

An Coimisiún Pleanála – Tirawley Wind Form Case Reference:PAX16.324258

Observation

[24258 An Coimisiún Pleanála](#)

Mary Clarke Boyd
Ballinlena
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F26K2A8
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25 June 2026

An Coimisiún Pleanála
64 Marlborough Street
Dublin 1
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Dear Sir/Madam

Observation Objecting to An Coimisiún Pleanála - Case Number: PAX16.324258

Re: Planning permission for the construction of Tirawley Windfarm consisting of 16 wind turbines, a permanent 110kV substation, 110kV underground cable and grid connection, and ancillary developments. I am writing to formally oppose the proposed Tirawley Windfarm development on the grounds set out in this document.

I also wish to give my full support to the Lacken Ballycastle Landscape Protection Group for the grounds for refusal that they have submitted in their observations on Tirawley Wind Farm.

Yours Sincerely,

Mary Clarke Boyd

Introduction and Grounds for Refusal of Planning Permission for Tirawley Wind Farm

The contention of this observation, on the Tirawley Wind Farm, is that the EIAR and the Natura Impact Statement do not provide sufficient information to enable An Coimisiun Pleanála to lawfully conclude that significant effects have been adequately assessed.

The EIAR has not demonstrated, beyond reasonable scientific doubt, that the proposed development will avoid adverse effects on European sites within its zone of influence. The hydrology, archaeology, habitat, ornithology, health and well-being, community receptors in the North Mayo Boglands Cultural Landscape could experience these adverse effects.

The grounds for refusal emerged as the EIARs failed to research, analyse and report the impact of the wind farm to meet the legislative requirements of the:

1. Habitats Directive 92/43/EEC, Article 6(3) – to satisfy the ‘reasonable scientific doubt’ test.
2. Environmental Impact Assessment (EIA) Directive, Article 3 – assessment of all likely significant effects and interactions.
3. Aarhus Convention – public participation and access to environmental information.

These three legal pillars support a large proportion of the concerns around adequacy of assessment observed in relation to Natura sites, ornithology, hydrology, community receptors, Vector 4 omission, landscape, public participation and cumulative effects in this application.

National and local planning legislation will be analysed and presented throughout this document to support the grounds for refusal of this application for a wind farm.

They include legislation and Irish guidelines

- Planning and Development Act 2024 (as amended)
- Strategic Infrastructure Act 2006
- EIA Directive 2011/92/EU (as amended by 2014/52/EU)
- Birds Directive 2009/147/EC
- Irish Wind Energy Development Guidelines 2006
- Draft Revised Irish Wind Energy Guidelines (2019)
- Mayo County Development Plan 2022-2028
- Draft Mayo Renewable Energy Strategy.

The following are the proposed grounds labelled A to I for refusal of this application;

- A. **Zone of Influence and Red-Line Boundary Deficiencies.** Red lines and blue lines wind turbine focus obscures the reality of the linkages to European sites and the wider environment, particularly the Lacken Saltmarsh and Kilcummin Head SAC, with its vibrant flora and fauna.
- B. **Application Form Accuracy and Natura Site Proximity.** The answer to the question in the Application Form for the Tirawley Wind Farm “Does the work relate to work within or close to a European Site or a Natural Heritage Area?” is NO. The answer is misleading and the reader of the Application Form would conclude that the wind farm is not close to a European site or a Natural Heritage Area. This is a major planning concern as the maps in the Drawing Schedule of the EIAR suggests otherwise.
- C. Consultation with **Map 8** below clearly shows the Lacken Saltmarsh and Kilcummin Head SAC, the Killala Bay and Moy Estuary SPA/SAC/Ramsar site, Creevagh Head, Downpatrick Head and Lacken Saltmarsh and Kilcummin Head are all proposed National Heritage Areas (pNHA). Not only one European site, but many and three pNHAs.

The omission of a former application for four wind turbines Planning Reference No. 11/409 in the Lacken Hills was not referred to in the application. This was 2011 and it was refused planning permission. The grounds for refusal are still pertinent for this Tirawley application today.

- D. **Omission of Vector Sheet Four and Mapping completeness.** The Drawing Schedule EIAR maps and vector maps are misleading to the public due to mapping incompleteness and assessment transparency. The mapping and environmental assessment is not sufficiently complete to enable informed assessment of hydrological, archaeological, habitat, ornithological and the social implications, etc,
- E. **Ornithology and Ecological Connectivity.** The impact on ornithology is not researched thoroughly using the most modern-day research methods. Mapping, survey design, survey coverage and SPA connectivity and collision and displacement concerns arise. The transects show a focus on Lacken Bay and the red-lines of the wind farm to the exclusion of the Lacken Saltmarsh and Kilcummin Head (SAC) which is an important site for birds and bat life. In 2013, for example on this SAC documentation 2,200 golden plover were recorded on this site.
- F. **Population, Human Health and Well-being.** The people of Lacken and its hinterland are not fully considered or consulted regarding health and well-being. This absence is a serious omission in the EIARs Chapter 5 on Population and Human Health. No comprehensive Human Health Impact Assessment was reported. The research is very outdated in Appendix 5.1 and very little cognisance taken of recent scientific advances in this field of human health influenced by wind farm development in a very rural community.
- G. **Sensitive Community Receptors.** St Patrick's Lacken Cross Secondary School, St Patricks and St Cuimmin's Church, and the Lacken Sensory Garden, Sheltered Housing beside the church, the Community Centre there also have been given little consideration in all of the EIARs. They are not ordinary receptors, but community focal points and each community receptor required individual impact assessment which was not reported on in the EIARs.

CRC/C/GC/26 (2023): General comment No 26 (2023) on children's rights and the environment with a special focus on climate change mandates that the 'green transition' to renewable energy must not inadvertently harm children. The United Nations Convention on the Rights of a Child (UNCRC) defines a child as up to the age of 18 years of age.

WHO Fourth Ministerial Conference on Environment and Health in Budapest in 2004.

Regarding precaution, the World Health Organization states:

"...where there is a reasonable possibility that public health will be damaged, action should be taken to protect public health without awaiting full scientific proof."

There is an opportunity to invoke the precautionary principle. Until guidelines are established that protect human health and social-economic viability, no further development of wind energy facilities should occur.....

- H. **Socio-Economic and Tourism Effects.** The social and economic impact on the community is not adequately presented in the EIAR. Rural decline, tourism assets compromised for the future, regional and local walking and cycling routes degraded, the Wild Atlantic Way, Wild Mayo Destination and Experience Development Plan and projects for North Mayo Coastal and Inland are areas not examined in full.
- I. **Landscape and Visual Impact and ZTV Analysis.** The Zone of Theoretical Visibility map highlights the vast visual impact of the wind farm in the whole Killala Bay and North Mayo coastal area and also inland territories of North Mayo. This area is protected in the Mayo County Development Plan objectives and the Planning Section of Mayo County Council do

not support this development and advised the applicant not to proceed with the wind farm plan. The effect on designated tourism landscapes, for example, the Wild Atlantic Way, the Ceide Fields, Downpatrick Head, Lacken Strand and Kilcummin Head are compromised. The question also arises from the photomontages as to whether the viewpoints were selected to reveal impacts or minimise them? This application could actually be decided in one fell stroke by applying the Landscape Appraisal guideline for County Mayo with respect to Sub-sections 2.5 and 4.1. of 'The Landscape Character Assessment' of County Mayo.

- J. **Cultural Heritage, Hydrology, Biodiversity, Ceide Field and Boglands/Peatlands.** The Boglands of North Mayo are an invaluable under researched international archaeological site and the mapping of the extend of the site indicates that that all of the Boglands of North Mayo should be designated as a UNESCO site. It warrants greater consideration than just assessing whether the wind turbines break the ridgeline to be observed from the Ceide Fields. Inadequate evaluation of the meaning of Cultural Heritage and Biodiversity, and the disregard of the archaeology of the Ceide Fields and Mayo Boglands System. The map of the network of stone-walled fields, synonymous with the Ceide Fields and an extension of same, are shown beneath some of the footprint of the Tirawley Wind Farm in **Map 26**.
- K. **Circular Economy.** The Circular Economy and Miscellaneous Provisions Act 2022 and the policy document the National Circular Economy Strategy is relevant to all industries in Ireland today. Has the applicant adequately assessed procurement, materials, waste streams and decommissioning resource recovery? This is relevant to plan for goods and services to construct, maintain and decommission the wind farm? The carbon sequestration value of the Boglands of North Mayo are all so relevant in this context.
- L. **Decommissioning and Long-Term Governance.**– The Planning and Development Act, the EIA Directive is relevant here and the Polluter Pays Principal is a fundamental principle in EU environmental law. The planning has been sought for 10 years and is there transparency on who maintains, monitors, mitigates, decommissions over the other 25 years of a wind farm. Communities must not be left in limbo and uncertainty. Who is responsible after the 10 year planning runs out? Who is responsible after 35 years or if upgrades or modernisation are required? How is decommissioning funded? How is restoration guaranteed? These are all legitimate planning concerns.
- M. **Cumulative Effects.** The EIA requires a cumulative effects assessment. The Habitat's Directive (Article 6 (3)) requires in-combination assessment alone or in combination with other plans and projects.

A. Zone of Influence Beyond the Red-Line Boundary

The Zone of Theoretical Visibility (ZTV) maps as shown in Map 1,2,3,4 demonstrate visibility extending far beyond the application site. Total inadequacy is evident in the consideration of the red lines around turbines and how it ignores the wider zones of influence critical to satisfying national and European environmental legislation.

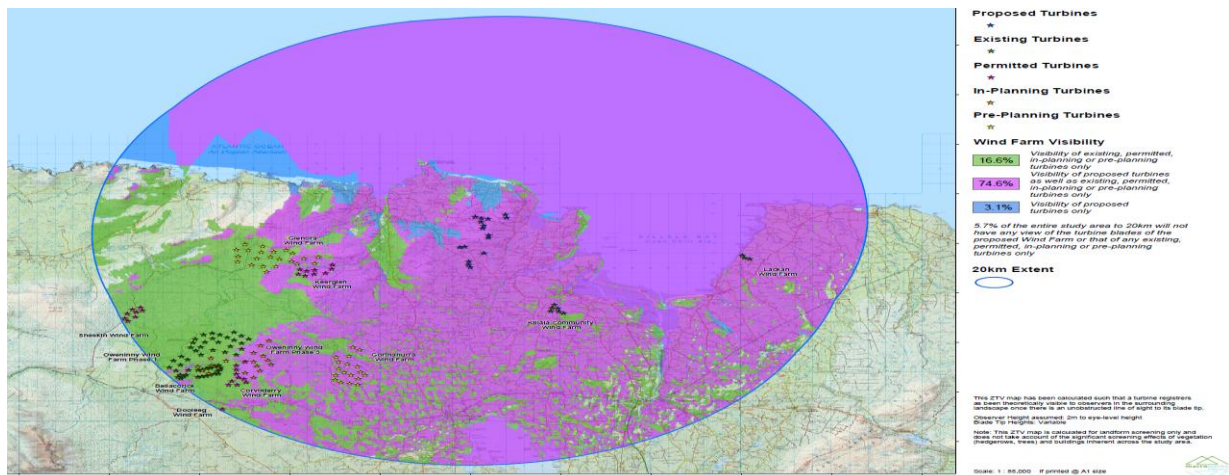
The visual map of the Zone of Theoretical Visibility (ZTV) indicates areas that have a potential view of the proposed turbines at Tirawley Wind Farm (135 Tip Height) at 5 kilometres and 29 Kilometres speaks shows the degree of visibility. (See Map 1,2,3,4)

Consideration of a 40-kilometre ZTV has not been considered and this is a requirement. The turbines will be seen right down to Lough Conn, Nephin and I would argue that the social, economic and environmental reverberations are equally present.

I will discuss my grounds for objection to this wind farm from the perspective of a critique of the red-lined area of the wind turbines and lack of linkages to areas outside those red lines.

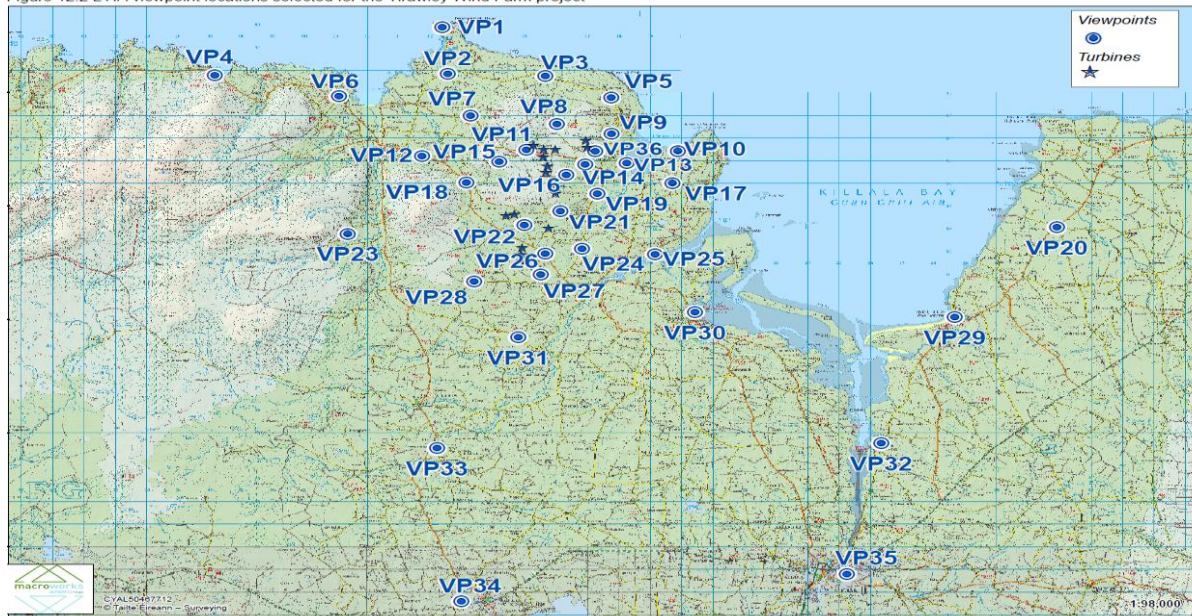
The EIAR is red-line focused and does not present the wider linkages and interpretation that is necessary for a comprehensive analysis for a safe location of a wind farm. The assessment area appears inconsistent with the actual zone of influence and could be interpreted as a potentially significant EIAR deficiency.

Map 1



Map 2

Figure 12.2 LVIA viewpoint locations selected for the Tirawley Wind Farm project



The red-line boundary that appear in Map 5,6 and 7 is an administrative boundary and is not an environmental boundary.

The hydrological network extends beyond the site and flows into the Lacken Saltmarsh and Kilcummin Head Special Area of Protection through the Cloonalaghan River and the many streams and ditches which will be discussed below. The bird and bat boundaries extend beyond the site encompassing SACs, SPA and pNHA which I will discuss in greater detail below. The community impacts extend beyond the site also.

[illegible]

Environmental Impact Assessment: Wind farms must undergo environmental impact assessments to ensure they do not have significant adverse effects on the environment. This principle is supported by the European Court of Justice's (ECJ) ruling C24/19, which clarified that EU rules on environmental impact assessments apply to plans and programs like wind farm installations.

Public Participation: The ECJ's ruling in the case of Peton do Lobo v. AEE (2020) emphasised the importance of public participation in the environmental impact assessment process, ensuring that the community is involved in the decision-making process.

Precautionary Principle: The precautionary principle is a key principle in environmental law, requiring that environmental protection should not be compromised in the face of uncertainty. This principle has been applied in various cases, including the CJEU's ruling on the Polish Emissions Trading System (ETS), where the Court rejected Poland's application for interim measures due to the uncertainty of the impact on price of ETS-traded green-house gas emission allowances. The ETS is a market-base "cap-and-trade" policy used by the European Union (EU) and allied nations to reduce greenhouse gas (GHG) pollution. EU ETS is the world largest carbon market.

These three principles guide the European Court in interpreting and applying environmental law to wind farms, ensuring that they are developed in a manner that minimises environmental impact and maximises public benefit.

In the context of a wind farm application European Environmental Jurisprudence points out that this assessment must follow 'likely significant effects' and not 'project boundary'. This is a serious distinction and when the effects extend beyond the application site, the assessment must also extend into those areas affected. Failure in complying fully in this assessment process can create environmental vulnerabilities under the Habitat's Directive, the EIA Directive, the Aarhus Convention Principles and the Strategic Environmental Principles. B. Application Form EIAR Accuracy

There is an apparent inconsistency disclosed in the Application Form for the Tirawley Wind Farm

The NO box is ticked in answer to the question "Does the work relate to work within or close to a European Site or a Natural Heritage Area" in the Application Form for the Tirawley Wind Farm.

One of the grounds for refusal is that a potential misleading response has been made by Constant Energy in their Application Form for Permission/Approval in respect of a Strategic Infrastructure Development.

Readers of the application with no knowledge of the geography of the area would conclude that the project is not close to a European site. The maps suggest otherwise and this is a planning concern for the ACP.

On examining the documentation for the Tirawley Wind Farm alarm bells went off for me when the Application Form question answered ticked the NO box when asked to respond.

