. In a comment applicable to this case, in which the Board has identified the need for EIA screening (leaving aside its identification of the need for AA), and as to the integrity of the systems, Simons J in Krikke also cited the requirement of the EIA Directive that any "change" or "extension" to a permitted project which is likely to have a significant adverse effect must be subject to further EIA. He considered it necessary, therefore, to carry out a form of screening exercise to determine whether a change or extension is likely to have a significant adverse effect before a decision to authorise a change or extension can lawfully be made.

[120] Leen v Aer Rianta [2003] 4 IR 394 §37
[121] Simons on Planning Law, 3rd ed'n, (Browne) §11-29, §11-575 & 576.
[122] McCoy v Shillelagh Quarries Ltd [2015] IEHC 838.
[123] Daly v Kilronan Windfarm [2017] IEHC 308.
[124] McCoy v Shillelagh Quarries Limited [2015] IEHC 838.
[125] §66. Citing Cork County Council v Slattery Precast Concrete Ltd. [2008] IEHC 291.
[126] §74.
[127] Krikke v Barnamaddock Sustainability Electricity Ltd [2019] IEHC 825 – overturned on other grounds [2023] 1 ILRM 81.

He said:

> *"Whereas it may well be the position that the outcome of a screening exercise in relation to the change in the scale and dimensions of the turbines would be that no EIA is required, this does not obviate the legal requirement to carry out such a screening exercise."*[128]

154. Without undermining the existence of the discretion, it can be said that in **McTigue**,[129] and despite the significant consequences for McTigue, a similar view of the integrity of the planning code clearly underlay the view that in response to a *"notable breach of the planning and development code"*, an order under s.160 must follow as *"only the granting of a s.160 order would be in keeping with the obligation of the courts as a judicial organ of the State to give effect to the national law."*

155. In **Balz**[130] the Supreme Court observed that,

> *"... windfarms are very substantial developments normally in remote and scenic areas, which will moreover stay in place for a very long time. The very public policy that encourages development of alternative energy – and, moreover, provides financial incentives to do so – also requires that the interests of members of the public and those entitled to participate in the decision-making process are respected, and that the process is conducted in accordance with the law. Substantial enterprises should be expected to respect the adjudications of the courts."*

While that passage was concerned with respect for the planning process and adjudications of the courts, the rationale also requires respect for the outcome of the planning process. Substantial enterprises are expected to respect the planning permissions pursuant to which they develop windfarms.

**Other Factors**

156. Here I will list the other factors identified in the cases and make a few minor comments. I will return to them in analysing the circumstances of the present case.

*(ii) The nature of the breach: ranging from minor, technical, and inconsequential up to material, significant and gross.*

(iii) *The conduct of the infringer: his attitude to planning control and his engagement or lack thereof with that process.*

- Acting in good faith, whilst important, will not necessarily excuse the infringer from a s.160 order.[131]
- Acting mala fides may presumptively subject him to such an order. (Mala fides is not alleged in this case.)

[128] Simons J §158 et seq.
[129] An Taisce v McTigue Quarries Ltd [2018] IESC 54 87, [2019] 1 ILRM 118.
[130] Balz v ABP [2020] IESC 22, [2020] 5 JIC 050.
[131] An Taisce v McTigue Quarries Ltd [2018] IESC 54, [2019] 1 ILRM 118. Krikke v Barranafaddock Sustainability Electricity Ltd [2019] IEHC 825.





(iv) *The reason for the infringement: this may range from general mistake, through to indifference, and up to culpable disregard.*

(v) *The attitude of the planning authority.*

- This factor is important, but will not necessarily be decisive. I consider it further below.

(vii) The public interest in such as:

• Employment for those beyond the individual transgressors. (This is not a major element in the present case).

• The importance of the underlying structure/activity, for example, infrastructural facilities or services. Planree invokes the public interest in renewable energy generation. I consider that issue further below.

(viii) The conduct and, if appropriate, personal circumstances of the applicant;

- In the sense of blameworthiness this is not very weighty in this case – though I do below indicate courses which Planree ought to have taken.

(ix) The issue of delay, even within the statutory period, and of acquiescence;

- This is not relevant in this case.

(x) The personal circumstances of the respondent

- Planree assert the prospect of financial losses – including complete loss of its considerable investment in the Windfarm. I consider this further below.

**The presence/absence of a likelihood of adverse environmental effect.**

157. This heading does not appear in the "Murray list", but it is a relevant factor. In this case, the risk of environmental effects if the windfarm is built out and operated before the substitute consent decision is made is disputed. I return to it below.

158. However, the pervasiveness in planning and environmental law of environmental considerations, to whatever extent they can be distinguished from planning considerations, is such that in considering s.160 applications as to projects requiring EIA and AA, sight can be lost of considerations other than the prospect of environmental effects. Such prospects of environmental effects can compel the grant of s.160 relief, but their absence, while it may be ameliorative, is not per se a defence to a s.160 application. See my reference below to **Krikke**,[132] under the heading of proportionality.

159. In **Daly v Kilronan Wind Farm**[133] the continuation of unauthorised grid connection works to a wind

[132] Krikke v Barranafaddock Sustainability Electricity Ltd [2020] IESC 42, [2020] 7 JIC 1702.
[133] Daly v Kilronan Windfarm Ltd [2017] IEHC 308 (High Court, Baker J, 11 May 2017).

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farm was injuncted. Though the grid connection works themselves posed no particular environmental threat, the breach was not trivial, minor or technical as, as those works were part of the windfarm project. It was necessary

> *"... to have regard to the environmental framework of a wind farm project as a whole. Therefore, while I accept that no specific individual environmental factors have been identified by the expert witness who gave evidence on affidavit on behalf of the applicant, because the grid connection must be considered as part of the overall project, and as the overall project is one of significant potential for environmental damage, a description of the breach as being trivial, minor or technical fails to reflect the broader environmental context in which this application was brought. The assessment of the environmental impact is a matter for the planning authority."*[334]

**Proportionality & the Precautionary Principle**

160. I will consider the relevance of the precautionary principle later in this judgment. Proportionality was considered in Murray but as to the particular issue of interference with constitutional rights in the context of a question of ordering demolition of a dwelling. It played the same role in **McDonagh**.[335] Proportionality does not appear as a distinct entry in the "Murray list" of factors but it is relevant – as to both whether and in what terms a s.160 order should be made. Indeed, one might say that proportionality pervades the "Murray list". For example:

- In **Krikke**,[336] where a substitute consent application was pending, O'Donnell J considered that a permanent restraint on the operation of the development would be disproportionate *"to the fact that permission had been granted for a windfarm development, and there was little clear-cut evidence that the development in operation was any more intrusive or offensive than the development for which permission had been granted"*. Yet, despite the absence of such evidence, the Supreme Court explicitly would not have stayed the High Court Order which had prohibited windfarm operation pro tem pending regularisation of the planning status of the windfarm.[337]
- Disproportionality was described obiter as a proper basis for refusal of s.160 relief in **Grimes**[338] and was a basis of such refusal in **Smyth**.[339]
- Proportionality played an appreciable part in the analysis of a s.160 issue by Birmingham J in **DAA v JD Motorline**[340] and in resulting orders nuanced to allow application by the developer to regularise unauthorised development.

[334] See also, Simons on Planning Law, 3rd ed'n, (Browne) §11-538.
[335] Clare County Council v McDonagh [2022] IESC 2 ([2022] 1 ILRM 353).
[336] Krikke v Barnadadduck Sustainability Electricity Ltd [2020] IESC 42, [2020] 7 JIC 1702.
[337] In light of changed circumstances and for complex reasons not here relevant, the Supreme Court, despite that view, continued the stay imposed by the Court of Appeal.
[338] Grimes v Punchestown Developments Ltd. [2002] 1 ILRM 409
[339] Smyth v Dan Morrissey (Ireland) Ltd [2012] IEHC 14.
[340] Dublin Airport Authority v Mulvihill & J.D. Motorline [2013] IEHC 310.