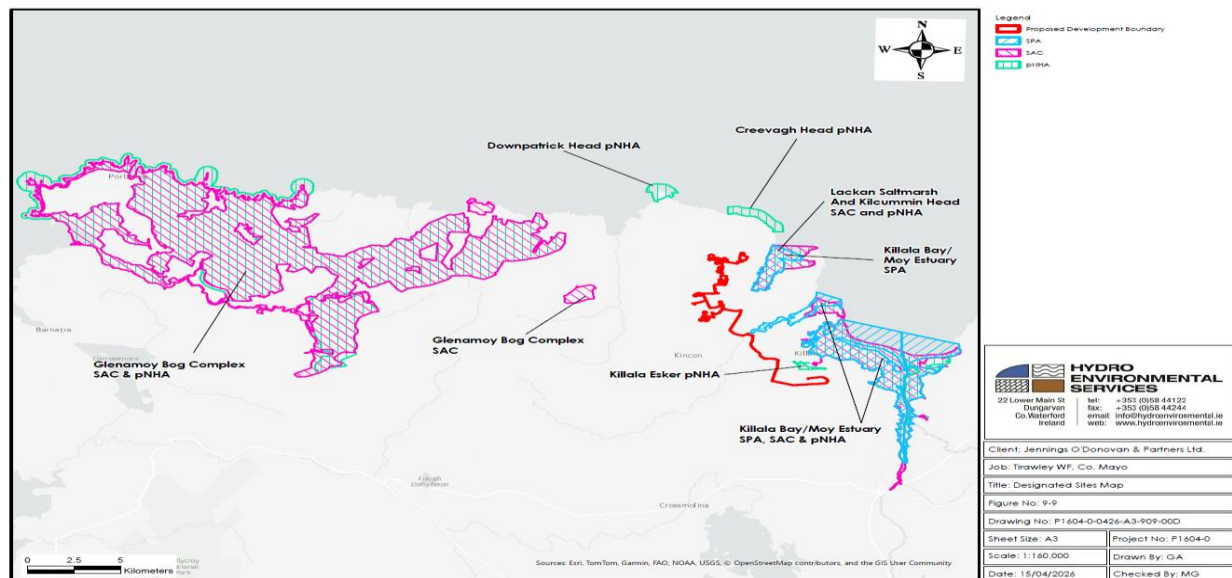
"Does the work relate to work within or close to a European Site or a Natural Heritage Area"?

NO

Consultation with **Map 10** below clearly shows the Lacken Saltmarsh and Kilcummin Head SAC, the Killala Bay and Moy Estuary SPA/SAC/Ramsar site, Creevagh Head, Downpatrick Head and Lacken Saltmarsh and Kilcummin Head are all proposed National Heritage Areas (pNHA).

Map 10

Downpatrick Head and Creevagh pNHAs, Lackan Saltmarsh and Kilcummin Head Special Area of Conservation (SAC) and Killala Bay/Moy Estuary Special Protection Area (SPA)



This is a serious planning consideration as the general public are misled at the very beginning of reading the documents relating to the application, ie, in the Application Form. This inhibits public scrutiny and observational capacity.

Planning Precedent for a wind farm in this area omitted from EIAR

A clear planning precedent was established in 2011 when a substantially smaller wind farm proposal in this scenic area of North Mayo was refused under Planning Reference No. 11/409. This was not disclosed by the applicant in the present Tirawley EIAR.

That earlier proposal involved only four turbines with an overall generating capacity of approximately 2 MW. The turbines were significantly smaller in scale, lower in height, and located in a less visually exposed position than the current proposal.

By contrast, the present application proposes:

- 16 turbines;
- an overall capacity of approximately 70 MW;
- individual turbine capacities of 4.3 MW;
- a hub height of approximately 76.5 m; and
- a maximum tip height of 135 m.

The previous application was refused because the site was considered:

1. Highly sensitive in planning and environmental terms;
2. Located within an elevated and open landscape designated as Policy Area 1 in the *Landscape Appraisal of County Mayo Development Plan 2008–2014*; and

Within approximately 2.5 km of a scenic route, where the applicant failed to demonstrate that the development would not adversely affect the visual and scenic landscape.

These concerns remain fully applicable today and are considerably intensified by the vastly increased scale and visibility of the current proposal.

The justification for refusal in 2011 is highly relevant to the present application. The earlier proposal was modest and limited in scale when compared with the current application before An Coimisiún Pleanála.

The proposed turbines are now almost three times higher than those proposed in 2011, increasing from approximately 45 m to 135 m tip height, while turbine numbers have increased from 4 to 16.

The proposed development would also be located in close proximity — in many areas less than 500 m — from the internationally promoted Wild Atlantic Way coastal tourism route through Lacken Parish, North Mayo.

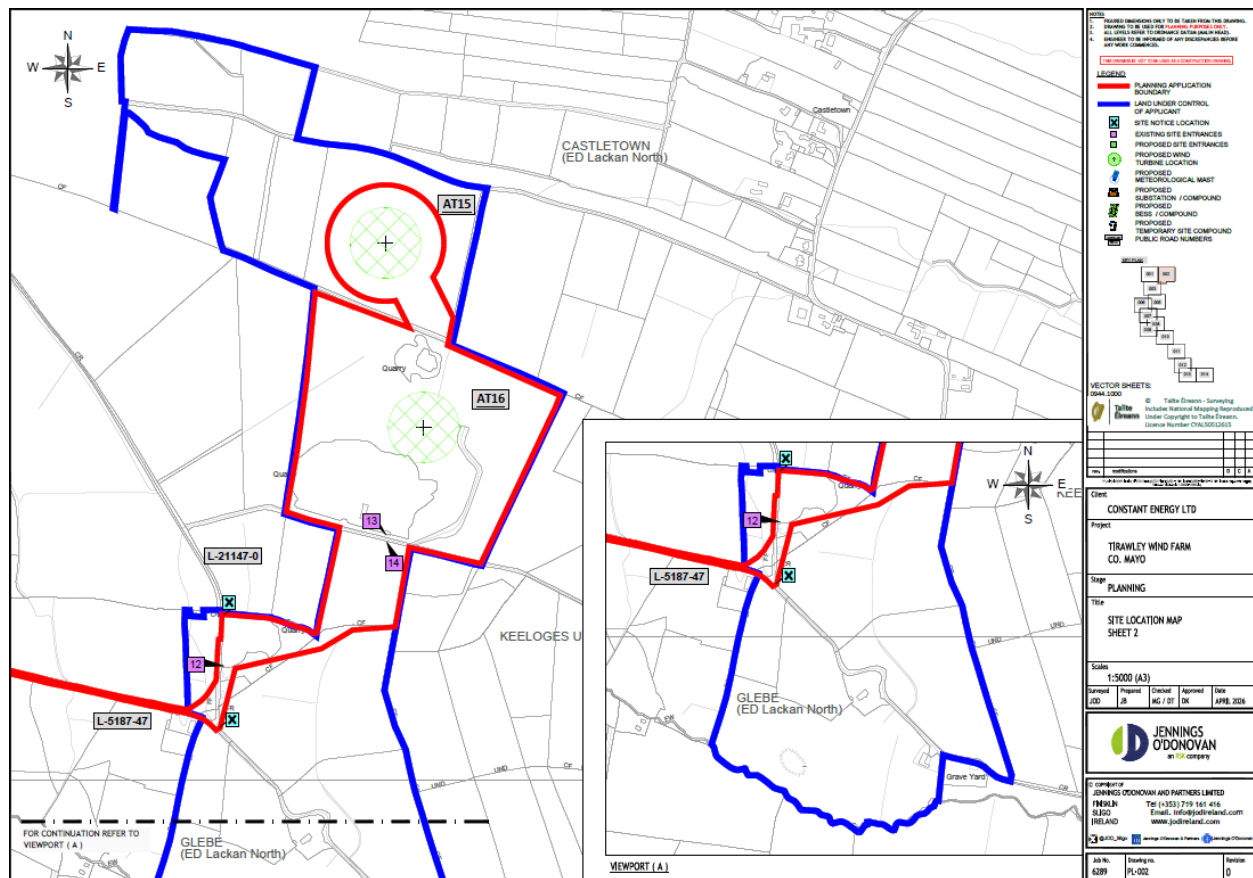
Importantly, the fundamental characteristics of this landscape have not changed in the intervening 14 years. The area remains open, elevated, visually exposed, and highly sensitive in both planning and environmental terms. These are precisely the qualities that make the area attractive to residents, visitors and tourism interests.

The landscape of North Mayo is actively promoted internationally by tourism organisations because of its unspoilt scenic character. It therefore requires meaningful protection by both Mayo County Council and An Coimisiún Pleanála from developments that would fundamentally alter that character.

Environmental protection should not involve the irreversible industrialisation of sensitive and scenic ecology and landscape.

[illegible]

Map 7 Showing the extension of Vector 2 which negated need for Vector 2 below it to the south – but I would argue did not taken into consideration the European site Lacken Saltmarsh and Kilcummin Head Special Area of Conservation and impacts thereon.



C. Mapping completeness and the Omitted Sheet 4

Sheet 4 is omitted.

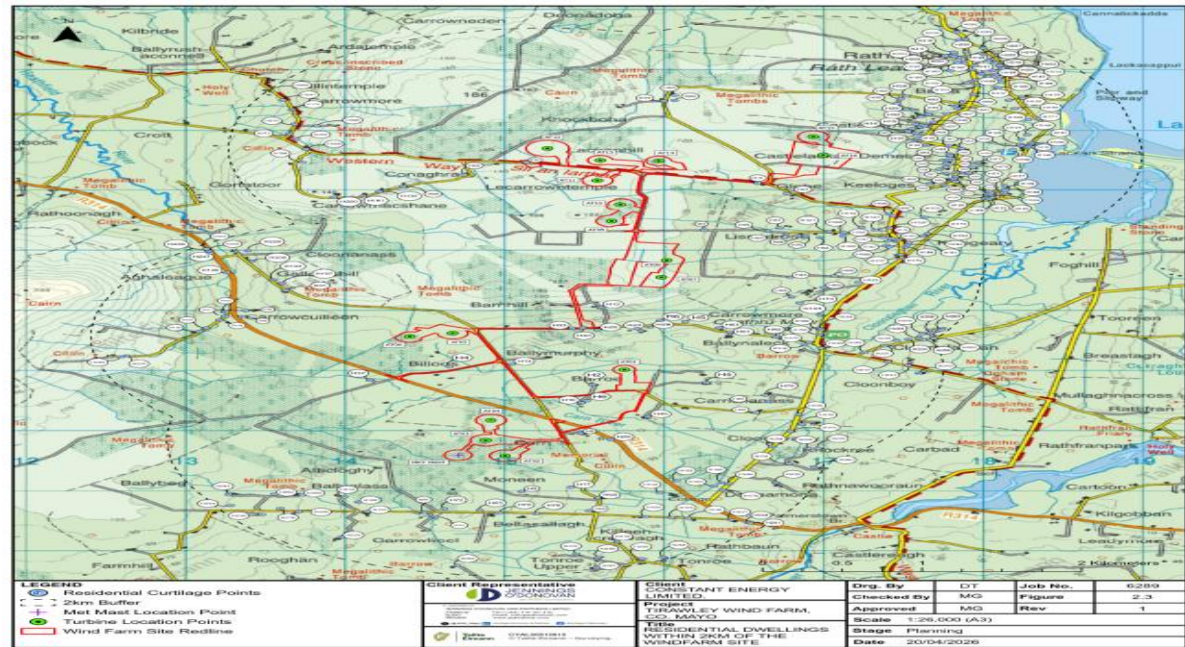
The omitted area appears adjacent to;

1. The Lacken Saltmarsh and Kilcummin Head SAC.
2. Major roads along the Wild Atlantic Way to Downpatrick Head and Ballycastle going north and to Killala going south, which is also a public bus route from Glenamoy to Ballina.
3. Also, the public road to the community receptors of St Patrick's and St Cuimin's Church, the Sensory Garden, Sheltered Housing and a Community Centre is part of this sheet.
4. There are 10 archaeological features in Sheet 4, including Castle Lacken Castle and Castle Lacken in 2026. (See **Photograph 1** below)
5. It includes 3 waterways draining the turbines on the top of the Lacken Hills and flowing into Lacken Saltmarsh.
6. There is also densely populated townlands of Killogeary, Lissadrone East, located there. see Map 9.

Photograph. 1 Original Castle Lacken and also the ruins of Castle Lacken Castle in 2026



Map 9



When examining the maps to identify red line areas around the wind turbines on 000 Site Location Map, it can be noted that there is no Vector 4 identified in the mapping or in the zoomed individual Vectors. This is a highly populated area above the church, sensory garden, roadways, waterways, etc.

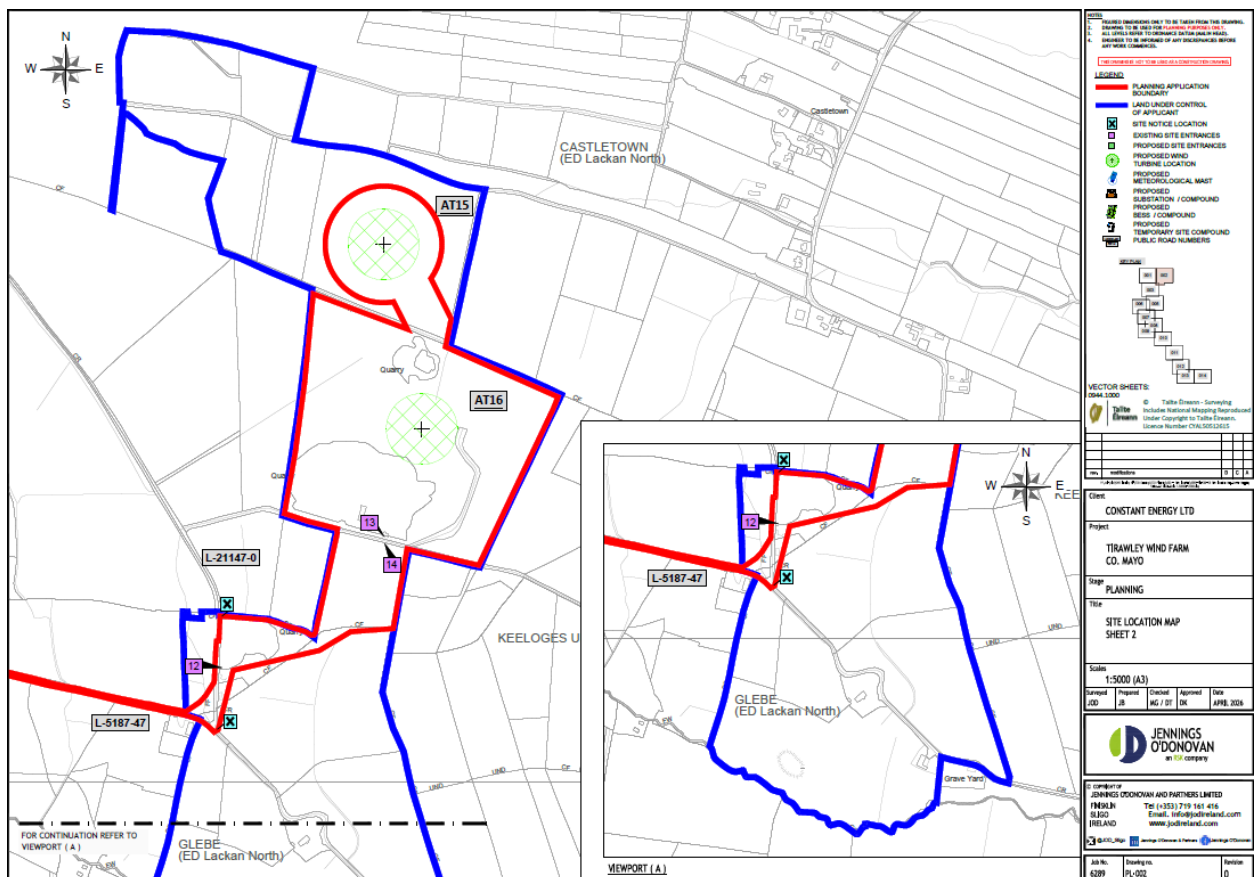
The omission of Vector 4 reduces transparency in terms of the mapping accuracy. It is difficult for members of the public to easily understand the full spatial relationship between the wind farm development and sensitive receptors. It is adjacent to a Special Area of Conservation, ie, Lacken Saltmarsh and Kilcummin Head and the Killala Bay and Moy Estuary, Special Protection and also a Special Area for Conservation and a Ramsar site, and in close proximity to the proposed National Heritage Area of Creevagh and Downpatrick Head and the proposed Lacken Saltmarsh and Kilcummin Head as a proposed National Heritage Area as well as its designation as a SAC. This does appear to be an incomplete interpretation regarding mapping of the wind farm.

The ground for refusal in this instance is that the ACP cannot be satisfied that the environmental information submitted is complete and is sufficiently transparent for a full evaluation and Appropriate Assessment.

Photograph 2 Gazebo overlooking Lacken and Killala Bay with Sligo and Donegal mountains to the east and north.



Lacken Saltmarsh and Kilcummin Head Special Protection Area (SPA)



15

In examining the red-lines around turbines there are inadequacies regarding Zones of Proximity and the linkages and integration into habitats and communities. They do not give members of the public adequate spatial and environmental information on the relationship between the wind farm and sensitive receptors and the other connectors identified above.

Vector 4 omitted from mapping and if it was amended and placed beside Vector 3, it would be actually geographically located in the Lacken Saltmarsh and Kilcummin Head Special Area of Conservation 00016 in the Killogearry townland. The Killala Bay/Moy Estuary Special Area of Conservation, Killala Bay/Moy Estuary Special Protection Area and Killala Bay and Moy Estuary is Ramsar site are situated and fed by waterways trans versing the Tirawley Wind Farm.

Furthermore, there are 3 proposed Natural Heritage Areas on the periphery of the peninsula where the wind farm is proposed. Lacken Saltmarsh and Kilcummin Head as well as being a Special Area of Conservation is a proposed National Heritage Area, as are Creevagh Head and Downpatrick Head. The European site locations are identified by the Elected Members of Mayo County Council Planning Section and are outlined below.

Planning and Development Act 2000 (as amended) Strategic Infrastructure Act 2006

[Report to Elected Members as required by Section 37E\(4\) of the Planning & Development Act 2000 \(as amended\)](#)

An Coimisiún Pleanála Ref No: ACP-324258-26

ABP-323906-25 (pre-app ref.)

Applicant: Constant Energy Limited

Received: May 1st 2026

This Mayo County Council Planners' Report documents all the European Sites/Natura Network, Ramsar sites and National Heritage Areas and proposed National Heritage areas in Section 5.1 and Section 5.2 on pages 36 and 37 as follows:

[“5.1 European Sites/ Natura Network of their report \(MCC Planners' Report, page 36-37\)](#)

European sites consist of Special Protected Areas (SPA's), Special Areas of Conservation (SAC's), Ramsar Sites. The list below identifies all designated sites (Natura Network) within a c.15km zone of potential of the subject site.

Special Areas of Conservation (SAC)

Site Name	Site Code
Glenamoy Bog Complex SAC	000500
Bellacorick Bog Complex	001922
Killala Bay/Moy Estuary SAC	000458
Lackan Saltmarsh and Kilcummin Head	000516
River Moy SAC	002298

Special Protection Area (SPA)

Site Name	Site
Killala Bay/Moy SPA Estuary	004036
Lough Conn and Lough Cullin	004228

Ramsar Sites

Site Name	Ramsar ID
Killala Bay/ Moy Estuary	843

5.2 National Designated Sites

Sites of national importance consist of Natural Heritage Areas, Proposed Natural Heritage Areas, Nature

Reserves, National Parks. See below - all sites of national importance within c.15km of the site.

Proposed Natural Heritage Area (pNHA)

Site Name	Site Code
Glenamoy Bog Complex pNHA	000500
Benaderreen Cliffs pNHA	000467
Bellacorick Bog Complex pNHA	001922
Killala Esker	001517
Killala Bay/Moy Estuary pNHA	000458
Lackan Saltmarsh And Kilcummin Head	000516
Creevagh Head pNHA	00482
Downpatrick Head pNHA	000494
Cloonagh Lough (Mayo) pNHA	001485

Natural Area (NHA)

Site Name	Site Code
Ummerantarry Bog NHA	001570
Inagh Bog NHA	002391
Forrew Bog NHA	002432

Nature Reserves

Knockmoyle Sheskin Nature Reserve
Owenboy Nature Reserve

Vector sheets are numbered 001, 002, 003, 005, 006, 007, 006 ,009, 010, 011, 012 ,013, 014. There is no sheet 6289-PL-004 SITE LOCATION MAP SHEET 4.pdf in the publicly available planning document. The vector sheets run in sequence. Is it an random numbering gap or what it excluded because of the sensitive 'receptor', waterways, roadway, archaeology, and beside the European site, the Lacken Saltmarsh and Kilcummin Head Special Area of Conservation?

In the Drawing Schedule sheet 4 is expressly identified by the applicant as being omitted in at least 2 drawings. 6289-PL-004 – site location map sheet 4 (omitted) was intentionally removed from the drawing sequence and labelled omitted by the applicant. The same omission is documented for 6289-PL-104- site layout plan sheet (Wind Farm). No full explanation was given for its omission. Therefore, there are two instances of Sheet 4 being deliberately omitted by the applicant. In the completeness check documentation by the ACP this did not arise this issue, as unless the drawings were examined closely it may have not been considered significant.

The enquiry I am going to pursue is to ascertain what geographic area would Sheet 4 have included and what components of the development are significant in this area. The natural

location of Sheet 4, I content, would be related to the area to the east of Sheets 003 and 005 towards the coast around the Lacken Saltmarsh and Kilcummin Head SAC. What needs to be determined is whether altering Vector 2 southwards to include land ownership of application and omitting to include a full Vector 4 obscures environmental information significant to a European site in particular.

The geographic area omitted in mapping includes three waterways. Draining or hydrological pathways and downstream effects from construction and traffic load would be significant to the SAC and a large habitat area of the Lacken Saltmarsh. Under the EIA and Appropriate Assessment principles, the ACP must be able to understand the spatial relationship between the project and sensitive receptors. The omission of Sheet 4 in this highly sensitive environmental and social area could affect the interpretation of the EIAR or the Natura Impact Statement. The consolidation of mapping the extra land ownership into the southern margin of Vector 2 reduces clarity of the whole wind farm corridor and may impair public scrutiny and effective environmental assessment.

The most significant issue is not that Sheet 4 and Vector 4 as omitted but whether the application documentation demonstrates the separation distances and the potential ecological pathways between the wind farm and the European sites, including Lacken Saltmarsh and Kilcummin Head SAC and the Killala Bay and Moy Estuary SPA and SAC. Assessment relies on complete habitat, hydrological and ornithological analysis, rather than on just sequential map numbering. This area needed to be examined in detail in the EIARs because of its proximity to the turbines and important European sites.

Ornithology and connectivity to SACs, SPA and pNHAs

From a ornithological point of view this area includes wet grassland and floodplain features, landscape connectivity between inland habitats and coastal environments, riparian corridors and interconnected stream. These are really important as commuting routes for birds and animals and also act as a feeding habitat or an ecological corridor for birds. The principal concern regarding the Killala Bay/Moy Estuary SPA is whether the wind farm could cause collision risk, displacement, disturbance or indirect habitat degradation affecting birds that need protection. The Vector sheet would help verify that these relationships have been fully assessed by the applicant. It is apparent that a significant area of Killogeary is not part of the transect survey.

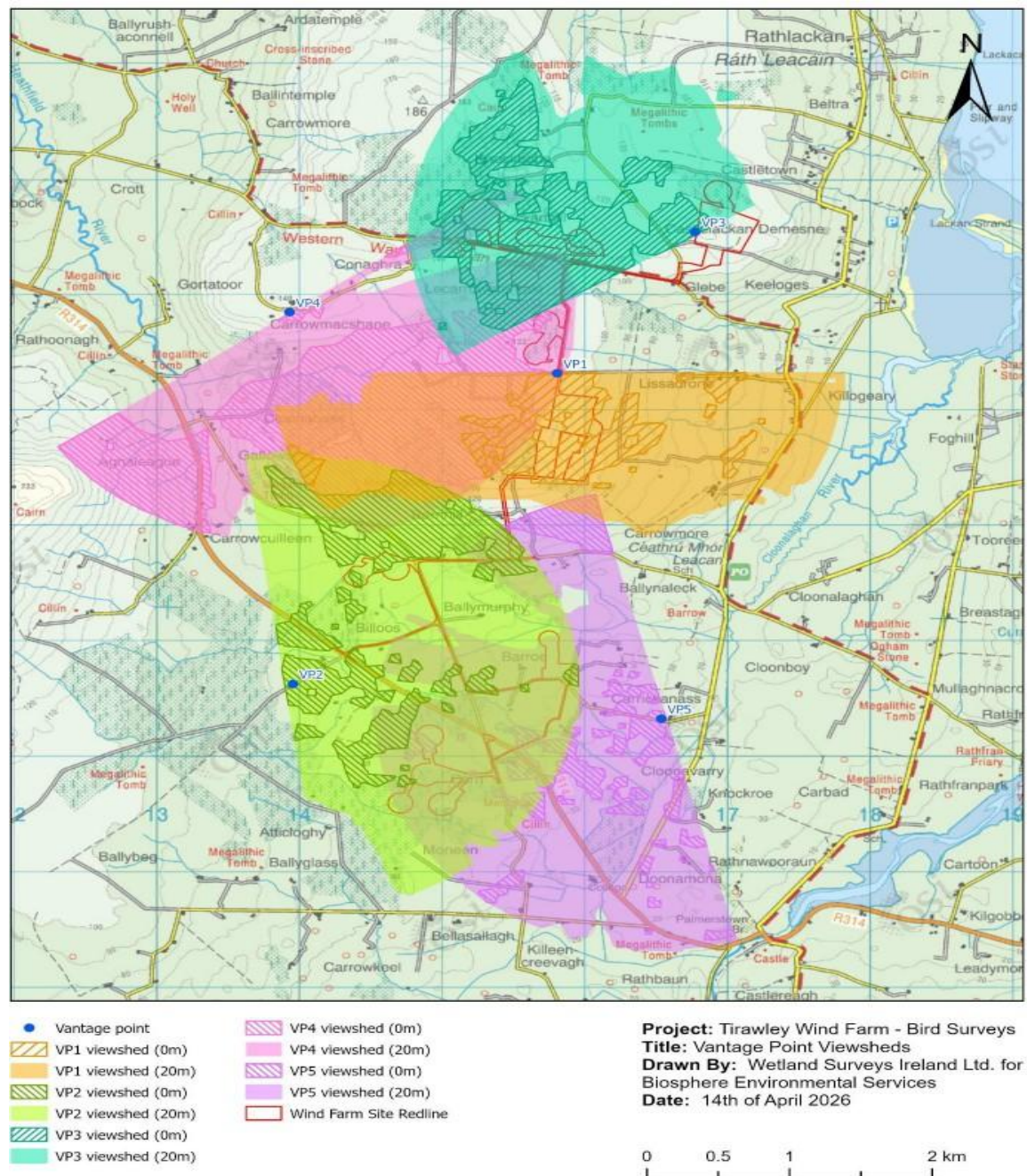
Map 11 below of the Vantage Point Viewsheds show that Vantage Point 1 (VP1) omits a significant part of North Lissadrone and also a significant part of Killogeary where the Lacken Saltmarsh and Kilcummin Head SAC is located. VP3 transect tracks bird movement to the North of the Castlelacken Demesne, Keeloges and most of the Glebe where the wind turbine is located in a quarry. The quarry itself is not even covered by any VP1 or VP2 examination of bird flight. This is not a very comprehensive survey and leaves many questions unanswered and it is important to proceed with caution in any full assessment of the zone of proximity to the wind farm.

My conclusion is that this omission alerts one to a central concern regarding this geographic area. The social space in the parish is of great concern also. The public bus route from Glenamoy to Ballina which is also along the Wild Atlantic Way, the twelve archaeological sites is you exclude the extended piece southwards of Vector 2 are situated there. This includes Castle Lacken Demesne – a key historic site, the local parish church, sensory gardens, sheltered housing and a community centre. Indirect impacts on this beautiful rural coastal setting, the integrity and archaeological landscape character will be totally overshadowed by multiple turbines and disruption during the construction, life-span and decommissioning phase of the wind farm. Of course, Lacken strand is an extraordinary vista and the outlet from the Saltmarsh into Lacken Bay

and the view of the vast sands towards Kilcummin Head. Can the ACP exclude reasonable scientific doubt regarding adverse effects on site integrity in this case, given the evidence presented?

There are three drainage systems or tributary branches passing through or are adjacent to the area beneath Vector 2. This is relevant as it affects the movement of sediment during the construction phase of the building of the wind farm. Changed runoff pathways, accidental pollution and soil disturbance is possible. The concentration of waterways and landscape features point to ecological connectivity beyond the immediate turbine locations in the planning maps. The Lacken Saltmarsh and Kilcummin Head SAC protects estuarine and coastal habitats, and hydrological pathway connecting the works area to the coast should be examined carefully in the Appropriate Assessment

MAP 13



Red Lined Wind Farm boundary.

Considering that the Application Form says there are NO European Sites or National Heritage Areas nearby was alarming and I further examined the Red-lined Tirawley Wind Farm boundary. I identified major deficits in the evidence presented on Landscape, Biodiversity, Cultural Heritage, Material Assets, Land, Soil, Water, Air, Climate and Population and Human Health in the various EIAR Chapters of the application.

The maps presented by Tirawley Wind Farm developers show the red-lines around wind turbines, BESS, and roads in red-lines also. It also shows the blue-lines of ownership of land where the wind turbines are located. I will concentrate on the red-lined boundary here. To show that the assessments carried out are too narrowly scoped geographically as is evident in the Application Form that answers NO to being near a European site or a Natural Heritage area.

European Union (EU) Environmental Impact Assessment (EIA) Law and the current Directive 2011/92/EU as amended by Directive 2014/52/EU points out very clearly that environmental assessment cannot be constrained by red-line boundary, ownership or application boundaries.

D. Socio-economic and tourism effects

The social and economic impact on the community is not adequately presented in the EIAR. Rural decline, tourism assets compromised for the future, regional and local walking and cycling routes degraded, the Wild Atlantic Way, Wild Mayo Destination and Experience Development Plan and projects for North Mayo Coastal and Inland areas not examined fully and an social assessment presented to get a full understanding of the society in which this wind farm is proposed.

Dispersed rural populations like Lacken, Ballycastle, Kilfian, Killala will experience direct, indirect, secondary and cumulative effects over very large area and well outside the red-line boundaries of this wind farm application.

To provide examples of this only dwellings within very outdated 2006 Wind Energy Guidelines specified setback from wind turbines are considered in the application. These dwellings are part of a much bigger community as is evident by the observations to An Coimisiun Pleanála relating to this Structural Infrastructure Development, and other wind farms in Tirawley, Keerglen and Clydagh on the Peatlands of Ballycastle.

The Draft Mayo Renewable Energy Strategy (2026) has decided to protect Peatlands in the County Mayo area. Peatlands are part of the soil type on part of this Tirawley wind farm.

The wider rural settlements are not considered and those who live there at present and the vast extended family networks worldwide who regard this place as their ancestral home. Community fragmentation will definitely occur if the wind farm is given planning permission. This will be in terms of how the local population, walkers, farmers, birdwatchers, cyclists, schoolchildren and tourists use the space on the Lacken Hills and how this will impact on their everyday lives and well-being. Further community fragmentation arises as conflict between neighbours who are happy with wind turbines and those who are not. Social cohesion is critical and it is not considered in this application. This is a rural population where decline in population is accepted fatalistically as second nature, with very little prospect of political reform igniting rural Mayo to thrive again. This issue of population decline is not addressed in any of the EIAR. Another glaring issue is that workers from outside the area will be employed in the construction stage, again presenting disadvantage to those who have experience of construction in the vicinity.

This is a news item in the Irish Independent national newspaper on the 11 June 2026 that passionately portrays the Lacken community's outrage with many references to community spirit, attachment to place and visual and housing amenity, reduced value of houses and property. In terms of house prices only dwellings within a defined radius are examined in the EIARs. Wider property effects are ignored. Equally a EIAR assessment of tourism only within the site boundary and not across the broader destination landscape of the North West of Ireland is a serious omission. Whether such effects exist remains contested in the literature. In this instance the glaring omission from the EIARs if that the issue of property markets is not accessed in any way, is a major legal concern, rather than proving the issue exists.

The news item which has a link below where a man tells the story of his family living in the shadow of wind turbines in Bellacorick is saddest of all, where the family is resigned to the intrusion into their lives and their homes are valueless. Bellacorick site producing only one third of its wind energy capacity and developed in the vicinity of the peatlands of Erris after the Bellacorick electricity generating station burning turf closed down.

https://www.independent.ie/county/mayo/it-will-destroy-lacken-as-a-community-fears-grow-over-major-wind-farm-plan-for-north-mayo/a/156172508.html?utm_medium=referral&utm_campaign=share

In most recent years a positivity and forward-looking perspective has been evident with many migrants to other parts of Ireland and emigrants from all over the world returning to work from home and renovate and build houses in the area. This definitely will be impacted and I have had a communication from a recent immigrant who is planning to leave altogether and emigrate with the prospect of wind turbines being located close by to their house. The Census while presented in the EIAR chapter on Population and Health does not give a full picture of the size of the population at Christmas and Easter time and during the Summer times as extended families and friends, as well as tourists return to visit this area, which is very popular destination on the Wild Atlantic Way.

In terms of social impact assessment evidence, red-lines boundaries are often inappropriate because social systems operate at community scale as outlined in the examples above. The heavy and cumulative community burden as is evident in the local population being put under pressure to defend themselves in making observations to An Coimisiun Pleanála about the dangers to their homes and their families. How can they defend themselves against the might of multi-national wind farm companies, where the profit motive ignores the communities they target? Firstly, by not carrying out thorough community dialogue with local and secondly by a low target community dividend that funds local municipal coffers.

The community where the wind farm is imposed must still continue to pay the highest electricity prices in Europe according to Eurostat Report on Energy (2026), while the electricity generated outside their door is filtered through the electricity grid nationwide and with aspirations to feed into connector grids feeding the UK and Europe. There is no opportunity for profit sharing and having stakes in these companies. Again the 2019 Guidelines for Wind Energy allude to this issue being constructively addressed, but again these Guidelines are still in Draft form as I write on the 10 June 2026. The Dail will not even consider them again until autumn 2026. Also, the de-democratisation of local authorities through planning legislation and lack of an appeal mechanism for An Coimisiun Pleanála decisions is very demoralising for communities. Very skimpy attempts and no proper dialogue with communities in the case on which these industrial sized structures are imposed is disheartening and shows a great lack of respect for the views and way of life of the people in these areas

If these 2019 Guidelines were in place the people of Lacken, Ballycastle, Kilfian and Killala would not have the enormous burden of defending their livelihood, their environment and their cultural heritage, etc, as they would have some protection from fairly modern guidelines. The World Health Organisation standards are incorporated into the 2019 Guidelines. and many other issues that have been recognised as harmful to the Irish public, for many years by Irish governments. Making decisions on 2006 Guidelines, while the legal route An Coimisiun Pleanála have to take, is ludicrous. Given the amount of knowledge acquired since 2006 on health implications and negative impacts on communities and the cost of wind energy in particular, a total re-evaluation needs to take place. Wind energy is not the panacea it once was presented as. The wind is free, but the technology to harness it in its intermittent form requires being backed-up by fossil fuels and exorbitant payments to the wind farm themselves to regulate their costs vis-à-vis output of electricity. The people of Ireland are paying the highest electricity bills in Europe according to Eurostat this 2026 and the cost of wind generation is a large part of that.