**THE EXPERT EVIDENCE**

161. As was said in **RAS Medical**,[341] the starting point is that the onus to raise the status of evidence lies on the party who wishes to assert that it is inadmissible or admissible only for limited purposes. In this case no objection was taken to the expert evidence adduced by either side. Nor was I asked to exclude or ignore any. Nor was there cross-examination in the case. Indeed, having got liberty to cross-examine, both parties decided against it – largely, it seems, because the materiality of the deviations was no longer in dispute. Yet the parties differed as to the prospect of environmental damage if s.160 relief was refused.

162. As this is an application for final, not interlocutory orders, and in light of **Ferry**[342] I should add that no objection was taken to my having regard to exhibited expert reports by experts who had not themselves sworn affidavits or, for that matter, to exhibited Inspector's reports. S.160 proceedings are adversarial proceedings on the civil side.[343] The necessity of objection to exhibits as hearsay evidence to their exclusion is evident in **RAS Medical**.[344]

163. I make it clear that I cast no aspersions on any of the witnesses or the authors of the expert reports. Brian Keville, deponent for MKO and Ionic/Afry in their exhibited report of May 2025 very properly acknowledged their primary duties to the court rather than their client, Planree. I have referred already to the exhibited Fehily Timoney report of 2021.[345] I do not question the sincerity of those acknowledgments or the integrity of those reports. I also appreciate the value of the intimate knowledge and experience of the project which those experts provide. However, I think some comment appropriate.

164. It is notable that MKO have been continuously involved in this project since 2013. As project managers, they prepared the original planning application, EIAR (including ecological surveys, NIS, and CEMP. The EIAR, as to Peat Instability and Failure[346] stated *"The risk rating for each infrastructure element at the Propose*[347] *Development is designated trivial and tolerable following some mitigation/control measures being implemented."* The CEMP included details of drainage, peat and overburden management and waste management and a section on Peat Stability Management which asserted that the peat stability assessment indicates an insignificant risk of peat failure and advised as to management of the risks. Once works started in November 2019, MKO provided an environmental monitoring and ECoW[348] service to the project. After the November 2020 peat slide, MKO prepared and coordinated action plans, environmental monitoring and supervised construction/remediation required in response to the peat slide. It understandably asserts *"an intimate and detailed knowledge of the Meenbog site and the wind farm development"*.

[341] RAS Medical v The Royal College of Surgeons in Ireland, [2019] 1 IR 63 §§ 70, 92, 113, 114.
[342] Ferry v Cauldertanks [2021] IECA 345, [2021] 12 JIC 2105.
[343] In referring to the civil side my purpose is to say nothing of criminal proceedings.
[344] RAS Medical v The Royal College of Surgeons in Ireland, [2019] 1 IR 63.
[345] No affidavit by Fehily Timoney was tendered in evidence.
[346] §8.5.2.4.
[347] Sic.
[348] Environmental Clerk of Works

165. Fehily Timoney[149] prepared the 2017 Peat Stability Assessment and Peat & Spoil Management Plan which informed the planning application and EIAR. It also prepared the 2021 Peat Stability Assessment after the November 2020 Peat Slide. Ionic/Afry swore no affidavit but in its exhibited s.160 report, very properly disclosed the following:

- It is hugely committed to the windfarm industry – offering "Owner's Engineer Services" directly in the delivery of projects through the pre-construction and construction phases. It has completed over 120 onshore wind projects in Ireland since 2004 comprising over 1000 individual wind turbines and so claims to be the leading provider of these services in Ireland.
- It has been involved in this project since 2019 in the following capacities:
  - Civil Design Sub-Consultant – including the design of existing and new roads, concrete foundations, crane hardstandings, and the certification of turbine foundation formation levels.
  - Peat Storage and Stability – Assessment and Design.
  - Drainage and Culverts Design.
  - The statutory safety role of Project Supervisor Design Process.
  - Site Engineer – Testing and Monitoring.
  - Project Management role – assisting in delivering all technical aspects of the project – other general project management tasks as may be required.
  - Management of the Civil Works Contract with Mid-Cork Electrical – including review of proposed designs, dealing with commercial and programme issues, and monitoring all key stages of the works.
  - Pre-Construction Phase – Site Investigations – AFRY assessed the work of others in this regard but also repeatedly walked the site before the design of each section of the works with a particular focus on higher risk areas. It decided on and bespoke additional peat stability testing. It prepared Design Risk Assessments for each individual element of work, including of Peat Management and, after the November 2020 Peat Slide, a Peat Slide Stabilisation Design Risk Assessment.
- Its role as designer is to assess the specific hazards and risks associated with the specific type of works to be designed and to establish and assess the data required to allow the associated design of the works to be appropriate for the location in question and to mitigate those risks to the level that is reasonably practicable. Inter alia, this involved deciding if risks, including civil engineering risks, needed mitigation. Typical actions would involve getting additional ground investigation to confirm designs, minimising excavations and using additional materials such as geogrids. Designs would incorporate such mitigation.
- MKO's CEMP and Fehily Timoney's Peat Stability Assessment were main relevant inputs to AFRY's pre-construction assessment of the Site.

166. AFRY's opinion[150] is that:

> *"To date the project has been delivered in a very professional manner by a client with a strong track record of successful project delivery and a team of contractors and consultants who are amongst the most competent and experienced in their respective fields. The peat slide of November 2020 was an unfortunate event which was caused by reasons outlined by the experts in this field and is not a reflection of the approach taken by the construction team or the standard of the works on site. In fact, the expeditious and very professional response to that event is a testament to the quality of the team on site. Each main element of the works is well advanced and in our professional opinion, there is a robust plan in place to safely and successfully complete the works to the required standard of safety and quality, within the parameters of the existing planning permission and with a low level of risk of any further adverse event."*

[149] Sub nom AGEC Engineering Consultants.
[150] Report May 2023





167. While AFRY's opinion is undoubtedly well-informed and may well be an opinion with which an independent expert would agree, it is an opinion on the performance of a team of which Afry itself was an important member. It is important to say that none of the foregoing implies fault or error or lack of competence on Afry's part – nor was that suggested. It is no reflection on Afry's integrity or sincerity in its effort to assist the court to say that one is left, nonetheless, with a certain unease that in legal proceedings an expert defending the works which caused or contributed to each peat slide is an expert who, at least in appreciable degree, designed and supervised them, including the Material Deviations. To appreciable degree, the back Afry is explicitly patting in its conclusion is its own. Similar observations can be made as to MKO and Fehily Timoney – again emphasising that no aspersion is cast on their expertise, performance or integrity, or, indeed, their appreciation of their duties to the court. And, as with Afry, not merely did they disclose their involvement on the project – it was the explicit basis of their evidence. They are also the experts tendered by Planree to assert that it is environmentally safe to do further works whereas Donegal CC, and its expert, are unconvinced that their completion is safe pending completion of the substitute consent process.

168. While expert evidence may be excluded for conflict of interest, that will not necessarily be the case – **Toth**[151] and **Factortame**.[152] Nor is the issue of admissibility of expert evidence decided as to conflict of interest on the objective bias test applicable to decisionmakers – for reasons including that the rigid application of such a test would pose insurmountable problems in litigation – **Factortame** and **O'Leary**.[153] While, as has been observed, the ideal must bend somewhat to the practical,[154] it remains notable that no expert tendered by Planree was independent of the Windfarm project or of the aspects of the project which resulted in these proceedings.