Social impact assessment, of which there is no evidence whatsoever in the Chapter 5 on Population and Human Health, should have considered attachment to place and attachment to landscape and ecosystem, community identity and way of life, etc. Research was required on the way in which those seeking opportunities for recreation might experience disruption as the road network is part of the across Connaught Western Way, cycling routes, schools, the Wild Atlantic Way and smaller loop walks in each of the parishes that are used on a daily basis. The sight and sound of wind turbines will not add quality of life.

The red lines follow the present main public road network through Conaghree and the Lacken Hills and this a side route to the Western Way, Eurovelo and other smaller loop walks. Eurovelo 1 which is the Atlantic Coast route – a massive 2,300 kilometres maritime route. The Mayo section of the Eurovelo 1 overlaps with the stunning, challenging coastal roads of the Wild Atlantic Way. This goes right down through the Tirawley Wind Farm. The vista across Rathfrán Bay, Ross and Killala Bay to the Ox Mountains running the length of Killala Bay. Views take in Knocknaree Mountain and the Ben Bulbin range in Co Sligo and the Donegal Mountains, including Sliabh Liag in County Donegal. Nephin Mountain and his partner mountains stand majestically to the south. This Conaghree and Lacken Hill with the most amazing views will now be seriously degraded by wind turbines for the next 35 years. The construction and decommissioning phase will present total major traffic congestion and dangers to those using the roads.

There is no evidence in an EIAR chapter of any specific consultations, assessments or surveys completed with road users or providers of services, eg, Bed and breakfast owners, farmers, etc, in this area right in the middle of the wind farm and beyond.

E. Ornithology and Ecological Connectivity

Red-line boundaries are an anathema to ecological boundaries and can lead to misleading conclusions in many contexts, so caution is necessary for a full evaluation of the zones of proximity

As the everyday life of people extend beyond and through red-line boundaries, so also flora and fauna including birds and animals in particular extend beyond boundaries. The foraging ranges of bats and birds extend and criss-cross red-line boundaries. Large birds, for example the raptor family, hen harriers and merlins flight and migration corridors extend beyond boundaries. The Northern Coast of Mayo is a major migration flight pathway for many species. I will discuss

ornithology in greater detail and point to the loopholes and omissions in the Chapter 7 on Ornithology.

The foraging hen harrier can fly up to 15 square kilometres from their nesting area. The red-line assessment may fail to correctly identify functional habitat loss. The golden eagle flight territories can exceed 100-200 square kilometres. With this level of activity for these 2 raptors focusing on red-line site boundary assessment is ecologically weak. This is relevant in terms of the other wind farm that have been granted planning permission in the area, Tirawley and the other in the pre-planning stage of An Coimisium Pleanála, that is Keerglen. Bats travel several kilometres to roost and visit feeding grounds and have long migratory routes. Overall the a narrow red-line focused assessment can underestimate mortality risks through blade mortality and loss of foraging and nesting opportunities for many species.

The water systems or the peatland hydrology is very pertinent when it comes to the drying of soils or polluting of waterways and the effect on the foraging range and suitability of habitat which can impact birds and animals. Hydrology extend beyond red-line boundaries and mortality by the blades of the wind turbine is not the only consideration in doing a ornithological survey. How does the construction influence the surrounding habitat outside the red-lined area, especially if the wind farm is located adjacent to the Lacken Saltmarsh and Kilcummin Head Special Area of Conservation and proposed Natural Heritage Area with some machair properties therein?

The question to be posed is could the project affect the integrity of the Natura 2000 sites, ie, Lacken Saltmarsh and Kilcummin Head Special Area of Conservation or Lacken, Rathfrank or Killala Bay Special Area of Conservation in particular? The EU Habitats Directive points out that the assessment boundary is not the project boundary. It may include upstream or downstream impacts, being affected through the many hydrological pathway or through migratory pathways and the flight paths of birds foraging, roosting, etc.

Irish courts have shown a strong voice on not granting permissions where ecological pathways extending beyond red-line boundaries were inadequately assessed.

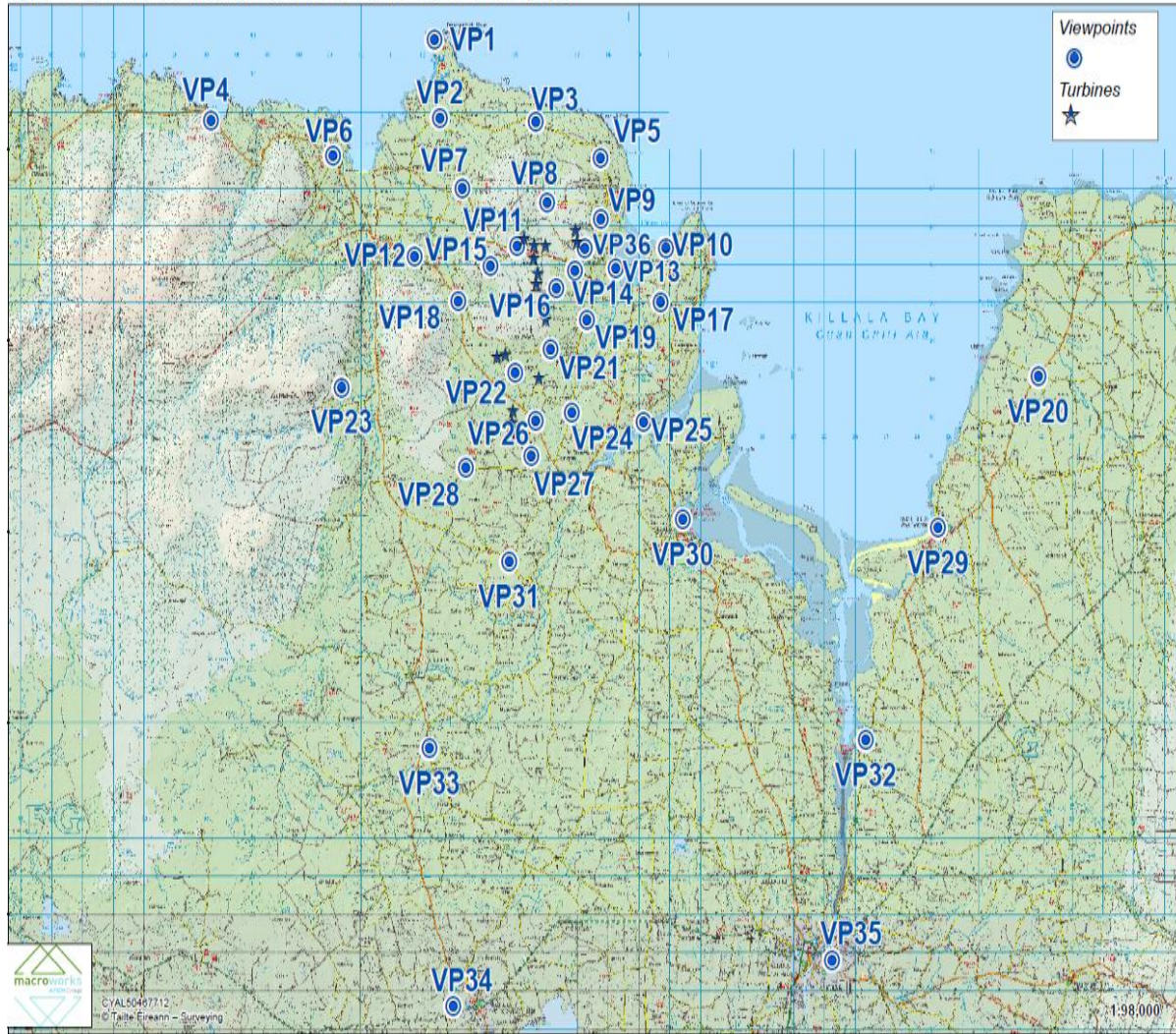
Lacken Saltmarsh and Kilcummin Head is recognised by the National Parks and Wildlife Service for its diverse coastal habitats such as intertidal sandflats, saltmarshes, shifting dune and rocky sea cliffs. Has a full assessment of this area regarding the objectives of the SAC taken place in the EIARs? From my examination I do not think so.

My contention is that both EU law and Irish law has been breached as the actual zone of influence is not adequately assessed in this application. This has occurred in relation to landscape effects in particular where zones can often extend 40 Kilometre and more from the turbines. Visual effects span huge expanses of landscape as can be seen in the following map, not just the red-lined areas.

Sufficient viewpoints were not selected when you look at the map. No viewpoints across Killala Bay into Sligo where the Tirawley Wind Farm breaches ridgelines and skylines, as opposed to the Wind Farm very visible from Lacken along the Ox Mountains in Sligo. Typically, they do not reach in to the mountain tops or ridges. The terrain is in the surrounding landscape of Killala Bay and is therefore visible from many counties, Sligo, Leitrim, Donegal in particular. Donegal is visible from the Lacken Hills and the question arises was there a vantage viewpoint location there in the photomontages.

Map 14

Figure 12.2 LVIA viewpoint locations selected for the Tirawley Wind Farm project

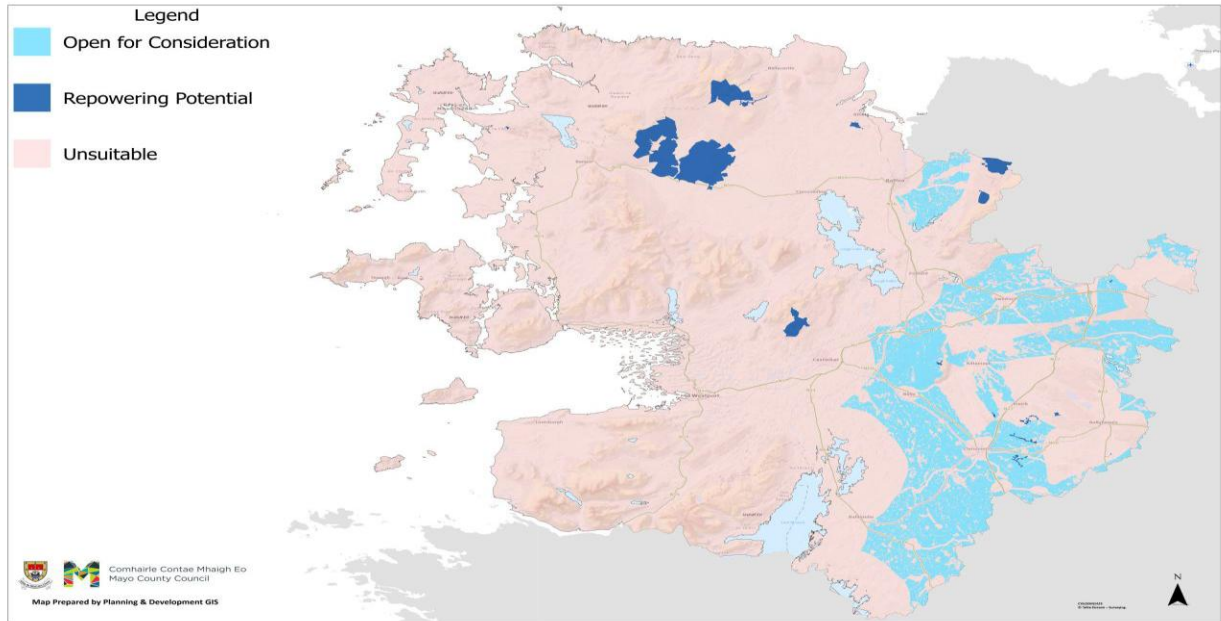


‘Receptors’ of high community significance, eg, St Patrick’s Lacken Cross School, St Patricks and St Cuimmin’s Church, and the Lacken Sensory Garden, and larger residential communities given little consideration

The most serious omissions in the terms of the red-line omission if the local second level college, St Patrick’s College, Lacken Cross where no evaluation took place on the impact of the wind farm on this very sensitive ‘receptor’ and on the quality of the learning experience that may be experienced by these young people. The impact of noise, shadow flicker, low-frequency noise and infrasound on an ongoing basis in the classrooms and the playing pitches needed to be assessed separately to ensure the student population are not at-risk regarding health, well-being and quality educational experience. The disruption for students in travelling to and from school especially in the construction and decommissioning stages of the development will be significant also. This is a small rural area where the roads are very narrow and walking, cycling or getting transport to school will all be affected.

The Lacken Sensory Garden, the sheltered housing, Community Centre beside St Patrick’s and St Cuimmins’ Church did not get any great consideration to the assessment of potential harms to the population who use these valuable resources in the parish. Both St Patrick’s College and the Sensory Garden, the church and surrounding sheltered housing warranted individual assessment of which there is no evidence of in the EIARs.

Map 16



Wind Suitability Map

Photograph 3 Vista of Lacken Hills from Kilcummin Head where wind turbines will cut the skyline



D. Chapter 7 EIAR, Ornithology

Considering Chapter 7 of the EIAR and Appendices 7.1 right through to 7.9 the following analysis is presented and the points raised warrant an in-depth study by An Coimisiun Pleanála.

This is an extract from the EIAR in **7.2 METHODS 7.2.1 Study Area**

‘As the Wind Farm is located over a large area (approximately 6 km from north to south and up to 2 km from east to west), with large tracts of countryside between the locations of the turbines and other infrastructure, the approach was to focus on the distribution of the turbines (mostly in clusters of two or more) rather than trying to achieve blanket coverage of a large area. All lands within the Redline Boundary for the Proposed Development were included within the study area as well as adjoining areas to a distance of at least 500 m from infrastructure.

The study area for the assessment of collision risk is the ‘flight activity survey area’ or ‘FASA’ which refers to a polygon around the outermost turbines plus an additional 500 m strip around that polygon.

Due to the ornithological importance of Lackan Bay (part of Killala Bay/Moy Estuary SPA), particular attention was focused on the strip of land between the bay and the Wind Farm to determine the potential for flight lines towards the Wind Farm.’

Plate 7.1: Locations of Vantage Points (VP1 – VP 5) and associated viewsheds.

The time spent flying over the defined survey area;

The relative use of different parts of the defined survey area; and

The proportion of flying time spent within the upper and lower height limits as determined by the rotor diameter and rotor hub height.

The main purpose of vantage point survey watches is to collect data on *target species* (see **Table 7.1**) for the carrying out of Collision Risk Modelling (CRM). The data collected will enable estimates to be made of:

The results of the comprehensive desk-top study were used to identify target bird species which were considered likely to occur in the study area. These target species formed the main focus of the bird surveys undertaken. Principal target species (or groups of species) were:

- Wildfowl species, such as whooper swan and goose species.
- Waders, especially golden plover and curlew.
- Birds of prey, including, Buzzard, Eagles, Falcons, Hen Harriers, Hawks and Owls.
- Other Annex I listed species or Red-listed birds of Conservation Concern (Gilbert *et al.* 2021).

It is generally considered that passerine species are not significantly impacted by wind farms (SNH, 2025) Page 12 Chp 7.’ Passerine are also significant and may be part of the prey for larger birds.

Map 17



Secondly, the study area included the GCR and the TDR. However, as it was considered unlikely that the proposed works along these respective routes (largely within public roads lined by hedgerows) will have a significant effect on bird species, detailed surveys for birds were not carried out for these components of the Proposed Development. However, the potential

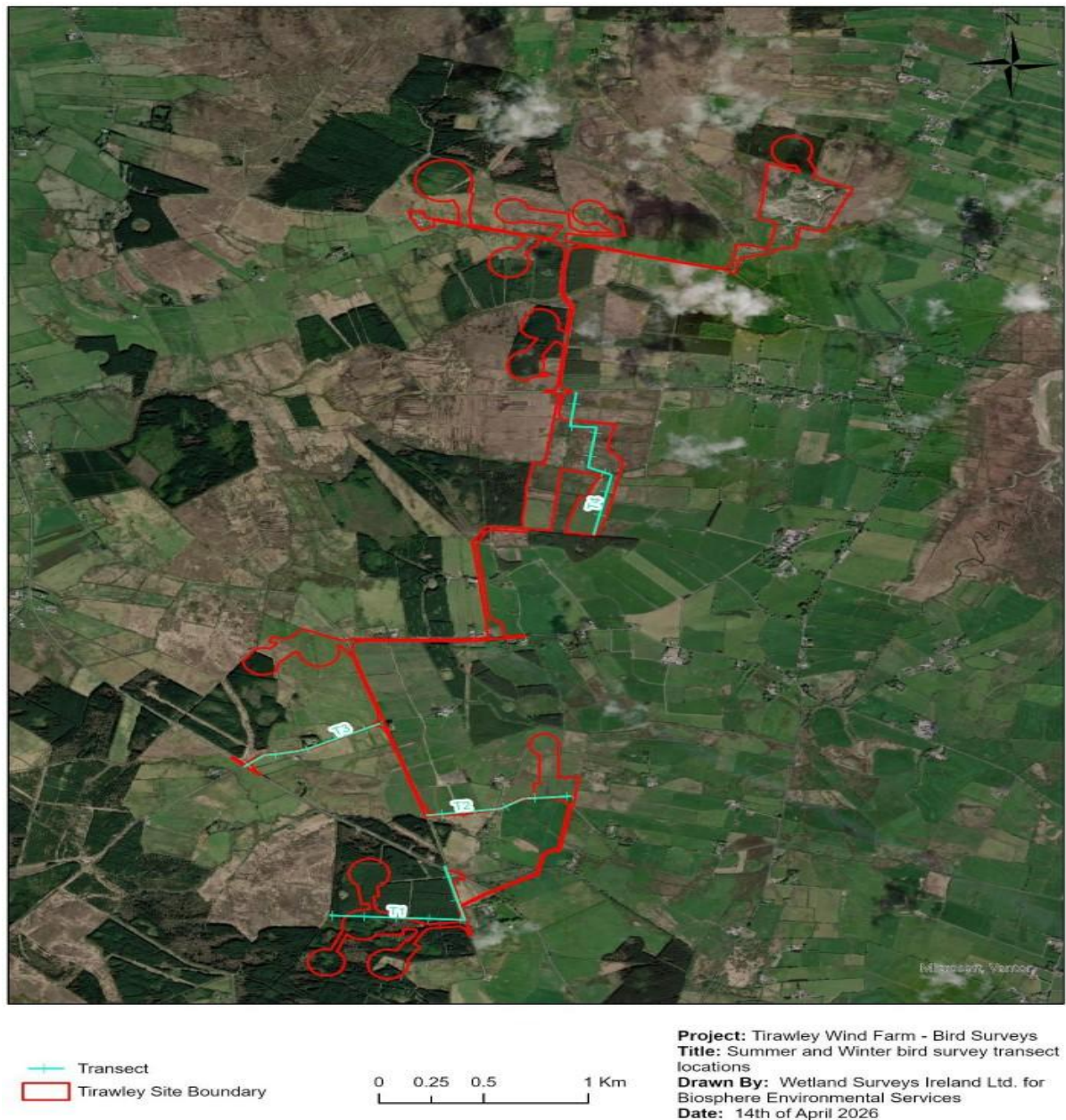
effects on birds by activities such as hedge trimming and tree pruning along parts of the TDR has been assessed.

End of Extract.

I will just mention two issues regarding this description:

Firstly, the Lackan Saltmarsh and Kilcummin Head SPA is not mentioned but the focus is on Lackan Bay. It is legitimate to locate the VP A, B and C on the western shores of Lackan Bay. Further VP were required in the Saltmarsh where there is high activity of coastal birds and travelling birds between the east to west and visa-versa across the Saltmarsh.

Map 18



The information on ornithology baseline appears to be very heavily dependent on standard Vantage Point (VP) survey methods and presents a relatively limited range of species studied in the surveys. The major issues that arise relates to the variability of landscape in this North Atlantic area, where you have blanket bog, forestry and various farming techniques, predominantly, dairy, dry stock, sheep, some tillage and private gardening.

The surveys presented in Chapter 7 do not show clearly the Lacken Saltmarsh and Kilcummin Head SAC connectivity and the interactions between it and the Killala Bay/Moy Estuary SAC and SPA (see detailed maps below). The linkages between the flora of the SPA and the species of birds, butterflies, moths, newts, frogs and bats that forage and nest in the SAC get a low priority.

One example in relation to this connectivity is that North Mayo contains nationally important area for Curlew, Snipe, Golden Plover and the absence of records by the Tirawley Wind Farm applicant does not necessarily prove absence of the species. However, in the SPA documentation link below that up to 2,200 Golden Plover have been seen in early winter roosting and feeding on this site. This information is dated 7 August 2013. So where have all the Golden Plover gone?

The Golden Plover (*Pluvialis apricaria*) forage on saltmarshes. While they primarily feed on earthworms, small beetles and various coastal invertebrates in lowland agricultural pastures and coastal grasslands, they regularly use coastal saltmarshes and estuaries for both foraging and roosting during winter months.

The Breeding Wader Survey in Appendix 7.7 records only snipe drumming and snipe chipping. Snipe chips are hard, metallic calls primarily heard during the spring breeding season. Birders or ornithologists' track these audio cues to locate hidden birds in boggy and marshy habitats. No breeding Curlew was recorded. This is of concern in a large upland bog landscape and the marshes downstream. The survey records show April, May and June surveys with little evidence of dawn or dusk surveys or of territory mapping, nest searches, repeat occupancy or productivity assessments. This is the research methodology that is best practice for declining wader populations.

VP survey methodology may not adequately show coastal flyways, nocturnal movements, displacement effects, cumulative effects, inter-annual variability or rare Annex 1 species usage of territory. The dilemma for the applicant is does absence of evidence by use of outdated methodologies lead to being regarded as evidence of absence of species observed?

In the case of the Merlin Survey Methodology in Appendix 7.7 states: 'No sightings, or signs across all Merlin Surveys. Merlins are totally very difficult to detect. The Merlin surveys were conducted in daytime only in April, May and June using transects. Current Irish raptor guidelines recommend doing breeding habitat assessment, prey assessment, display flight observations, nest-search methods, especially in blanket bog landscapes. Blanket bog is within the red-line boundary of the wind farm map. The finding of 'no Merlin present' as a result of transect survey observations is totally not thorough in raptor research.

Appendix 7.8 shows male Hen Harrier and ringtail hen harrier recorded and many roosting events are recorded in the Lackan Bay area. The surveys focus on winter roosting but no evidence provided of analysis of the foraging range, SPA or habitat suitability modelling or breeding season satellite territory assessment. The focus should be on how does the Hen Harrier use the wider landscape and not just a focus on sightings. Up-to-date research techniques shows breeding birds may forage 10-20 kilometres from nests and winter birds may move widely across landscapes. The risk of collision is often secondary to displacement risk and access to the birds on which they prey if the mortality of other birds in a wind farm occurs. Of course, their own mortality is also an issue on a wind farm that has such a wide coastal spread across Killala Bay and the Rathfriland and Moy Estuaries and the Ballycastle coastline and territories inland to Kilfinjan and Crossmolina.

Flight Activity Survey Results (page 22 EIAR, Ch 7)

Hen Harrier

Hen harrier was recorded fairly regularly during the two winter periods, along with records in late August and September 2021 (post-breeding / migratory period). There was a total of 14 records, mostly involving male birds. The majority of records were in the northern sector of the study area. Details of the records are as follows:

31st August 2021: male flying / hunting

- 10th September 2021: ringtail flying over bog then perched in dead tree
- 16th September 2021: ringtail hunting over rough fields

- 31st October 2021: adult male flying, then landed in bog
- 21st December 2021: adult male actively hunting
- 30th December 2021: adult male flying low
- 4th January 2022: one flying low
- 22nd February 2022: adult male actively hunting
- 27th February 2022: adult male rose from bog (09.50 hrs) and later landed again
- 19th March 2022: one rose from bog and flew over abandoned quarry
- 11th October 2022: male hunting over bog & wet grassland fields
- 13th November 2022: male hunting over wet grassland fields
- 22nd November 2022: male seen flying briefly
- 23rd January 2023: male hunting over bog, seen dropping into heather

Lacken shoreline survey results

- The shoreline surveys recorded wetland bird species using the Lackan Bay area in each month, as well as any movements inland towards the locations of the proposed turbines.
- The results of the shoreline survey (see **Appendix 7.4**) showed that the Lackan Bay estuarine complex is used regularly by a range of wetland species through the year but especially from August to March. Regular species included cormorant, oystercatcher, ringed plover, curlew, black-headed gull, common gull, herring gull and great black-backed gull.
- The range of species present reflects the sandy character of the bay system. None of the numbers recorded for any species approached the threshold for national importance. For comparison, counts of Lackan Bay from the Irish Wetlands Birds Survey (I-WeBS) for the five winters 2018/19 to 2022/23 are presented in **Table 7.2**.
- The counts carried out for the present study are generally in line with the I-WeBS data. However, it is noted that Whooper swan was recorded in two of the winters (not recorded in present study) and Brent geese was recorded in higher numbers than in the present study. **The reason for the higher numbers of Brent geese in the I-WeBS counts may be that the surveys in the present study were focused on the inner shoreline area rather than the entire bay (as required for I-WeBS)**

Inland feeding wetland species were at times observed feeding in the fields between the shoreline and the local Lissadrone-Rathlackan road. This was especially at times of high tide or severe weather and involved oystercatcher, curlew, black-headed gull, common gull and herring gull.

- During the surveys, there was only one record of wetland birds flying inland from Lackan Bay - this involved a flock of c. 40 golden plover flying over the village of Rathlackan (from Lackan pier direction) and continuing in a northwest direction on 28th October 2022. Flight height was from approximately 50 m to 120 m. **Also, a flock of c. 100 golden plover was observed circling over bog (height of c.100 m) approximately 1 km northwest of Rathlackan on 9th February 2022 (not seen flying from the bay).**
End of extract

Also, you have a very richly protected coastal habitats in terms of birds, bats, and various foraging and nesting spaces including all the Lacken Saltmarsh and Kilcummin Head SAC 000516 species of flora. 'This coastal site is of considerable ecological importance for the range, quality and floristic richness of its coastal habitats, in particular the fixed dunes which are a priority habitat on Annex I of the E.U. Habitats Directive.' (SAC 00516' link below)

'The qualifying interests as outlined in the SPA 000516 are as follows and provide rich feeding grounds for many species of birds and fish live is also rich in this tidal plain:

Salicornia and other annuals colonising mud and sand [1310]

Atlantic salt meadows (*Glauco-Puccinellietalia maritima*) [1330]

Mediterranean salt meadows (*Juncetalia maritimi*) [1410]

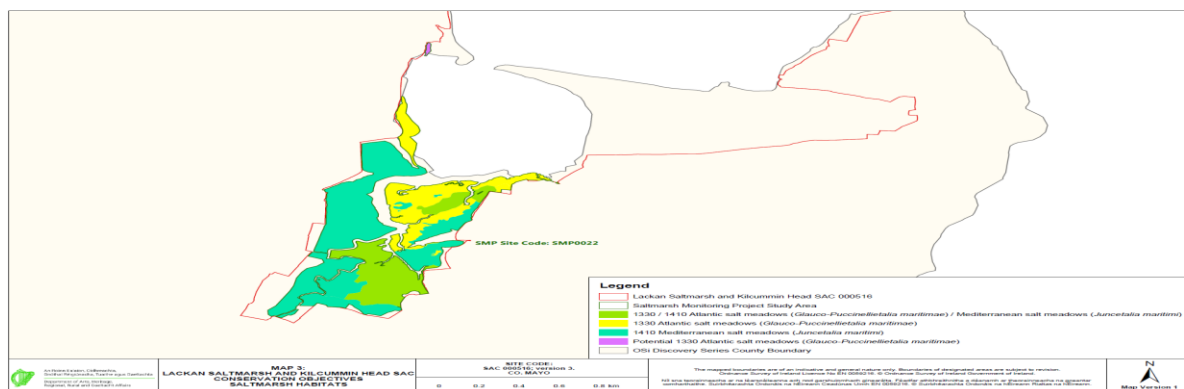
Shifting dunes along the shoreline with *Ammophila arenaria* (white dunes) [2120]

Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]

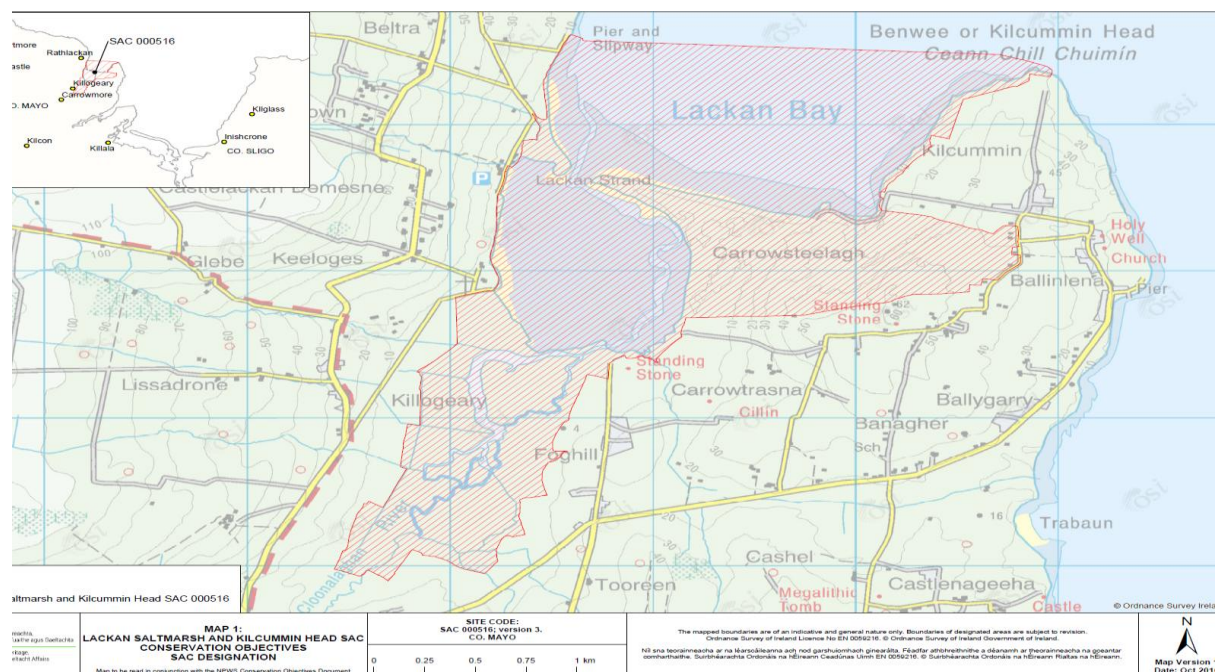
The objectives for each species of qualifying interest and all the relevant maps relating to the Lacken Saltmarsh and Kilcummin Head SAC 000516 and the Killala Bay and Moy Estuary SPA and how they overlap and interact are in the link here to National Parks and Wildlife Service.

https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000516.pdf

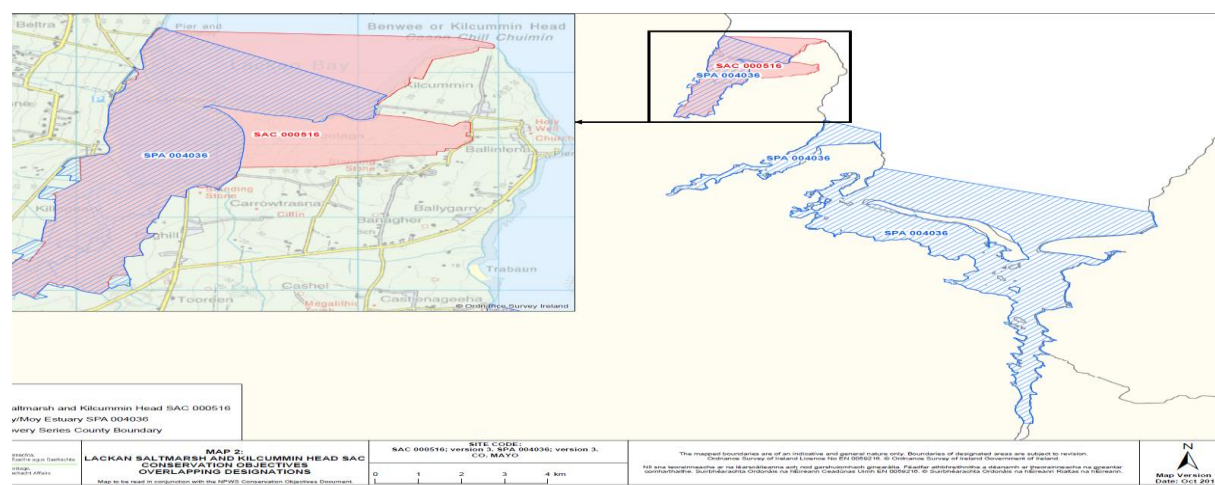
Map 19



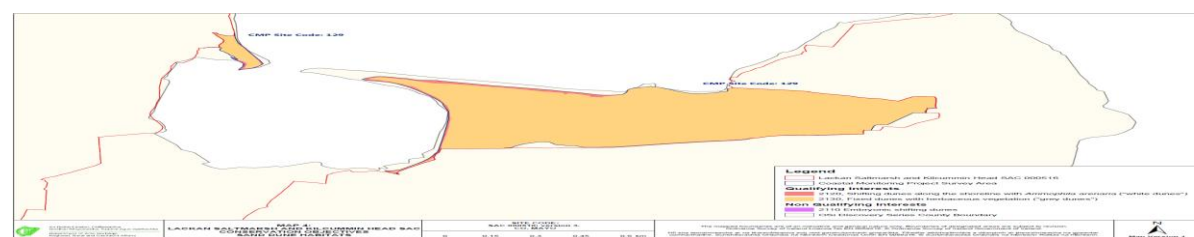
Map 20



Map 21



Map 22



This is an extract from the objectives of the SAC

‘Please note that this SAC overlaps with Killala Bay/Moy Estuary SPA (004036). See map 2.

The conservation objectives for this site should be used in conjunction with those for the overlapping site as appropriate. The overall aim of the Habitats Directive is to maintain or restore the favourable conservation status of habitats and species of community interest.