169. As stated, Donegal CC made no application to exclude the expert evidence adduced for Planree, nor did it argue a conflict of interest point, nor did it argue that the evidence of the experts tendered by Planree should be discounted as to weight by reference to any conflict, nor were those experts cross-examined. However, as was said in **Toth**, *"…. it is for the court and not the parties to decide whether a conflict of interest is material or not. The court may take a different view from that of the parties as to whether an expert has a conflict of interest which might lead the court to reject the independence of his opinion…"*[155] That said, in light of the view I take as to the resolution of this motion, I do not consider that I need to resolve any issues of difference between the respective experts whose conflicting affidavits and affirmations are before me – Mr McCormack and Mr Arnold for Donegal CC and Mr Keville for Planree. Indeed, the considerations I have canvassed above as to the expert evidence and the absence of argument on them propel me to the view that

[151] Toth v Jarman [2006] EWCA Civ 1028, [2006] 4 All ER 1276.
[152] R (Factortame) v Secretary of State for Transport, Environment and the Regions, [2002] EWCA Civ 932, [2003] QB 381, [2002] 4 All ER 97, [2002] 3 WLR 1104.
[153] O'Leary v Mercy University Hospital [2019] 2 IR 478.
[154] University College Cork v ESB [2015] IEHC 598 §1186.
[155] Toth v Jarman [2006] EWCA Civ 1028, [2006] 4 All ER 1276 §112.

I should not do so. It seems to me that any such resolution is best left to the expert body most competent to resolve such disputes – the Board.

170. Notably however, the EPA investigated the November 2020 peat slippage, approved the remediation works and later peat stability assessments and in effect authorised resumption of the works. ARUP Consulting Engineers advised the EPA on the geotechnical and peat stability aspects of the investigations.[156] Accordingly and for the purposes of this judgment and without in any way trammelling the judgment of the Board to be exercised in due course, I think I should approach the matter on the basis that, as to specifically geotechnical and peat stability risks, the intended works do not pose concerning risk. However, this does not get Planree very far given the more general finding of the Board as expert competent authority that the Material Deviations require EIA Screening and AA in a Substitute Consent application.

171. As was said in **RAS Medical**,[157] it is incumbent on the party who bears the onus of proof of establishing contested matters in its favour to use appropriate procedural measures to ensure that the potentially conflicting evidence is challenged. So, as between the respective experts, I cannot prefer Planree's evidence as to environmental risk to that adduced for Donegal CC. And, as I have found, unauthorised development having been established, Planree bears the onus of demonstrating that the discretion to refuse relief should be exercised in its favour as to the completion of the Windfarm in advance of a decision by the Board in the Substitute Consent application. Insofar as the dispute as to the environmental risks of works proceeding is concerned, I hold that it has not discharged that onus.

## DISCRETION – ANALYSIS & DECISION

### Remediation Order

172. While I have power under s.160 to make a remediation order – including for removal of the Windfarm and restoration of the site to its prior condition – I consider that I should do so only if there is no better alternative means of bringing the Site into compliance with planning and environmental law. I take that view for the following reasons:

(a) Donegal CC did not seek such an order at this point – though it reserved the right to do so after the Board has made its decision as to Substitute Consent.

(b) Such an order would be disproportionate and unfair to Planree – not least as it has, ultimately, permission to build and operate a windfarm at this location. The principle of such development is established in its favour. It has invested great time, effort and large sums of money in a project in which there is an appreciable public interest (even if the weight of that public interest does not require refusal of s.160 relief[158]). Planree should be allowed an opportunity to regularise its position – and the

[156] MKO s.160 Report 24 May 2023 §3.3 – Exhibit BK1 to Brian Keville's affidavit sworn 25 May 2023.
[157] RAS Medical v The Royal College of Surgeons in Ireland, [2019] 1 IR 63-932.
[158] See below.





Board has determined, in the exercise of its jurisdiction in Substitute Consent, that it should be allowed that opportunity.

(c) This is clearly a highly delicate Site environmentally. There must be an appreciable risk that remediation works, unless very carefully and expertly scoped and supervised, could do as much, or even more, harm than good. I respectfully agree with the observation in **Tesco v Stateline**[159] wherein the Court of Appeal noted, in a s.160 context, its "*wide power*" and stated:

> *"[L]arge parts of the planning code derive from EU law requirements which the State has implemented by imposing obligations on planning authorities and others to carry out environmental assessments as an integral part of the process leading to the making of a planning decision. Those assessments must be based on stipulated information to be provided by a developer and, crucially, must include an opportunity for the public to participate and to make submissions on the proposed development before any decision is reached. A court exercising jurisdiction under s.160 is simply not in a position to carry out such an assessment or even to safely carry out a screening assessment in order to be satisfied that a full assessment is not required. Apart from lacking the necessary expertise, the essential element of public participation cannot be readily accommodated in litigation inter partes …"*

173. Further, I note that the Board in the Substitute Consent process will, as an expert competent authority, perform any necessary EIA Screening, EIA and/or AA and on completion of that process and informed by it, have power to impose conditions on any Substitute Consent or, on refusing Substitute Consent have power under s.177L PDA 2000 to impose measures remedial of the Material Deviations. That seems to be an obviously preferable route to environmental remediation to remediation by s.160 order where, as here, the choice between them presents.

174. On occasions, the Court is obliged to go down the s.160 route as to site remediation and it may yet prove necessary in the present case. But it is often fraught with difficulties such as those evident, for example, in **Brownfield** – the Whitestown Dump saga – to which the trojan efforts of Humphreys J have been devoted over many years and in which the 10th judgment was recently delivered.[160] Though I do not suggest that the materiality of the deviations in this case are of the same order as in that case, the general point is that the courts are ill-suited to manage complex remediation projects. If they must, they will, but it is generally preferable, if the option presents (as it does here), that the regularisation of the planning and environmental status of a Site be addressed by the statutory and expert body empowered to that end via, in this case, the Substitute Consent procedure.

175. In circumstances in which a Substitute Consent procedure is firmly in prospect and may either obviate the need for remediation or direct it, I am not, at least for now, prepared to make a remediation order.

[159] Tesco Ireland Limited v Stateline Transport Limited [2024] IECA 46.
[160] Brownfield Restoration Ireland Ltd v Wicklow County Council [2023] IEHC 712.

**WHAT IS AT STAKE?**

176. Given my views as to remediation of the Site, what is in essence at stake at this point in these proceedings is what is to happen pending the determination of the Substitute Consent application. I do not purport to assume, much less decide, what the outcome of that application may be and what is implications may be for the planning status of the Windfarm. The question now is whether Planree may finish out the Windfarm and operate it pending the determination of the Substitute Consent application or any earlier decision of the Board in that process in favour of continuation of the works.

**THE SUBSTITUTE CONSENT APPLICATION**

177. I am not moved by Planree's having made its application for leave to seek substitute consent on a "without prejudice" basis *"in order to adhere to DCC's expressed preference."* Nor, in my view sensibly, did Planree really argue the point. DCC's letter of 27 April 2022 did not express a "preference" as if between available options. Correctly or not, it expressed the clear view that Substitute Consent was the only means of regularising the planning status of the Windfarm. Planree's application for leave to seek Substitute Consent may or may not have prevented Planree from arguing that its deviations from planning permission were immaterial. But, as I observed earlier, such a position became untenable once the Board in granting leave, determined that EIA and AA of the Deviations were required and so Planree no longer contests that the alleged deviations are Material Deviations from the SID permission.[301] Indeed, by the Board's doing so, much of the premise of Planree's affidavits and reports in these proceedings – that the Deviations were minor and immaterial and could be taken as involving no significant environmental effects – was undermined.

178. As noted earlier, the application for leave to seek Substitute Consent was made, not for the entire development as-built, but "for" the 25 deviations listed by Planree. While, colloquially, this is sensible enough, it may be arguable that this approach did not, at least in terms, accord with the legal position. There is no challenge in these proceedings to the validity of the leave to seek Substitute Consent granted by the Board. Its validity may not be impugned in these proceedings. Nonetheless, the Board will wish to proceed in accordance with law in the Substitute Consent process.

[301] Planree's written submissions §15.





**DISCRETIONARY CONSIDERATIONS**

**The Nature of the Breaches**

179. The breaches here are by way of deviation from a project subjected to EIA and AA on a site of considerable environmental vulnerability – indeed, as events demonstrated, greater vulnerability than the EIA and AA had recognised (though that is not, per se, a criticism of the EIA and AA). Though not itself in a European site, the Site is comprised in large part of blanket bog which, at least in part, is active and so is a priority habitat.[302] Even the inactive bog is still a valuable habitat identified as such in Annex I of the Habitats Directive. The Site is cheek by jowl with a number of European sites with which it is closely hydrologically connected. Indeed, one need say little more than that the Board has decided that the Deviations are material because they require EIA Screening and AA. Exacerbating this aspect of the matter is the sheer number of Material Breaches. While, on the spectrum of severity of planning and environmental law breaches, they are not at the most severe end, all this puts them clearly on the wrong side of the mid-line.