These habitats and species are listed in the Habitats and Birds Directives and Special Areas of Conservation and Special Protection Areas are designated to afford protection to the most vulnerable of them. These two designations are collectively known as the Natura 2000 network.

European and national legislation places a collective obligation on Ireland and its citizens to maintain habitats and species in the Natura 2000 network at favourable conservation condition. The Government and its agencies are responsible for the implementation and enforcement of regulations that will ensure the ecological integrity of these sites. A site-specific conservation objective aims to define favourable conservation condition for a particular habitat or species at that site.

The maintenance of habitats and species within Natura 2000 sites at favourable conservation condition will contribute to the overall maintenance of favourable conservation status of those habitats and species at a national level.

Favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing, and
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future, and
- the conservation status of its typical species is favourable. The favourable conservation status of a species is achieved when:
 - population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats, and
 - the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future, and
 - there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

Notes/Guidelines:

1. The targets given in these conservation objectives are based on best available information at the time of writing. As more information becomes available, targets for attributes may change. These will be updated periodically, as necessary.
2. An appropriate assessment based on these conservation objectives will remain valid even if the targets are subsequently updated, providing they were the most recent objectives available when the assessment was carried out. It is essential that the date and version are included when objectives are cited.

3. Assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.

4. Please note that the maps included in this document do not necessarily show the entire extent of the habitats and species for which the site is listed. This should be borne in mind when appropriate assessments are being carried out. 5

5. When using these objectives, it is essential that the relevant backing/supporting documents are consulted, particularly where instructed in the targets or notes for a particular attribute.' End of extract regarding SAC Lackan Saltmarsh and Kilcummin Head.

This extract clearly points out Ireland's obligations regarding this Saltmarsh and Kilcummin Head SAC and how it interacts with the Killala Bay and Moy Estuary SPA and other European sites close by.

Also kernel to this investigation of Tirawley Wind Farm is that assessments cannot consider an attribute in isolation from the others listed for that habitat or species, or for other habitats and species listed for that site. A plan or project with an apparently small impact on one attribute may have a significant impact on another.

The site synopsis available at this link and copied below for ease of reading gives a good description of the Cloonalaghan River flora and the birds that frequent the SAC.

<https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000516.pdf>

'Site Name: Lackan Saltmarsh and Kilcummin Head SAC Site Code: 000516 Lackan Saltmarsh and Kilcummin Head are located at Lackan Bay, 8 km north-east of Killala, in Co. Mayo.

Within this scenic and quite undisturbed area, there is an excellent diversity of coastal habitats including mature dunes, saltmarsh, rocky sea cliffs, dune grassland and estuarine sandflats. These areas provide a haven for many species of plant and animal.

In addition to its value to wildlife, this area is also of historical significance, in that French soldiers landed near here during the 1798 Rising.

The site is a Special Area of Conservation (SAC) selected for the following habitats and/or species listed on Annex I / II of the E.U. Habitats Directive (* = priority; numbers in brackets are Natura 2000 codes): [1310] Salicornia Mud [1330] Atlantic Salt Meadows [1410] Mediterranean Salt Meadows [2120] Marram Dunes (White Dunes) [2130] Fixed Dunes (Grey Dunes)*

An extensive area of fixed sand dunes, dune grassland and dry grassland on Kilcummin headland supports a good diversity of grasses and herbs such as Smooth Meadow-grass (*Poa pratensis*), Crested Hair-grass (*Koeleria macrantha*), Wild Thyme (*Thymus praecox*), Lady's Bedstraw (*Galium verum*), Yarrow (*Achillea millefolium*), Oxeye Daisy (*Leucanthemum vulgare*) and Common Centaury (*Centaureum erythraea*). Patches of the parasitic plant, Dodder (*Cuscuta epithymum*), occur in these habitats, and also Mountain Everlasting (*Antennaria dioica*), Field Gentian (*Gentianella campestris*) and Pyramidal Orchid (*Anacamptis pyramidalis*). The maritime influence is shown by the presence in the sward of Sea Pansy (*Viola tricolor*). Small areas of Marram (*Ammophila arenaria*) dunes also occur. Within Lackan

Bay estuary, and along the margins of the Cloonalaghan River, sediments originating from the river have built up to form an extensive saltmarsh. The vegetation is comprised of a closely-cropped turf of Common Saltmarsh-grass (*Puccinellia maritima*), Thrift (*Armeria maritima*), Annual Sea-blite (*Suaeda maritima*), Sea Milkwort (*Glaux maritima*) and Sea Plantain (*Plantago maritima*), with prostrate forms of glasswort (*Salicornia* sp.) and Saltmarsh Rush (*Juncus gerardi*). Sea Rush (*Juncus maritimus*) occurs on slightly elevated sites and its sharp stems protect two succulent plants, Common Scurvygrass (*Cochlearia officinalis*) and Sea Aster (*Aster tripolium*). Shallow pools or pans occur on the surface. Version date: 27.08.2013
1 of 2 000516_Rev13.Doc West of the Cloonalaghan River, the vegetation is taller and more luxuriant.

Freshwater streams flow down from the hillside, occupying ditches amid the grassland. Sea Club-rush (*Scirpus maritimus*) and Common Reed (*Phragmites australis*) are present in the ditches. Sea Rush is dominant in the sward, along with the grasses Red Fescue (*Festuca rubra*) and Creeping Bent (*Agrostis stolonifera*).

There is a good selection of other plants scattered through this stand, reflecting both the fresh- and salt-water influences. These include spurrey (*Spergularia* sp.), Parsley Waterdropwort (*Oenanthe lachenalii*) and Sea Arrowgrass (*Triglochin maritima*).

The rich flora of grassland and dunes supports a great diversity of butterflies and other insects. The butterflies noted here include **the Six-spotted Burnet Moth, Cinnabar Moth, Meadow Brown, Small Heath, Dark-green Fritillary and Common Blue.**

The rocky sea-cliffs at Kilcummin Head are formed from marine sandstones and carbonate rocks with interesting sedimentary structures and trace fossils. Both Lackan Bay and the estuary are important sites for wintering waterfowl and support part of the large populations which winter in Killala Bay. **Lapwing, Golden Plover, Redshank, Dunlin, Wigeon, Snipe, Teal, Mallard and Curlew** are known to frequent the site.

Up to 2,200 Golden Plover have been seen in early winter roosting and feeding on this site. This species is listed on Annex I of the E.U. Birds Directive. Both Little Tern and Common Tern have nested here in the past. This coastal site is of considerable ecological importance for the range, quality and floristic richness of its coastal habitats, in particular the fixed dunes which are a priority habitat on Annex I of the E.U. Habitats Directive.’ End of extract on the Cloonalaghan River.

E. Health and Well-being

The Population and Human Health Chapter 7 defines health primarily through environmental pathways, using a Source-Pathway-Receptor (SPR) model that does not adequately address, mental health and well-being, sleep disturbance, vulnerable populations, chronic annoyance, community cohesion or health inequalities. These are legitimate health pathways, that if they are not addressed they do not protect the population adequately and is only partially compliant with World Health Organisation’s (WHO) definition of health and well-being.

The Chapter does not appear to establish any framework at all for assessing mental well-being, psychological stress, social cohesion, attachment to place, or the perception of the loss of environmental quality as indicative of WHO’s definition of health.

The WHO and the Health Services Executive (HSE) define health 'as a state of complete physical and social well-being and not merely the absence of disease or infirmity'. In this observation I will endeavour to show that aspects of quality of life and general well-being could be influenced by environment noise, including from wind turbines and traffic disruption, etc.

Wind turbine noise may be below defined decibel thresholds, but still cause sleep disturbance, stress and annoyance, especially to vulnerable population like children, adults with particular vulnerabilities. Noise annoyance can be influenced by background noise, infrasound sensitivity, individual's personality and vulnerabilities.

The academic research on noise levels shows that chronic exposure to environmental noise, especially industry, transport and wind turbines is a significant public health issue. Annoyance and perceived lack of control can lead to physiological stress responses that can be measured by elevated cortisol, blood pressure and heart rate variability changes (Basner & McGuire, 2018). Children exposed to chronic noise show measurable cognitive delays in reading and attention in particular (Stansfeld & Clark, 2015).

The WHO (2018), the European Environment Agency in 2020 also point out that prolonged noise exposure above 45dB night time increase the risk of sleep disturbance, cardiovascular disease, reduced quality of life and cognitive impairment. Research shows that older adults with hypertension, arrhythmias, sleep apnoea and children with neurodevelopment conditions, for example Attention-Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD) and epilepsy show great susceptibility to stress and sleep disruption from noise due to diminished restorative sleep even at lower noise exposure levels.

The HSE in a recent extract from an Irish Parliamentary Question in November 2025 states that:

'It is the opinion of the HSE that the changed nature, size and location of wind turbines over the last 10 years warrants a comprehensive review of the current Department of Housing, Local Government and Heritage Wind Energy Development Guidelines (2006) which are the current guidance for assessing likely significant effects on health from wind turbine development. This review should include the most up to date evidence on likely impacts on Population and Human Health and the health protection standards that should be incorporated into any new guidance issued.'

'The Environmental Protection Agency (EPA) guidance document states that no guidance for a definition for the term Human health has been issued in the context of the 2014 EIA Directive (2014/52/EU) but the same term has been used in the SEA Directive (2001/42/EC). The Commission provided a notion of human health being considered in the context of the other issues mentioned in environmental factors such as soils, water, and air. Human Health should be considered through assessment of environmental pathways which have the potential to affect it such as air, water, or soil'.

The assessment of human health warranted a comprehensive Health Impact Assessment (HIA) which has a broader scope than the Source Pathway Receptor (SPR) model to measure physical and social well-being.

'Health Impact Assessment (HIA) uses quantitative, qualitative and participatory techniques in assessing human health. It provides a way to engage with members of the public affected by a particular development. It helps decision-makers make choices about alternatives and improvements to prevent disease or injury and to actively promote health. It is based on the four interlinked values of democracy (promoting stakeholder participation), equity (considering the impact on the whole population), sustainable development and the ethical use of evidence'. This is a quotation from the following reference paper which is very valuable in pointing out the strengths of the HIA approach with a 'Health in all Policies' principle for addressing health inequalities in projects (Cave B, Claßen T, Fischer-Bonde B, Humboldt-Dachroeden S, Martin-Olmedo P, Mekel O, 2020)

Given the three quotations above, firstly the HSE advocates for proper health protection standards and more up-to-date evidence to be part of new guidelines. Secondly, wind farms are in many cases following a Source Pathway Receptor (SPN) model of identifying physical pathway to measure the impact on health in communities, ie, soils, water, air, flicker noise, etc. Thirdly the EPA focuses on environmental factors impacting health only.

To get a full appreciation of the many factors that influence physical health and well-being and not merely absence of disease or infirmity as in the definition of health by the WHO and the HSE, a HIA is required. In particular indirect effects, for example, people interaction with biodiversity, landscape, material assets are not considered to any degree. The cumulative effects of the impact on health as a result of existing and proposed windfarms in the North Mayo area. This is required by the EPA.

The question here in relation to the Tirawley Wind Farm is, has a quantitative, qualitative and participatory research taken place in assessing the health impacts of its wind turbines on the population? Has it considered the health and well-being impacts of the cumulative trajectory of numerous wind farms going for planning in the North Mayo area? It appears that the desk research is too dated and independent research or consultation with the local people in the hinterland of Tirawley on health issues did not take place. Indeed, consultation and community engagement was managed to a minimal level in this application and totally contravenes national planning legislation.

Research on health is very outdated and more recent research still points to the dearth of quality research and further independent studies are required.

'Assessing the effects of wind turbines on human health is an emerging field and conducting further research into the effects of wind turbines (and environmental changes) on human health, emotional and physical, is warranted'.

Further research was needed in 2011 and also the quality research had not been achieved in 2023 as the Environmental Noise and Health in the UK A report by the Ad Hoc Expert Group on Noise and Health Chairman: Professor Robert Maynard Editor: Dr Andy Moorhouse research concludes in 2023 that the following areas need to be further researched. They include: engagement with the community; improvement in the measurement of noise;

examination of the relationship between farm noise and health effects; and investigation of the social and environmental circumstances in the understanding of health and well-being.

The social and environmental circumstances are really important to be appreciated in the context of industrial sized wind farms, including Tirawley, being forced on very rural, economically underdeveloped communities and the dramatic and ancient landscapes of North Mayo. North Mayo's appeal is its unique combination of 'adrenalin and quietude, adventure and wilderness'. This description by Failte Ireland in its draft Wild Mayo Destination and Experience Development Plan gets to the heart of the matter. The culture shock and the loss of cultural identity is real and will affect health and well-being and it will have a cumulative effect on visual landscapes and identity, tourism, recreation, enjoyment of place, etc. This draft plan has a vision of preserving the landscape, identity and population of North Mayo and I think the proliferation of windfarms will militate and conflict with its valuable objectives.

Wind farm developers need to consider what is going on in the community and to consult with the population. Here are some examples of the questions that need to be considered and these have not been considered in Chapter 5 relating to Population and Health.

- visual intrusion leading to stress by blocking off the views of the mountains or coastal vistas;
- stress from being aware of bird kill and destruction of natural unique habitats;
- stress from the reality of declining biodiversity and degradation of the North Mayo Boglands;
- lack of consultation with the community and feelings of being unheard;
- lack of trust in the planning process, uncertainty and disempowerment, where many windfarms are being proposed in remote rural sensitive populations;
- lack of trust in corporations where profit motives are dominant, communities' concerns are ignored and eventually companies are sold down the line to multinational corporations;
- perceived lack of respect by developers for, ancient monuments, cultural heritage, biodiversity, health of the population, hydrology, etc.
- community and/or family conflict and division arising from new developments in rural areas;
- visual intrusion and loss of landscape identity affects health in rural communities;
- reduced quality of life;
- reduced quality of recreational facilities, walking, hiking, bothies, cycling paths overshadowed by wind turbines and the whoosh whooshing sound.
- uncertainty, loss of autonomy, changing the culture and fear of new developments in quiet rural areas of high scenic value to inhabitants and visitors alike;
- lack of trust and lack of social cohesion affects health outcomes;
- and varying noise or flicker sensitivities in different populations;
- the consequences of having a lack of up-to-date wind energy guidelines and the risks to health and many other factors.

Modern day research shows impact of noise and infrasound on heart health.

G. Sensitive Community Receptors

'Receptors' of high community significance, eg, St Patrick's Lacken Cross School, St Patricks and St Cuimmin's Church, and the Lacken Sensory Garden, Sheltered Housing and a Community Centre are given little consideration in the EIAR. It required a full social, health and educational impact assessment and also to extend the assessment to all children living near the turbines.

WHO Fourth Ministerial Conference on Environment and Health in Budapest in 2004. Regarding precaution, the World Health Organization states:

"...where there is a reasonable possibility that public health will be damaged, action should be taken to protect public health without awaiting full scientific proof."

There is an opportunity to invoke the precautionary principle. Until guidelines are established that protect human health and social-economic viability, no further development of wind energy facilities should occur....."

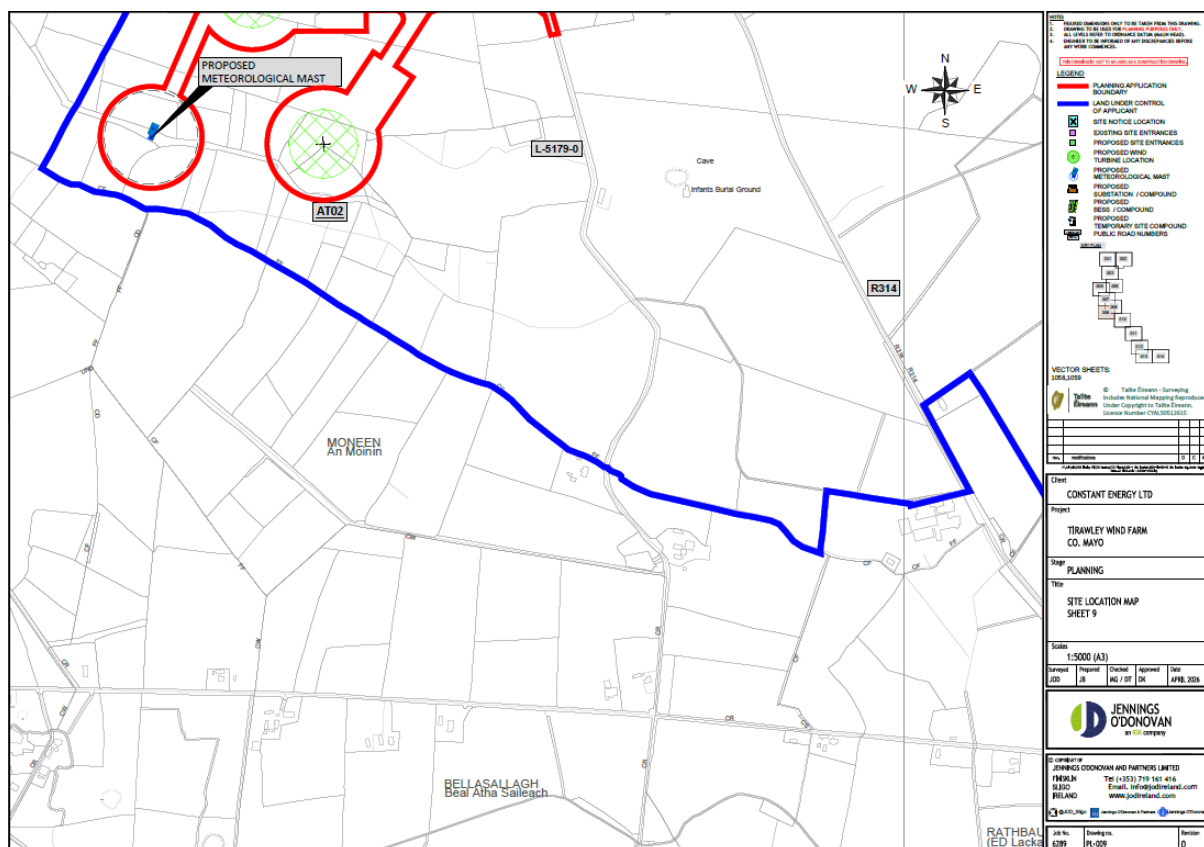
The most serious omissions in the terms of the red-line omission is the local second level college, St Patrick's College, Lacken Cross, where no evaluation took place on the impact of the wind farm on this very sensitive 'receptor' and on the quality of the learning experience that may be experienced by these young people. The impact of noise, shadow flicker and infrasound on an ongoing basis in the classrooms and the playing pitches needed to be assessed separately to ensure the student population are not at-risk regarding health, well-being and quality educational experience. The disruption for students in travelling to and from school especially in the construction and decommissioning stages of the development will be significant also. This is a small rural area where the roads are very narrow and walking, cycling or getting transport to school will all be affected.