**Planree's Conduct**

180. This factor bears reciting in full: *"The conduct of the infringer: his attitude to planning control and his engagement or lack thereof with that process"*.

181. Planree did not submit that the Material Deviations in this case were accidental or inadvertent as to the commission of the works involved. Nor could it have. Not least, in a project costing €100m with access to and supervision by highly competent professional advisors, including engineers and surveyors, and absent direct evidence of accident or inadvertence, it cannot be inferred that development outside the "red line" of the permitted Site was inadvertent. The observation of McKechnie J in **Leen** applies: *"It would, I believe, be unthinkable that the company did not have available to it experts in every discipline relevant to the issues in this case. It must have consulted both lawyers and planners ..."* Nor can it be inferred that the expansion of a pre-existing borrow pit to 2 hectares – 10 times its prior size – and its use as a peat cell was inadvertent. There was simply no permission for such works.[303] The truth no doubt lies in Planree's submission that these and the others were examples of the *"unauthorised developments"* described in its written submissions as *"typical"* of and *"uniformly the case for projects of this scale"*. I do not infer mala fides or contumacious disobedience of planning law. It may be that, despite the resources available to Planree and despite its attitude that unauthorised development is routine, its appreciation of the materiality of the deviations came late. But, short of that, the submission necessarily implies that the deviations were deliberate. And, as the authorities make clear, acting in good faith is not, per se, a defence to an application for a s.160 order. For example, Planree cannot make Barranafaddock's claim in Krikke to having actively engaged with the planning authority as to its desire to make material changes.

[302] 2017 NIS §3.1.2.1.
[303] Compare Site Layout Plan 3 (Exhibit MMc01 Tab 4) and the "Plot 1" in the map attached to the Notice of Motion.

[OFFICIAL]



182. Mr McDermott for the Council[364] raised fair questions, which he says the affidavits of Mr Keville and Mr Murnane had not addressed, to the effect that the MKO s.160 Report is lacking as to:

- The point at which the requirement for deviations from the permitted development arose.
- Whether MKO was given advance notice of the said deviations as part of its environmental monitoring regime and ECoW service for the project.
- The point at which MKO learnt of the deviations/unauthorised works.
- Any consideration given to securing prior consent from An Bord Pleanála for the deviations/ unauthorised works.
- Whether MKO advised against the deviations/unauthorised works.

183. No evidence of consequence is adduced by or for Planree as to the advice it received or its decision-making processes in and about deciding to effect the Deviations. If only as to the developments outside the red line and the unauthorised excavation of 2-hectare borrow pit and its use as a peat cell, it is difficult to imagine that on such an expertly supervised site there was no pause for thought before proceeding and no record made of those thoughts. We are not told what those thoughts and decisions were save as recounted above in the table of deviations. This observation is thrown into some relief by the observation in the MKO s.160 Report[365] that:

> *"There is established precedent in the context of the S.146B process for sometimes significant deviations within strategic wind farm development projects to be considered as non-material."*

Given MKO volunteered this observation, it provokes some comment:

- First, there is no evidence that Planree or its advisors considered or advised or decided, as to a process asserted to relate to non-material deviations, whether the very many deviations in this case should be validated via the s.146B[366] process.

- Second, it is difficult to know, as a matter of language, what sense to make of the suggestion that "significant" deviations can be simultaneously "non-material".

- Third, it is notable that s.146B allows:
  - the Board to determine, and the developer to ascertain, if a deviation is material.
  - at least the possibility of public participation.
  - consideration of EIA and Habitats law in making that determination.

184. If anything, MKO's observation as to s.146B is exacerbating rather than ameliorating. Planree failed, for no explained reason, to avail of the very statutory facility made available to meet its need to alter the terms of the strategic infrastructure development on which it was embarked – which facility was made available by statute to provide it with certainty as to the validity of such alterations. McKechnie J made an analogous comment of the respondent in **Leen**: *"If it was dissatisfied with either condition or felt that it could*

[364] Affidavit sworn 6 June 2023 §25 & 54.
[365] MKO s.160 Report 24 May 2023 §4.2.1. – Exhibit BK1 to Brian Keville's affidavit sworn 25 May 2023.
[366] Inserted (31.01.2007) by Planning and Development (Strategic Infrastructure) Act 2006 (27/2006), s.30, S.I. No. 684 of 2006.





*not meet the requirements thereof, then it should have appealed to An Bord Pleanála or sought a new planning permission or otherwise should have taken steps to avoid its resulting non-compliance."* If, as I suspect, delay in the Board is a problem and part of the explanation, while I have some sympathy for Planree, the Court must, nonetheless, uphold the integrity of the planning and environmental law system.

185. In that light and in my view, that material (as opposed to immaterial) deviations from the SID Permission were effected, as Planree asserts, for practical or pragmatic reasons or for better environmental protection is not weighty. It is the competent authority in EIA and AA, not the developer, who, having consulted the public and other consultees, decides what is environmentally desirable or acceptable.

186. As Simons J said in **Krikke**[367] *"The case law indicates that the rationale for allowing some flexibility in planning permissions is to address unexpected contingencies during the course of the carrying out of the development."* As to *"unexpected contingencies"* Planree's bland submission that the breaches were a *"prudent reaction to actual on-site sub-surface conditions rather than undertaken in ease or for the convenience of the Respondent"* is unconvincing. The evidence does not much improve on that bland assertion. As the table of deviations shows, many deviations were not explained in any real way. Certainly, straightening the hairpin bend (the presence of which was always plain to see – even before the 2017 SID planning application – and by no stretch could it be described as an unexpected contingency) was for Planree's convenience in easing access to the Site by larger loads. If that is explained, as I think it is, by the need to deliver larger rotors on foot of the s.146B decision of June 2019, the straightening of the hairpin could have prudently been included in the application for that decision or by way of an amending planning permission application at that time – a point made by Donegal CC.[368] And as for *"prudent reaction"* as explaining other Material Deviations, it seems to me that prudence properly should have taken the form of s.146B applications. Indeed that is what Mr Arnold affirms.[369] The submissions that the Material Deviations represented better environmental decisions than those permitted ignores, as I have said, that where they involve material deviation from the planning permission it is for the competent authority, not the developer unilaterally, to decide what are better environmental decisions.

187. While I do not find contumacious disregard for planning laws and am conscious of the approbation of the EPA and Donegal CC of the manner in which Planree remediated the November 2020 peat spill and also of its co-operation with the Council's investigation of the Deviations, I do not see this factor as, in any appreciable degree, assisting Planree in persuading me to exercise my discretion in its favour. Indeed, that approbation and co-operation are, perhaps a little illogically, a factor in my not expressing a more critical view of Planree's conduct prior to the November 2020 Peat Slide.

[367] Krikke v Barnesfaddock Sustainability Electricity Ltd [2019] IEHC 825.
[368] Affidavit of Martin McDermott sworn 6 June 2023 §23 & 47.
[369] Affirmation of Richard Arnold 8 June 2023 §8.4.

**Public Interest – Integrity of the Systems of Planning And Environmental Law.**

188. I consider the integrity issue after my consideration of the nature of the breaches and Planree's conduct because my views in those regards feed into my view on integrity of the system. As Butler J said in **Stateline**: *"... the factors to be considered by a court in exercising its discretion under s.160 are not isolated or stand-alone factors but will inevitably interact with each other ..."*

189. I have already set out above the law as I understand it in this regard and have already to some degree sought to apply it to the circumstance of this case. I repeat that this consideration is generally, and I consider in this case, *"first in the queue"* of considerations affecting the exercise of the discretion and proceeds from both domestic and European law – including as to the importance of dissuasive effect and the enforcement of planning and environmental law.

190. In Krikke, Simons J held that the principal factor weighing in favour of the grant of relief was that the project was "*subject to the EIA Directive. The EIA Directive obliges a Member State to provide effective, proportionate and dissuasive penalties for breaches of national legislation. The importance of ensuring compliance with the EIA Directive has very recently been emphasised by the judgment of the CJEU in Case C-261/18, Commission v. Ireland (Derrybrien).*" That weight is increased in this case by the Board's identification of the need also for AA.

191. In my view, the issue of the integrity of the planning and environmental law systems weighs heaviest in this case of all the factors in play and does so in favour of the grant of s.160 relief. It is particularly important that, in large infrastructure projects in environmentally sensitive locations, the commitments made by and imposed on developers in planning, EIA and AA processes are kept. Prominent amongst those commitments is that, allowing for proper flexibility as to minor deviations, the development shall, as the conditions of a planning permission all but invariably require and as Condition 1 did in this case, and as is in any event required by the very logic of a permission, be carried out and completed in accordance with the plans and particulars lodged with the application (save as varied by planning condition) and with the environmental commitments deriving from EIA and AA. That is important not least as, in appreciable degree, the system operates on trust that developer will abide by those commitments. The planning authority and the public cannot maintain a constant invigilating presence on site. For example and notably, the many Material Deviations in this case appear to have come to the Council's attention only by reason of the unhappy coincidence of the November 2020 Peat Slide which prompted the Council to a more general investigation of the project.

192. As stated earlier, substantial enterprises are expected to respect the planning permissions pursuant to which they develop windfarms. Though I note the Board's view that the errors were reasonable, I confess the view that the fact that a Substitute Consent application is required as to no less than 25 Material Deviations is inherently unimpressive. In discussing at trial with counsel for Planree the issue of the integrity of the process, the following exchange occurred:

- Judge The problem with all of that is you haven't respected the integrity of the process.





- Counsel I accept that, Judge. And we're sorry about that. But we are exactly where we are. And we can't –
- Judge I know but "we are where we are" is the kind of reasoning that actually doesn't respect the integrity of the process. In other words, the Court is presented with a fait accompli.

I remain of that view.[170]

193. In similar vein, in discussing at trial[171] with counsel for Planree the issue of the integrity of the process, it was observed that the hairpin bend was "straightened" by way of Material Deviation, including by way of some development outside the red line, to facilitate the delivery of larger turbines to the Site than had been envisaged in the SID permission – which larger turbines had been later permitted pursuant to s.146A PDA 2000. Unless a s.160 order is made, all turbine deliveries will use this straightened and unauthorised route and it seems that the hairpin might prevent such deliveries. It remains to be seen whether the straightened and unauthorised route will receive Substitute Consent. I must assume that either grant or refusal is possible. If I refuse a s.160 order and the larger turbines are delivered before any decision by the Board, and in due course Substitute Consent is refused for that straightened and unauthorised route, Planree will have had a very considerable benefit from unauthorised development – indeed, the very benefit for which the Material Deviation in question was intended. I provisionally expressed the view at trial, which I now affirm, that such an outcome would not be respectful of the integrity of the planning process. Counsel for Planree did not disagree.

194. He did argue that such an effect would be disproportionate as it would stymie the development – but I have no evidence that Planree could not revert to turbines of a configuration envisaged in 2018 as capable of delivery by the hairpin route or otherwise arrange delivery of the larger turbines – though I do not doubt, at considerable cost. It must also be remembered that such a scenario is premised on the Board's refusal, presumptively for good reason, of Substitute Consent for the straightened route. And, of course, if the Board grants Substitute Consent or allows delivery in exercise of its powers under s.177J, the problem will not arise. All in all, I cannot see that the consideration identified by Planree in this regard should dissuade me from properly vindicating by my order, the integrity of the planning and environmental law codes.

195. Finally, I should say that I have considered the possibility that **Kilvinane Windfarm**[172] and **Krikke** (in the High Court) differ from this case in that, in both, operation of the windfarm was injuncted as to unauthorised longer rotors and in Kilvinane Windfarm the turbines were in the wrong place. In a sense it could be said that operation of the windfarm in those cases would have allowed the developer to reap the financial reward of directly that element of the development which was unauthorised. In the present case, the precise works remaining and intended, primarily to erect the turbines, are as permitted by the SID permission. In a sense the operation of turbines thus erected is at some remove from the substance of the Material Deviations at issue. However, I consider that too narrow a view. In my view and as I have found, the entire development is at present unauthorised – as would be the Windfarm if completed and operated. I

[170] Day 2 p201.
[171] Day 3 p73 et seq.
[172] Bailey v Kilvinane Windfarm [2016] IECA 93.

have addressed the issue of the straightened hairpin. Further, the unauthorised borrow pits and peat cells no doubt facilitated the development generally.

196. For these reasons, the public interest in integrity of the planning and environmental law system weighs heavily to the effect that the Material Deviations should be regularised – if that is the outcome of the Substitute Consent process – before Planree can be permitted to reap the benefit of them.

**Public Interest - Wind Energy Projects**

197. Planree also invokes the significance of onshore windfarms to the delivery of renewable energy generation and the reduction of GHG[173] emissions by fossil-fuel generation of electricity as part of Ireland's Climate Change Strategy. That significance is so well-rehearsed as not to require further detailed rehearsal here.[174] I entirely accept the general proposition that national policy strongly supports development of wind energy projects. I also accept that, in a general sense, the Windfarm has a place in that policy.

198. However, Planree's invocation of that policy as it relates to the Windfarm is entirely general. Planree says[175] that the Windfarm would be "*in the top five wind farms by generating capacity in the country, out of the 309 wind farms connected to the Irish electricity grid as of 1st March 2022.*" But clearly, as a matter of maths, that does not quantify the Windfarm's contribution as a proportion of national renewable energy targets – mathematically, one could easily be in the top 5 of 300+ windfarms and yet not contribute a nationally significant proportion of generation capacity. Indeed, though it is undoubtedly an equally crude metric[176] and the number may have increased since 2017, the proposed 19-turbine Windfarm can be seen in the context of the 310 existing and permitted turbines identified by Planree in its planning application as lying within a 20km radius of the Site. The renewable energy targets are national targets but it is not necessary to count turbines nationally to put the Windfarm in the necessary perspective.

199. As Hogan J said in **Kilvinane Windfarm**[177]: "*...there is a public interest in ensuring that alternative, non-carbon based renewable energy sources are brought to the market, but this cannot give this wind farm – or, for that matter, any other wind farm – a licence to breach the planning laws.*" And it bears observing that the laws as to EIA and AA – breach of which is at issue here – require comprehensive assessments which will seek to incorporate climate change considerations in wider environmental considerations. I think this is, as in **Stateline**, a case in which the public interest claimed to weigh against s.160 relief is "*by some margin below the degree of urgency and importance that would warrant, without more, overriding the public interest in the integrity of the planning system.*"[178] Notably, in **Krikke**, Simons J considered that the overall impact of an

[173] GreenHouse Gas.
[174] Though no doubt somewhat out of date the general thrust can be found at §2.3 of the 2017 EIAR.
[175] Application of leave to Seek Substitute Consent 8 July 2022 §3.7
[176] Given, not least, the widely differing power outputs of turbines and I presume that the proposed Meenbog turbines will have a power output greater than many of those others.
[177] Bailey v Kilvinane Windfarm [2016] IECA 92
[178] §43.





order restraining the operation of a 12-turbine project would be minimal in the national context. The same can be said here.