Map 23 below shows the location of turbines AT02, AT03, AT04 at the top left-hand corner of the map (one turbine not fully visible). St Patrick's Secondary School is located in the lower right-hand side corner of the map. It is hardly visible and has not been evaluated as a significant community receptor with high social visibility in the locality. The school is 1.185 kilometres from AT02, 1.449 kilometres from AT03 and 1.66 Kilometres from AT04. Playing fields and recreation areas surround the school, and in some parts are closer to the turbines. The connector cable from Lacken to Killala is located just 194 metres away at Lacken-Cross road junction itself. Here you have to consider the cumulative effect of three turbines to the west of the school.

The EIAR has not included any research on what the effects might be on the students and staff in this school.

What are the cumulative effects of three turbines on noise levels, flicker, air and dust pollutants during, construction, working life and the decommissioning phase of the wind farm. Some question are as follows?

Map 23



Has infrasound been considered again, not from one, but from three turbines?

How will travel to school be affected when the level of traffic increases.

Has a road safety plan been put in place for the school specifically?

Were staff or students consulted regarding the wind farm development?

The wider issue also concerns the impacts on the health of students in their respective homes as many turbines are being located too near to houses. Children play outside their homes and the distance from their actual house is one factor, but playing in the vicinity of turbines in a very rural location has not been researched to any great degree. This is an issue for children where a number of turbines are placed very near to their houses. These issues are not discussed to any great degree in the EIAR. This could occur due to severe sleep disturbance, sensory overload or chronic stress. Some children may also have special needs that may be impacted as identified in the Carmen Krogh (2012) in Ontario below. This issue is serious for adults also, particularly older people in the population.

The United Nations Convention on the Rights of the Child (UNCRC) defines a child as a person up to the age of 18 years of age. The Convention can be used to protect children living in close proximity to industrial wind turbines by showing that potential environmental and physical impacts as direct violations of their fundamental human rights. UN General Comment No.26 (2023) mandates that the green transition to renewable energy must not inadvertently harm children. Stricter zoning laws, greater residential setbacks and

environmental monitoring are needed in the case of schools as sensitive community receptors.

Article 24 on well-being guarantees children the right to the highest attainable standard of care and a clean, safe living environment. Industrial and wind turbines emit low-frequency noise, infrasound and shadow flicker. I have not completed a full review of low-frequency noise, infrasound or shadow flicker, but would refer you to the extensive work documented in the various observations to the ACP in relation to the Tirawley Wind Farm application.

For some vulnerable children, including those with pre-existing conditions like autism and seizure disorders, this can trigger severe sleep disturbance, sensory overload or chronic stress.

Carmen Krogh documents the following in her work. I will include some excerpts, as paraphrasing does not give the full picture, as it is so important for children health and educational attainment that may have lifelong consequences. Detailed references can be found in her article on the research she has completed.

Open Submission: Risk of Harm to Children and Industrial Wind Turbines Health and Social-economic Impacts in Canada Submitted by Carmen Krogh, BSc Pharm May 1, 2013.

“Policies that may protect children’s health or may minimise irreversible health effects should be implemented, and policies or measures should be applied based on the precautionary principle, in accordance with the Declaration of the WHO Fourth Ministerial Conference on Environment and Health in Budapest in 2004.

Regarding precaution, the World Health Organization states:

“...where there is a reasonable possibility that public health will be damaged, action should be taken to protect public health without awaiting full scientific proof.”

There is an opportunity to invoke the precautionary principle. Until guidelines are established that protect human health and social-economic viability, no further development of wind energy facilities should occur and existing sites reporting health issues should be resolved to the satisfaction of the those reporting health impairment or risk factors.”

Excerpts from a fact sheet from the World Health Organization states:

“Facts and figures Noise is an underestimated threat that can cause a number of short-and long-term health problems, such as for example sleep disturbance, cardiovascular effects, poorer work and school performance, hearing impairment, etc.

Who is most affected?

Some groups are more vulnerable to noise. As children spend more time in bed than adults, they are more exposed to night noise. Nuisance at night can lead to an increase in medical visits and spending on sleeping pills, which affects families’ budgets and countries’ health expenditure. The gap between rich and poor is likely to increase if governments fail to address noise pollution.

Children, noise and health Impairment of early childhood development and education caused by noise may have lifelong effects on academic achievement and health. Studies and statistics on the effects of chronic exposure to aircraft noise on children have found:

- consistent evidence that noise exposure harms cognitive performance;
- consistent association with impaired well-being and motivation to a slightly more limited extent;
- moderate evidence of effects on blood pressure and catecholamine hormone secretion.”

Excerpts from The World Health Organization’s “Training Package for the Health Sector” on “Children and Noise” identify vulnerabilities:

“VULNERABLE GROUPS OF CHILDREN The foetus and babies Preterm, low birth weight and small for gestational age babies Children with dyslexia and hyperactivity Also, children who have learning disabilities or attention difficulties may be more likely to develop early problems with mild hearing loss compared to children without these challenges, and children on ototoxic medications may have higher likelihood of developing problems from exposure to excess noise.”

A brief overview of the WHO Training Package notes that adverse effects from noise exposure can include direct ear damage, indirect adverse effects (physiological and psychological effects) and impaired cognition.

The “indirect damage” of Indirect adverse effects can include stress-related somatic effects (stress hormone, blood pressure and muscle spasm) and psychological effects can include annoyance/isolation, sleep disturbance and mental health issues.

Cognitive effects can include reading, concentration, memory and attention issues. Chronic noise exposure impairs cognitive function (reading comprehension and long-term memory) and that dose-response relationships are supported by both laboratory and field studies and that “Over 20 studies have reported that noise adversely effects children’s academic performance”.

Children with pre-existing medical conditions can have increased risks of adverse effects. For example, autism, asthma, migraine, bronchitis, and epilepsy can be vulnerable to the effects of noise and/or stress and/or sleep disturbance. These effects can be detrimental to the health of children. Childhood asthma and migraine can be triggered by stress.

Niemann et al state: “With children the effects of noise induced annoyance from traffic, as well as neighbourhood noise, are evident in the respiratory system. The increased risk of illness in the respiratory system in children does not seem to be caused primarily by air pollutants, but rather, as the results for neighbourhood noise demonstrate, by emotional stress.”

A submission dated December 27, 2012 provided excerpts of judicial decisions associated with wind turbine appeals including among other issues and the risk to autistic children. Indications are that UK planning inspectors and planning authorities have been sufficiently

convinced of the adverse effects of wind turbines on children with AS (Autistic Spectrum Disorders) of similar severity to the children reported here, to refuse planning permission for several wind energy facilities. Open Submission: Open Submission: Risk of Harm to Children and Industrial Wind Turbines. The December 27 2012 submission described the risks to children in general and for those with pre-existing medical conditions similar to the son of the Kerr family.

Conclusion

Published peer reviewed references, document individuals living in the environs of wind turbines and report reduced sleep quality and- / -or sleep disturbance and- / -or lower quality of life.

There are no precautionary measures in place for children in public or private child care centres, schools or other institutions that care for children part or full-time. Parents and caregivers are unable to protect the health of their children and their capacity to learn. Due to the siting of wind energy facilities in close proximity to residences, some children may be limited in their ability to play outdoors in order to avoid the potential risk of ill health.

Children living in homes exposed to the noise and other emissions of industrial wind turbines are reported to suffer adverse health effects and may be at risk of mental and / or physical adverse health effects similar to that of their parents.

Vigilance and long-term surveillance systems regarding risks and adverse effects related to children are lacking. Such programs are necessary to evaluate the risks to children who have been exposed to industrial wind turbines. This evaluation should take place before proceeding with additional approvals.'

End of quotation. Carmen Krogh, BSc Pharm, Ontario, Canada

The Lacken Sensory Garden, the sheltered housing, Community Centre beside St Patrick's and St Cuimmins' Church did not get any great consideration to assessing potential harms to the population who use these valuable resources in the parish. Both St Patrick's College and the Sensory Garden, the church and surrounding sheltered housing warranted individual assessment of which there is no evidence of in the EIARs.

Moreover, remaining on inter-State litigation, Francesca Sironi De Gregorio offers a systematization of the regime of proof of environmental harm by examining the practice of international courts and tribunals in relation to five key aspects, namely the definition of "environmental damage", the burden of proof, the means and methods of proof, the standard of proof, and the evaluation of the damage.

H. Landscape, Visual Impact and ZTV Analysis Landscape

The following are the parameters identified by the Landscape Appraisal Guidelines of the Mayo Development Plan 2022-28. These should be considered in evaluating the landscape and visual amenity of an area where any development is being considered, subject to planning legislation. (Section H compiled with Brendan Boyd, see his observations to APC)

- **Recognised scenic value of the view** (County Development Plan designations, guidebooks, touring maps, postcards etc.). **Intensity of use, popularity.**
- **Connection with the landscape.** This considers whether or not receptors are likely to be highly attuned to views of the landscape.
- **Provision of elevated panoramic views.** This relates to the extent of the view on offer and the tendency for receptors to become more attuned to the surrounding landscape at locations that afford broad vistas.
- **Sense of remoteness and/or tranquillity.** Remote and tranquil viewing locations are more likely to heighten the amenity value of a view and have a lower intensity of development in comparison to dynamic viewing locations such as a busy street scene, for example:
- **Degree of perceived naturalness** Where a view is valued for the sense of naturalness of the surrounding landscape it is likely to be highly sensitive to visual intrusion by obvious human interventions.
- **Presence of striking or noteworthy features.** A view might be strongly valued because it contains a distinctive and memorable landscape feature such as a **promontory headland**, lough or castle.
- **Historical, cultural or spiritual value.** Such attributes may be evident or sensed at certain viewing locations that attract visitors for the purposes of contemplation or reflection heightening the sense of their surroundings.
- **Rarity or uniqueness of the view.** This might include the noteworthy representativeness of a certain landscape type and considers whether other similar views might be afforded in the local or the national context.
- **Integrity of the landscape character in view.** This criterion considers the condition and intactness of the landscape in view and whether the landscape pattern is a regular one of few strongly related components or an irregular one containing a variety of disparate components.
- **Sense of place.** This criterion considers whether there is special sense of wholeness and harmony at the viewing location.
- **Sense of awe.** This criterion considers whether the view inspires an overwhelming sense of scale or the power of nature. Those locations where highly susceptible receptors or receptor groups are present, and which are deemed to satisfy many of the view value criteria above are likely to be judged to have a high visual sensitivity and vice versa.

The proposal to locate 16 wind turbines in this specific area of natural coastal scenic landscape where all of the above parameters apply is totally inappropriate. It is contrary to Mayo County Council Landscape Appraisal. The issue is not only visibility but the effect it will have on designated tourism landscapes.

This wind farm proposal is totally unsupported by Mayo County Councillors and Planners. In a Report presented by planners to Mayo County Councillors on 08 June 2026 they stated categorically that a wind farm in this area is inappropriate. They discuss the location of turbines relative to Designated Tiers. The import of their observations is to the effect that all of the area should be re-designated as unsuitable for a wind farm in the 2022 – 2028 County Development Plan. Furthermore, on page 48 Map 6.14 of The Draft Mayo Energy Strategy document (closed for observations – 26 May 2026) they propose that all of North and West Mayo be designated as unsuitable wind farm areas due to their Scenic Landscape

Character and Visual Amenity.

Locating turbines in this location is contrary to Section 2.5 of the Landscape Appraisal Document of County Mayo and also contradicts many of the Relevant Policy Statements in section 4.1.1 of the Landscape Appraisal Document as set out below.

The nature of the landscape is totally unsuitable for the accommodation of wind turbines and siting them in an area of outstanding natural scenic beauty on the Wild Atlantic Way (WAW) will seriously undermine the credibility of the tourist industry.

It is proposed to site the wind farm in relatively close proximity to 3 areas designated as Special Areas of Conservation (SAC/SPA) – namely Lacken Saltmarsh – Kilcummin Head and Downpatrick Head. These areas have been designated in order to protect their status. This proposal seriously undermines that status.

All of the statements in section 2.5.4 of Mayo County Development Plan speak unequivocally and consistently when they state as follows:- “The main concern or natural linear features such as coastlines and **ridgelines** is to avoid penetration by development that will interrupt and reduce the integrity of such elements”. Is it possible to think of a more inappropriate development than a wind farm by reference to this statement? The Landscape Appraisal guidelines for County Mayo with respect to Sub-sections 2.5 and 4.1 of ‘The Landscape Character Assessment’ of County Mayo could be a very decisive factor in rejecting this planning submission to ACP.

Break the Ridge and Sky line. The one major difference between the Ox Mountains, Killala and Enniscrone turbines is the fact that **the OX Mountain turbines do not break the ridge or skyline**. The proposed turbines on the Lacken Hills will break both the Ridge and Skyline and make a mockery of good planning rules. Anybody who has ever made a planning application in respect of a structure on the landscape will be totally aware of the need to blend it in with the landscape ridge and skyline. Applicants are invariably requested to erect a ‘Ridge Profile’. The photomontages (although inadequate) clearly demonstrate the serious unforgivable *impact on the ridge and skyline*. Why are these principles of good planning being abandoned now?

The main concern for natural linear features such as coastlines and ridgelines is to avoid penetration by development that will interrupt and reduce the integrity of such elements. Development can have a disproportionate visual impact in such terrain, due to an inherent inability to be absorbed, physically or visually. Concerning the 2 previous statements, this proposal to site 135 M tall turbines on top of these hills breaks the Ridge and Sky Lines,

reduces the integrity and has a disproportionate impact due to an inherent inability to be absorbed, physically or visually.

Background:

It is significant that ‘the applicants were advised in pre-planning consultations with MCC, albeit with a proposal for a greater number of turbines, that the proposed development would not be considered favorable at this location.’

A significant ground for my objection to An Commission Pleanala is that the nature of the landscape is totally unsuitable for the accommodation of wind turbines. Siting them in an area of outstanding natural beauty on the Wild Atlantic Way (WAW) will seriously undermine the credibility of the tourist industry along the WAW but also undermine the excellent promotional efforts of North West Tourism in that regard.

It should also be stated that the proposed wind farm is located directly in the path of the **Western Way Walking Route** (The Glebe to Conaghreagh and the cable route via Castlereagh townland.)

It is proposed to site the wind farm in relatively close proximity to 3 areas designated as Special Areas of Conservation (SAC/SPA) – namely Lacken Saltmarsh and Kilcummin Head Downpatrick Head and Creevagh Head and also the Lacken Saltmarsh are designated as proposed National Heritage Areas. Siting a wind farm in this location, just off the R5 coastal route from Killala to Ballycastle via Lacken Salt Marsh and Downpatrick Head (Dun Briste) will also have deleterious ecological impacts.

The area is also endowed significantly with numerous **archaeological, cultural** and tourism assets in the immediate locality and in the wider community. This is evidenced almost weekly with Facebook Posts initiated by North West Tourism, proclaiming the scenic beauty of the area and accompanied by panoramic photographs, depicting it vividly.

Sense of remoteness and tranquillity. In recognition of the promotional and economic benefits that a scenic hinterland makes to the rural tourism industry and especially to tourism interests in the local towns of Ballycastle, Killala, Crossmolina and Ballina, North Mayo tourism highlights that scenery regularly in its promotional materials. The economic benefits of a wind farm in this specific location will be far outweighed by the significant damage to the scenic landscape and indeed the credibility of the WAW tourism promotional material.

In the interests of effective planning, each county in Ireland was requested to undertake an evaluation of the various landscapes and characterize them appropriately using specific scientific criteria. The objective of this exercise was to identify areas suitable for developments and areas that are unsuitable due to their scenic landscape. County Mayo did so and the resultant Landscape Characteristic Assessment has been published in The Mayo County Development Plan 2022- 2028 – specifically, Volume 4 refers.

Photograph 4. Carrowtrasna Lane with the Lacken Hills on the far side.



The location where it is proposed to establish the Tirawley Wind Farm is mainly covered by Section 2.5.- Area D: 'North Coast Plateau'. A small portion of the southern end of the proposed wind farm area is located and designated in Area G – North Mayo Drumlins. However, as the latter area is insignificant overall, I will confine my comments to Area D: 'North Coast Plateau'.