200. I do not see that the undoubted public interest in wind energy, as it specifically applies to the Windfarm and as it relates to the period pending any delayed grant of Substitute Consent, weighs much at all in favour of the exercise of a discretion to be sparingly exercised and as against the demands of the integrity of the systems of planning and environmental law. While any prospect of Planree's insolvency (of which there is little evidence[179]) and the undoubted prospect of financial loss in that interim, are relevant to the issue of hardship and proportionality, they are not relevant, per se, to this public interest issue. I have no weighty evidence that the Windfarm will not, by reason of any insolvency of Planree, proceed if it gets Substitute Consent. Even if Planree became insolvent in the interim, the public interest in renewable energy generation is that the Windfarm operate – not that Planree operate it. McKechnie J made an analogous remark in refusing relief in **Leen**.[180]

201. While the observation is not essential to the view I take for the reasons I have just given, nonetheless it is helpful to put such "public interest" arguments against the grant of s.160 relief in the perspective of an observation by Butler J in **Stateline** as to an issue which arose quite centrally in that case:

> *"It may be hypothetically possible to envisage a claim of public interest of such great weight and moment that it could, of itself, justify the exercise of discretion in favour of the developer of an unauthorised development even where all other considerations weigh against that developer. In reality, the circumstances in which this could arise will necessarily be so extremely rare that it is difficult to speculate as to what they might be."*[181]

**Attitude of the Planning Authority**

202. As Simons J observed in **Krikke**, *"The fact that the local planning authority has been moved to take enforcement action is a factor which points in favour of granting relief."* The decision of the same judge in **Stateline** was upheld (as to a stay on a s.160 order) where he had *"had regard to the fact that the planning authority had "raised significant concerns in respect of the unauthorised development" and regarded that as a matter to which the court should afford weight."* While it may seem odd that merely the attitude of a litigant can weigh in the exercise of discretion,

- it would be illogical that the attitude of the planning authority would weigh where someone else brings s.160 proceedings but not where it does so itself and
- the planning authority acts in bringing s.160 proceedings not in pursuit of any private interest but in the

[179] See below.
[180] §39. "The consequences for the respondent as a company, if this airport should have to close as a result of a court order, are not, in my judgment, the determining issue. Any such consequences would be entirely its own fault. However, what is determinative is the devastating effect which any such closure would have on the multiplicity of bodies, entities and persons who would most definitely suffer."
[181] Tesco Ireland v Stateline Transport [2024] IECA 46 §42. Stateline argued for a lengthy stay on a s.160 order requiring cessation of use of an unauthorised shipping container storage facility on the basis that the shortage of such facilities rendered this one important to the public interest in the efficient and effective operations of Dublin Port.

public interest and, in particular, as the statutory guardian of proper planning and sustainable development in its functional area.

203. As the applicant for s.160 relief, the general attitude of Donegal CC here is obvious. More specifically,

- It is unwilling to permit windfarm developers to *"depart at will from planning permissions grounded on EIA and AA"* and takes that view *"well aware of the renewable wind energy generation potential of this windfarm project in the context of local and national renewable energy targets"*.[382] In my view that position, in its own terms, cannot be legitimately criticised.
- The strength of that attitude is apparent in its refusal of the open offer of a limited order made by Planree and its pressing for a general order prohibiting further development pending a decision on the substitute consent application.[383]
- Its attitude is also informed by its detailed knowledge of and interaction with this project.

204. It is proper that I give the attitude of Donegal CC appreciable weight in favour of making a s.160 order. But as this judgment indicates, that weight is not, of itself, decisive.

**Planree's Circumstances, Hardship and Consequences of the Order – Alleged Prospect of Insolvency & Lesser Financial Detriment**

205. Planree says, and though it gives no details it is not disputed, that it has invested *"in excess of €100 million (approximately)"*[384] in the Windfarm project. In April 2013,[385] Planree predicted that if it were prevented indefinitely from completing the Windfarm, it *"will rapidly become insolvent, that investment lost and the future of the Wind Farm itself placed in very considerable jeopardy."* And that event, Planree says,

> *"would also entail potentially significant environmental consequences as the Planning Permission requires a robust series of ongoing monitoring, maintenance and (as required) remedial works on the site of the proposed wind farm, none of which will be carried out if the Respondents become insolvent and/or it becomes impossible to develop the permitted Wind Farm development in accordance with the Planning Permission."*

206. Planree repeats its prediction of insolvency, saying that the Substitute Consent process *"may take several years to complete"* and that if granted *"substitute consent will be granted in respect of the as built elements of the Wind Farm only. The process will not be concerned with consenting or assessing the development that is yet to be completed. This development will be carried out pursuant to the existing Planning Permission."*[386]

[382] Affidavit of Martin McDermott sworn 6 June 2023 §16.
[383] See below.
[384] Affidavit of MJ Murnane sworn 14 April 2023. The phrase does not strictly make sense but the gist is clear.
[385] Affidavit of MJ Murnane sworn 14 April 2023.
[386] Affidavit of MJ Murnane sworn 26 May 2023.





207. The assertion of a prospect of insolvency is not at all inherently incredible. Nonetheless, it is assertion only and vague at that. It is not indicated which of the Respondents is likely to go into insolvency – though the invocation of the quantum of investment in the project allows inference that it is Planree. There is no evidence of Planree's assets, indebtedness, the identity if its creditors, or of the timescale on which, or circumstances in which, its indebtedness may fall due for payment such that insolvency may ensue. I do not instance these issues as necessary proofs of a prospect of insolvency but as indications of the types of evidence which one might expect in verification of that prospect. I appreciate that to some degree detail might, from Planree's point of view, be financially counterproductive or tend to a self-fulfilling prophecy of insolvency. However something more than mere assertion is needed. It is a year since Mr Murnane predicted that Planree *"will rapidly become insolvent"* and it seems that his prediction has, fortunately, not yet been borne out – at least as to its rapidity. None of this is to suggest that Mr Murnane's fears are unrealistic. But neither are they substantiated beyond mere assertion.

208. There is some analogy here with the law as to undertakings in damages in cases of interlocutory injunctions – not least as the issue is one of prospective damage to the respondent by reason of an injunction which will in reality be affected by any grant of substitute consent. In that context, I note **Dunne**.[387] Mr Dunne sought an interlocutory injunction to prevent the council from removing from its lands, in constructing the southernmost section of the M50 ring motorway around Dublin, parts of a national monument[388] – the remains of Carrickmines Castle – in the absence, the Plaintiffs alleged, of the appropriate consent[389] of the Minister for the Environment and Local Government. The council said an injunction would disproportionately interfere, with consequent expense and prejudice, with one of the largest and most important infrastructural schemes in the history of the State – contracted at a tender price of €144,000,000. It said that weekly disruption and delay costs would accrue at €50,000 to €100,000. In granting the injunction, Hardiman J. said;

> *"These are important and weighty matters, very proper to be considered by the court in an application of this kind. But in order to be decisive in terms of the balance of convenience on this application, they must be specifically related to the relief actually sought. I do not think that the defendant's averments do this with sufficient precision. It is stated that delay in the motorway project would be expensive and, more generally, prejudicial, and there is no doubt that this is so. But there is no statement as to the precise way in which this claimed injunction and the proceedings commenced will delay the motorway. Nor has the defendant advanced any precise legal or factual basis for the losses it says will be incurred should an injunction be granted. The contract with the contractors has not been produced nor any basis of calculation or estimation suggested. The mention of the huge sum of 144,000,000 as the contract price of the South Eastern motorway is, no doubt, properly calculated to make any court hesitate on the threshold of interlocutory relief. But neither this figure nor the much smaller, still very significant, weekly figure quoted above have been related in any way to the actual scope of the proposed injunction. Specifically, there is no averment*

[387] Dunne v Dun Laoghaire Rathdown County Council [2003] 1 I.R. 567.
[388] Which status was assumed for purposes of the judgment.
[389] Under Section 14 of the National Monuments Act 1930 as amended.

*that it would cause total stoppage of works, that there is no other work capable of being done by the contractor or that, by virtue of any clause in the contract, the level of restriction constituted by the claimed injunction will trigger any particular claim by the contractor. If any of these things were features of the case, Mr. O'Hare is certainly in a position to know it. In my view, it is not sufficient, either from the point of view of establishing a balance of convenience or attacking the undertaking, simply to mention huge sums of money without relating them either to the specific relief sought or to the specific liability for which the plaintiffs, by virtue of their undertaking, may become responsible."*

And later:

*"The question of balance of convenience is a most important one in considering a large civil engineering project, but the purported damage and expense must, in my view, be established and not simply invoked. I have already referred to the freestanding mention of the huge sum of 144,000,000, in the affidavit of Mr. O'Hare. This sum is in no way related to the injunction claimed and Mr. O'Hare does not suggest that it is. The mere mention of an enormous sum of money as the total cost of the scheme does not in any way constitute evidence as to the balance of convenience of this particular case. No doubt there will be inconvenience rising from the grant of an injunction but the defendant has not adduced evidence from which one could rationally assess whether this will be of a trivial, or of a near catastrophic nature. If there is any question of the latter, one would expect that detailed evidence of that proposition would be available."*

209. There are, of course, real differences between this case and Dunne. The injunction sought here is not, strictly, interlocutory (though there is a similarity in that, if it is granted, the event of substitute consent may overtake it and I clearly have jurisdiction to grant liberty to apply to vary or discharge any order I may make; and in that there is some analogy between the prospect of Substitute Consent and the question of Ministerial consent in **Dunne**). Nor is the balance of convenience at issue here – though proportionality is. Nor is there any doubt but that an injunction in this case would stop the works in question. But the case does assist to the effect that proof of a weighty prospect of dire financial consequences requires more than simply the *"freestanding mention of the huge sum" – "The mere mention of an enormous sum of money"* – invested in the project. Indeed, for all Mr Murnane tells us, it may be that the funders, having invested such an enormous sum, will be more likely to await determination of the Substitute Consent application than to collapse the project in what may be a forlorn hope of recovery from its debris. They may be optimistic of the outcome of the Substitute Consent application and consider the cost of awaiting it unwelcome but bearable. Of course, on the other hand, there may in fact be a weighty risk of insolvency. I do not know which is the case. Hardiman J, in summary, emphasises the importance of evidence of such risks. I can only act on the evidence before me, which does not demonstrate that risk.

210. In **Balz**,[190] in which the investment in the windfarm was said to have been €75m, the Supreme Court, nonetheless noted the absence of *"satisfactory evidence" "or indeed any, evidence"* of the impact on the developer of being unable to operate the windfarm pending a Substitute Consent decision – of the damage

[190] Balz v ABP [2020] IESC 22, [2020] 5 JIC 050.





that the developer might suffer if it could not do so. The facts of that case were complex and materially different to the present case, but it is notable that the court was willing to stay certiorari only on receipt of an undertaking by the developer not to operate the windfarm pending the Board's decision on the application for Substitute Consent[191] – which was at least *"some time"* away.[192]

211. I should say, however that my analysis above relates to the risk of insolvency pending a decision in the Substitute Consent process. Different considerations would arise if the prospects of authorising the Windfarm evaporate for any reason. In that circumstance inference of a prospect of insolvency, or put another way, loss of much if not all of the €100m invested, would be possible. But the prospect of regularising the planning status of Windfarm would also have changed considerably.

212. As between being permitted to complete the Windfarm and start its operation prior to a decision on the Substitute Consent application on the one hand and being forced to await that decision before completing the Windfarm on the other, I entirely accept, that short of insolvency, a s.160 order will have significant economic consequences for Planree. That can be safely inferred. But in **Kilvinane Windfarm**,[193] Hogan J held that such significant economic consequences.

*"..... cannot fundamentally cut across the right of the court to ensure that the planning laws are upheld. As Gannon J. stated in Dublin County Council v. Sellwood Quarries Ltd. [1981] I.L.R.M. 23, "An order of the nature sought would have very damaging consequences for the respondent and for those in their employment and for those to whom they are bound in contracts" Nevertheless, I cannot decline to make some form of restraining order unless some alternative course can be devised consistent with the proper implementation of the requirements of the Planning Acts on the part of both parties"..... "*

213. In **Doorley v Corrigan** Humphreys J, admittedly in a general observation, clearly considered that it would be unusual for commercial hardship to be decisive as to the exercise of discretion in a s.160 application. He said:

*"In some cases that turn on their special facts, such as the High Court judgment in Ferry,[194] hardship in terms of loss of employment was viewed as a factor, but at the general level to place strong weight on such factors over-emphasises the impact on the polluter or environmental wrongdoer over the impact on the environment."*

[191] The judgment at §51 refers to the "decision of the Board". That could refer to the decision on the then-pending leave application as opposed to the decision on the application for substitute consent. However, I am satisfied, on reading the judgment as a whole, that the undertaking was required pending the decision on the application for substitute consent. See §§13 & 34. And the logic of the stay of certiorari was to avoid any period of unauthorized development in the entire period pending the grant of substitute consent. The court also referred (§51) to the "substantial benefit" the stay would confer on Mr Balz, whose fear was of noise nuisance. That remark is inconsistent with an undertaking not to operate the windfarm pending the leave decision which was imminent at the date of the judgment.

[192] §10.

[193] Bailey v Kilvinane Windfarm [2018] IECA 92.

[194] Ferry v Castlerbanks [2021] IECA 345, [2021] 12 JIC 2105.

214. Of course, if no s.160 order were made, Planree would continue to develop at its own risk that Substitute Consent may be refused. That is a risk it seems willing to take but the risk of allowing it to proceed is not a risk to it alone.

**Do the Remaining Works Affect or Exacerbate any Environmental Risk Posed by The Deviations?**

215. There is no suggestion that, if the remaining development works to finish out the Windfarm are done, the actual operation of the Windfarm thereafter – in the sense of rotors turning and electricity being generated – would represent an environmental risk unassessed in EIA and AA.

216. As stated earlier, Planree says about "90%" of the groundworks are complete.[395] The main outstanding element of the works is the installation of the turbines and rotors – which are in storage in nearby Killybegs. MKO says that:

> *"The works that remain to be completed on the permitted development site are generally minor in nature, and form part of the project that was permitted by and subject to Environmental Impact Assessment and Appropriate Assessment by An Bord Pleanála.*
>
> *All remaining works have been assessed in various peat stability and geotechnical reports that were prepared for, submitted to and relied upon by the EPA in its determination that there was no further impediment to works recommencing on site from a peat slide hazard or geotechnical perspective."*

217. Donegal disputes that the remaining works are "minor" and terms them "significant".[396] The parties dispute whether those remaining works represent an environmental risk unassessed in EIA and AA.

- Planree and its experts say no.[397] I note in particular the EPA's approval – one infers, on ARUP's advice – of its recommencing works, being satisfied of the issue of peat stability on the Site.
- The Council says yes – not least as the EIA and AA and the EPA did not consider the receiving environment created by the Deviations – into which receiving environment the remaining development works to finish out the Windfarm would be introduced. And identification and assessment of that receiving environment created by the Deviations awaits the EIA Screening (and possible EIA) and AA the need for which is the basis on which leave to seek Substitute Consent has been granted. By way of example of doubt as to incorporation of mitigation measures in the Deviations it also says that there is no evidence of any pre-construction designs or surface water/drainage mitigation measures serving the unauthorised 2ha peat cell near Turbine 15.[398]
- Mr Keville for Planree disputes such assertions – asserting that the mitigation is present and shown on the as-built drawings.[399]

[395] Details of works done and outstanding are set out in §4 of Planree's Planning report by MKO dated 8 July 2022 which accompanies its application dated 8 July 2022 for leave to apply for substitute consent. They include the wind farm access roads, electricity substation, turbine hardstands, turbine bases, peat repositories and borrow pit areas.
[396] Affidavit of Martin McCormack 6 June 2023 §69.
[397] E.g. MKO s.160 report 25 May 2023 §5.4.





218. It seems to me fair to say that Planree's experts simply say that the remaining works are all works approved by the SID Permission and their effects have been assessed in the EIA and AA which informed that permission.[400] But they do not address the fact that by reason of the Material Deviations, and indeed, the various peat slides, the receiving environment is now not that which was understood to exist when that EIA and AA were done. Of course, it may be that those changes to the receiving environment will make no difference to the assessment of the effects of the remaining works – but that is one of the issues to be considered in EIA Screening and AA in the Substitute Consent process.

219. In any event, I am conscious that, as recorded above in **Stateline**,[401] the Court of Appeal considered that a Court, in s.160 proceedings, is not in a position to conduct EIA or AA or even screening for EIA or AA. Courts lack that expertise and can't readily accommodate public participation in EIA or AA. While I do not rule out a Court's having to do so nonetheless,[402] in my view and as to the exercise of my discretion, it is preferable that, ceteris paribus, these issues – including the disputes between the experts – be resolved by the Board.

220. That is especially so as, by s.177J, the Board has jurisdiction, in effect, to permit or prohibit, pending its decision on the Substitute Consent application, Planree's further activity on site having regard to the risk or otherwise of environmental effects, including on the integrity of European Sites and it is the state organ best placed by its expertise to make a decision in that regard. As O'Donnell CJ said in **Krikke**[403] the Board, considering exercising its s.177J jurisdiction:

> *"will normally have available to it additional information, such as a remedial environmental impact statement, which may assist it in determining whether the continued activity, or any part of it, is likely to cause significant adverse effects on the environment. On the other hand, by contrast, a judge who has concluded that the development is not being carried out in accordance with planning permission is concerned as to whether to restrain the development immediately or to give time for an application for retention or substitute consent to be processed, but has little insight as to whether that development is likely to secure retention or substitute consent."*

[398] Affidavit of Martin McCormack 6 June 2023 §57. Affirmation of Richard Arnold 8 June 2023 §7.6.
[399] Affidavit of Brian Keville 19 June 2023 §24.
[400] E.g. MKO s.160 report 25 May 2023 §5.4.
[401] Tesco Ireland Limited v Stateline Transport Limited [2024] IECA 46.
[402] See Simons J in Coastal Concern Alliance v Minister For Housing [2024] IEHC 139 as to the Court's remedial obligations in EIA and AA.
[403] Krikke v Barranafaddock Sustainability Electricity Ltd, [2020] IESC 42, [2020] 7 JIC 1702.

[OFFICIAL]



**Proportionality & the Precautionary Principle**

221. Proportionality may often not require distinct analysis as it will have been a feature of the consideration and counterweighing of the various identified factors already considered. However, it may provide a useful final "stand back" check at the end of the process. Given unauthorised development, disproportion would need to be very convincing before all relief should be refused in the exercise of a sparingly exercised discretion. Proportionality may have a greater role to play in tailoring the relief to the particular circumstances of the case. I do not consider that proportionality considerations beyond the various identified factors already considered require refusal of relief in this case. As to the form of order I consider that the liberty to apply for which I will provide is proportionate to the circumstances of the case.

222. In my view, the approach I have described, to both the expert evidence and to making a s.160 order with the possibility of review in light of events in the Substitute Consent process, is consistent also with the precautionary principle which is a foundation of the high level of environmental protection which is the aim of EU environmental law - Article 191 TFEU and **Waddenzee**[454]) and EIA and AA law in particular.[455] In **Bayer**[456] the General Court said that:

- The precautionary principle is a general principle of EU law requiring the authorities in question, in the particular context of the exercise of the powers conferred on them by the relevant rules, to take appropriate measures to prevent specific potential risks to the environment,
- That is done by giving precedence to the requirements related to the protection of those interests over economic interests.
- The protection of the environment takes precedence over economic considerations, with the result that it may justify adverse economic consequences, even those which are substantial.
- Where there is scientific uncertainty as to the existence or extent of risks to the environment, the precautionary principle allows the institutions to take protective measures without having to wait until the reality and seriousness of those risks become fully apparent.

223. In circumstances in which,

- given the expert evidence of Donegal CC and, in particular, the Board's decision that EIA Screening and AA of the Material Deviations are required, it cannot be said that the environmental risks are not apparent – even if they are not fully apparent,
- it cannot be said that the risks postulated by Donegal CC are merely theoretical or hypothetical,

[454] Case C-127/02, Judgment of 7 September 2004 §44.
[455] Case C-236/01 Monsanto [2003] ECR I-8166, Case C-127/02 Waddenzee [2004] ECR I-7448, Sliabh Luachra Against Ballydesmond Windfarm Committee v An Bord Pleanála [2016] IEHC 888.
[456] Cases T-429/13 and T-451/13, Bayer CropScience AG, et al v European Commission - Judgment of the General Court, 17 May 2018.





- the premise of the precautionary principle is that action may be required before the reality and seriousness of environmental risks become fully apparent,
- though it may have to assess such risks in particular circumstances, the Court is not expert in the assessment of such risks,
- the reality and seriousness of the environmental risks in this case will become fully apparent, within the limits of scientific means, in the Substitute Consent process via remedial EIA Screening and Remedial AA,
- the reality and seriousness of the environmental risks in this case will become adequately apparent, within the limits of scientific means, to the expert Board in the Substitute Consent process in relatively short order to enable it to exercise its discretion under s.177J to halt or permit ongoing works,

it appears to me proportionate and in accordance with the precautionary principle to restrain further works on the Windfarm – but granting general liberty to apply to vary that order as circumstances – legal or factual – change.

**A Limited Order?**

224. On the last day of the trial, Planree openly invited me to make an order prohibiting it only from erecting 8 specified turbines and certain of the outstanding civil works pending decision of A Substitute Consent application which it undertook to make. That would, Planree said, result in its using only 1 of the 7 deviations SLR identified as high risk and 2 of the 8 it identified as medium risk. The Council rejected that offer – expressing the view that all development should cease pending the Substitute Consent decision. It disputed that at least some of the turbines Planree sought to erect could be erected safely from an environmental point of view.

225. While not insubstantial, and a via media can be attractive in terms of proportionality, in my view this invitation ultimately suffers from the same deficiency as that just canvassed. I am ill-equipped and the Board is best equipped – of its expertise and by s.177J – to exercise an environmental judgment on the acceptability or otherwise of allowing the erection of specific turbines having regard to their particular local circumstances. As Simons J said in Knikke, albeit in a somewhat different context: *"The case law is all in one direction, and it is to the effect that matters of planning judgment are best left to the local planning authorities and An Bord Pleanála."* It might be that in another case a court would take up a similar offer. But where, as here and from an environmental point of view, the manifestly substantively better option of deferral to the Board's judgment is reliably to hand then, ceteris paribus, I should avail of it. No doubt Planree will put that, or a similar offer, to the Board for consideration pursuant to s.177J.

[OFFICIAL]



**THE BOARD'S EXERCISE OF ITS S.177J JURISDICTION & LIBERTY TO APPLY**

226. I envisage that, with appropriate celerity, the Board will make its s.177J decision in due course. Though it may be unnecessary, I think I should say for the avoidance of doubt that the Board, in its exercise of its s.177J discretion, need be in no way affected by my present exercise of my s.160 discretion nor by any assumptions about what I of a colleague may or may not do if the matter returns to court after its s.177J decision. My purpose is to ensure that the Board, not I, decides the issues properly arising under s.177J.

227. I will grant liberty to both parties to apply after the Board has made its s.177J decision to vary or discharge the order I now make. However, I should make clear that I make no assumptions as to what the Board's decision will be or as to what order I might make thereafter. By that time, a s.177J decision will have been made in terms as yet unpredictable and the evidence before me in such an application is likely to differ appreciably from that before me now.

**CONCLUSION – DISCRETION & ORDERS**

228. For the reasons set out above, I will make an order pursuant to s.160 PDA 2000 prohibiting further development of the Windfarm on the Site pending further order of the court. I will give liberty to apply to vary or discharge the order. While I will not limit the circumstances in which, or purposes for which, such liberty might be exercised, it may be that such an application might be made in the aftermath of a s.177J decision in Planree's favour or of a decision granting or refusing Substitute Consent. It might, for example, be for a discharge of the order or, conversely, be for an order remediating the Site. I place no limitation on the possibility of variation of the Order. I will list the matter on 15 April 2024 for mention only with a view to making orders. I request the parties to liaise as to the form of such orders. I am provisionally of the view that, as it has succeeded, Donegal CC should have its costs.

**David Holland**
**10/4/24**



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