The Critical Landscape factors are outlined in sub-section 2.5.4 and 7. Policies are outlined in sub-section 4.1.1. (Policy Area 1: Montaine Coastal Zone). This document is published in the Mayo County Development Plan 2022 – 2028.

Much research and effort has gone into producing these landscape guidelines for the protection of scenic landscapes. It would seem pointless and actually dismissive to then ignore them in the current context.

All of the statements in section 2.5.4 speak unequivocally and consistently when they state as follows:- "The main concern for natural linear features such as coastlines and **ridgelines** is to avoid penetration by development that will interrupt and reduce the integrity of such elements".

Is it possible to think of a more inappropriate development than a wind farm by reference to this statement?

While all of the 7 Policies outlined in the document in sub-section 4.1.1 are desirable and laudable, Nos 2, 5 and 7 are specifically relevant in that they advocate tourism business development, while protecting the landscape from inappropriate initiatives. They speak for

themselves with clarity and vision and with a clear objective of protecting the landscape from industrial scale developments in inappropriate locations that have disproportionate or dominating visual impacts on the surrounding environment.

The word 'mitigation' is used extensively in almost every paragraph of this document and its recurrent use suggests that the proposed wind farm is indeed impacting harshly and disproportionately on this pristine landscape.

Selection of Statements from section 2.5:

- The main concern for natural linear features such as, coastlines and ridgelines, is to avoid penetration by development that will interrupt and reduce the integrity of such elements.
- Development can have a disproportionate visual impact in such terrain, due to an inherent inability to be absorbed, physically or visually.
- This inability to absorb development identifies low vegetation as a critical landscape factor.

Relevant Policy Statements in section 4.1.1 of the Landscape Appraisal Document:

- **Policy 2** - Facilitate appropriate tourism and amenity development in a progressive and clustered manner, where feasible, that reflects the scale, character and sensitivities of the landscape.
- **Policy 3** - Encourage development that will not have a disproportionate effect on the existing character of the coastal environment in terms of location, design, and visual prominence.
- **Policy 4** - Consider development that does not significantly interfere or detract from scenic coastal vistas, as identified in the Development Plan, when viewed from areas of the public realm.
- **Policy 5** - Encourage development that will not interrupt or penetrate distinct linear sections of primary ridge lines and coastlines when viewed from areas of the public realm.
- **Policy 6** - Preserve any areas that have not been subject to recent or prior development and have retained a dominantly undisturbed coastal character.
- **Policy 7** - Consider development on steep slopes, ensuring that it will not have a disproportionate or dominating visual impact on the surrounding environment as seen from areas of the public realm.

The objective of these policies speaks for themselves and if applied appropriately, a wind farm should not be located in this area. It would be incongruous to do so.

There is clearly a conflict of interest in this location between those who wish to produce energy from wind farms and those who wish to protect the scenic landscapes for residents, tourism interests and the common good. The Landscape Appraisal guidelines were devised solely for the purpose of adjudicating sensibly between the conflicting objectives of commercial interests of wind farms and preserving scenic landscapes and the environment.

In order to allow a wind farm in this location, the guidelines must be totally abandoned and that equates to a free for all to meet the panacea for wind energy in the wrong locations, at any price.

The Scale of the Turbines and their Visual Impacts:

From most locations in Lacken Parish at present one can view 3 distinct sets of wind turbines. The most extensive one is on the OX Mountain Range in County Sligo running parallel to the north coast road from Ballina to Ballisodare. Six turbines are also obtrusively visible near Killala Town and three are similarly visible, East of Enniscrone Town.

The one major difference between the Ox Mountains, Killala and Enniscrone turbines is the fact that **the OX Mountain turbines do not break the ridge or skyline** and therefore in good planning parlance they blend into the background scenery. The others, due to their scale, stick out and break the ridge and skyline and do not merge into the landscape.

It is a fundamental principle of good planning practice to blend developments into the background landscape. Turbines placed in Lacken parish will similarly be a blight on the landscape, as the nature of the landscape is such that it is impossible to absorb or blend them in. This is also exacerbated by the industrial scale of the proposed turbines – 135 M to Tip Height. The contrast between turbines that break the ridge and sky line is demonstrated by the following 3 photographs.

The Ox Mountain Turbines are half the height of the proposed ones and do not break the Ridge or Sky Line. This planning principle seems to have been unwisely abandoned. In the case of the topography of the Ox Mountains, due to the absence of scattered housing, it was possible to locate the turbines in the lea of the hills and below the ridge and sky line. The turbines are also much lower. That is clearly impossible in Lacken parish, North Mayo (regardless of turbine height) due to the location of houses in the lea of the hills and the nature of the topography. The proposed wind farm site should never have been designated 'Open to Consideration', as it leads to unreasonable expectations.

Photograph 5. OX Mountain Turbines viewed across Killala Bay from Kilcummin North Mayo



Photograph 6. Killala Turbines Viewed from Kilcummin Pier North Mayo:



Photograph 7. Enniscrone and Ox Mountain Turbines, viewed from Kilcummin Pier North Mayo:



While the Enniscrone 3 turbines are tall they do not break the Ox Mountain Ridge or Skyline. They are however obtrusive.

Mayo Planners and County Councillors do not support locating a wind farm in this area.

The Planners' Report presented to Mayo County Councillors on 08 June 2026, unequivocally states this.

Chapter 8.0 represents the situation as follows:

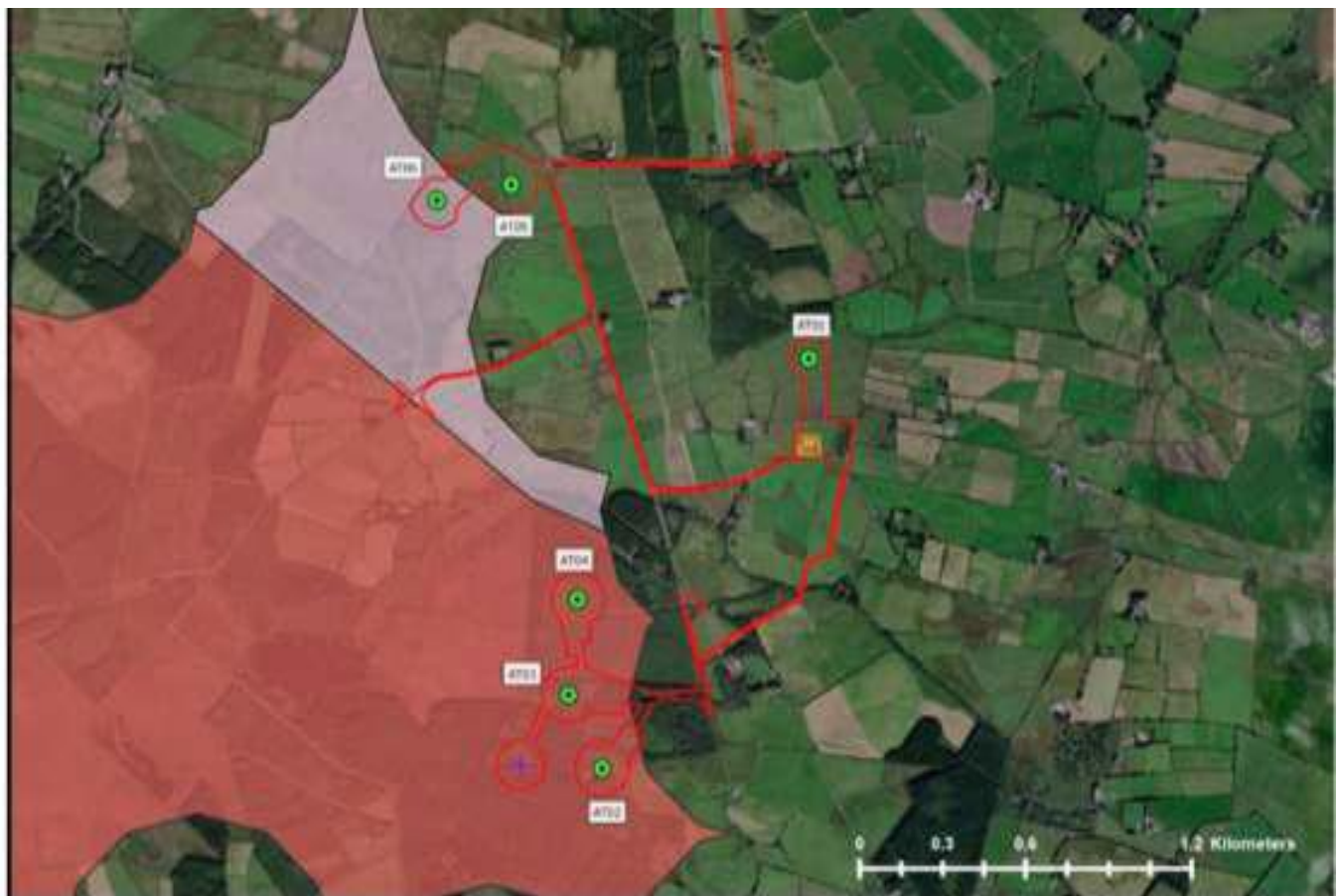
Chapter 8.0 of the Planners' Report refers as follows:

8.1 Provisions of the Mayo Renewable Energy Strategy 2011

Figure 4.1 provided in the submitted planning statement illustrated a more accurate overlay of the proposed development.

This of course will be achieved on a more significant scale if the policies suggested on Pages 48 and 50 (Map 6.10 and 6.14) of the **Draft Mayo Energy Strategy document** are carried through – closed for public observation on 26 May 2026.

Map 24. Figure 4.1



Quoting from the Planners Report - **The following is noted:**

Of the 16 no. turbines,

- only 3 no. turbines (AT02, AT03 and AT04) are located within a preferred area i.e. *Tier 1 Preferred Large Wind Farms*.
- 8 no. turbines (AT17, AT18, AT16, AT15, AT13, AT12. AT11 and AT06) are located within an area identified as 'Tier 2 Open for Consideration',
- 5 no. turbines (AT01, AT05, AT09, AT10 and AT14) are located in the open countryside, an area that is unclassified as per the Mayo Renewable Energy Strategy 2011.

Note: That the turbine numbering is not 100% correct and stems from the fact that 18 turbines were referred to in the original Constant Energy application, corrected later to 16 turbines (AT 07 and AT 08 of the original were removed).

"In principle, only a small portion of the proposal is considered acceptable in principle i.e. turbines located within *Tier 1 Preferred* lands.

In relation to Tier 2 lands - The Mayo RES 2011 states that lands within the *Tier 2 - Open for Consideration* classification may be considered for wind farms or small clusters of wind turbines but the visual impact on sensitive or vulnerable landscapes, listed highly scenic routes, scenic routes, scenic viewing points and scenic routes (as defined in the Landscape Appraisal for Co Mayo) will be the principal consideration.

In this regard, it is of concern despite advice at preplanning stage that half of the proposed development (8 no. turbines) are proposed to be located on *Tier 2* lands and another 3 turbines are to be located in the open countryside."

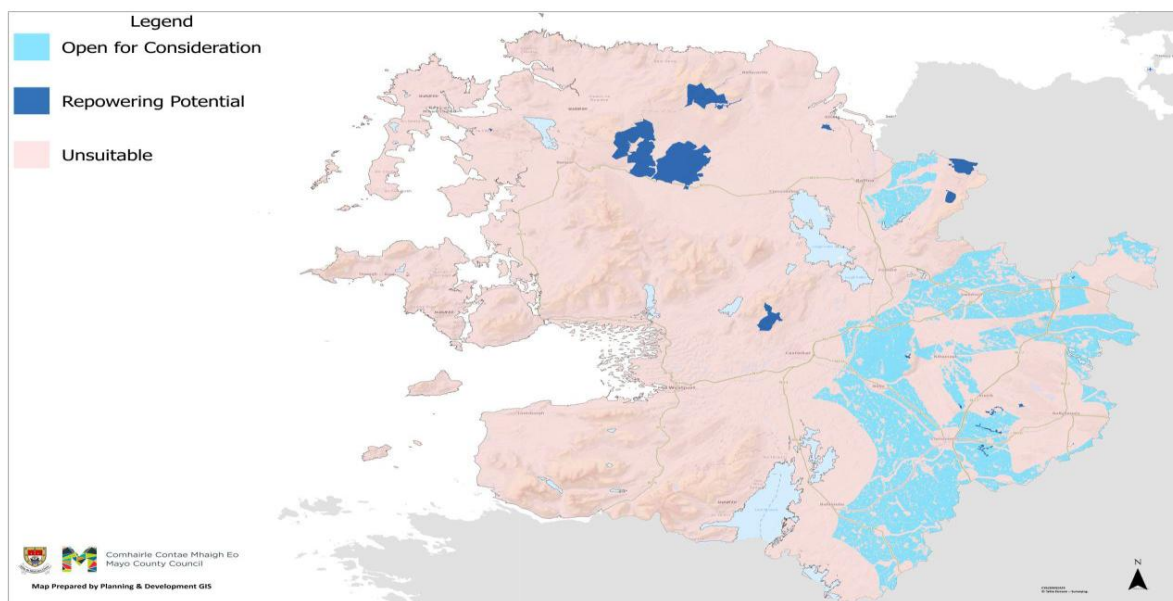
Draft Mayo Renewable Energy Strategy 2026

Notwithstanding the comments above regarding the 2011 RES, the public consultation period has recently ended in relation to the Draft RES. The Draft RES proposes significant changes to Mayo Co. Council's approach to the assessment of wind energy developments within the county. Most significantly, as regards the current application, the areas identified as "Open for Consideration" for windfarm developments are predominantly located in the east and south of the county, whereas the areas further to the north and west, where there are considerable existing clusters of wind energy developments, are designated as having "Repowering Potential". The areas outside of these designations, within which the current proposal is located, are designated as "Unsuitable."

The Draft Renewable Energy Strategy, when adopted, will replace the 2011 RES and will form part of the County Development Plan 2022-2028.

While it is put forward by the applicants that the RES makes provision for the Local Authority to consider proposed renewable energy developments on a case-by-case basis. It is observed that in pre-planning consultations, An Coimisiún note that a robust planning justification is required for the wind turbines proposed outside of the designated area for wind energy.

Map 25 Draft Mayo Renewable Energy Strategy 2026



Wind Suitability Map

I. Cultural Heritage, Biodiversity, Hydrology, Ceide Fields and the Boglands of North Mayo

The Heritage Chapter presents a very narrow and inadequate definition of cultural heritage. The methodology used in assessing the impact of the Wind Farm on these rich valuable historic rural communities is very limited.

'The Heritage Act 1995 states that the national heritage includes monuments, archaeological objects, heritage objects, architectural heritage, flora, fauna, wildlife habitats, landscapes, seascapes, heritage parks and gardens, wrecks, geology and inland water ways.'

In 2003, UNESCO adopted the inclusion of intangible cultural heritage into the meaning of heritage through the Convention on the Value of Cultural Heritage for Society (The Faro Convention). The Convention encourages us to recognize that objects and places are not, in themselves, what is important about cultural heritage. They are important because of the meanings and uses that people attach to them and the values they represent.

The Mayo Heritage Plan goes on to say 'In essence our heritage is what we have inherited from the past, to value and enjoy in the present, and to preserve and pass on to future generations. It comprises: the tangible – our historic sites, buildings, monuments, objects in museums, artefacts and archives; the natural – our rivers and lakes, landscapes, woodlands, bogs, uplands, native wildlife, insects, plants, trees, birds and animals; and the intangible – including our customs, sports, folklore, crafts, skills and traditions.'

The introduction to the present Mayo Heritage Plan explains this well and defines what heritage is. This aspect of the definition is sometimes totally ignored in policy implementation and its unintended consequences. Many aspects of heritage and biodiversity are sometime completely ignored and development and the profit motive of international corporation take precedence. This is irrespective of communities need to be listened to and to be allowed to be key actors in their own survival. There needs to be joined up thinking and rural proofing applied and this definition of cultural heritage if incorporated into the methodology of the

Tirawley Wind Farm on Cultural Heritage would clearly point to a refusal of planning permission.

The Ceide Fields and the Boglands/Peatlands of North Mayo

The Ceide Fields and the Boglands/Peatlands of North Mayo, is a world-renowned archaeological site, that was recently removed from the tentative UNESCO list, without community discussion or any valid explanation provided. It appears that it was cynically removed, lest its successful inclusion could militate against the proliferation of wind farms in proximity. This issue needs to be revisited.

Equally so, apart from its inclusion on the Wild Atlantic Way, the beautiful coastline of North Mayo has been seriously neglected. One must however pay justifiable tribute to North Mayo Tourism in their efforts to promote the Wild Atlantic Way and its tourism potential. They recognise the importance of pristine rural scenery in attracting visitors to local towns and rural **areas**. It is unfortunate however that their efforts are not well supported by local and national political representatives who prioritise wind farm developments in scenic tourist areas. While these developments appear to enrich the few (wind farms sold off to multinational companies) they will do untold damage to our pristine rural scenic areas. They also impact rural residents visual experience, but also impede their capacity to get planning for rural houses. They also seriously undermine and devalue existing houses disputing the evidence presented in the Tirawley application.

The Ceide Fields and the Boglands of North Mayo need to be given the status it deserves by reinstating its UNESCO status. Ruining the Boglands of North Mayo with wind turbines militates against this objective. Farming and business communities, the environment and the cultural identity of this area would benefit enormously from designation of UNESCO status.

Neglected Peatlands/Boglands of Ireland

Some bogland is part of the present Tirawley red-line footprint, but equally the extensive bogland territories are relevant to this discussion. There is a complex hydrological web which is highly importance in terms of Natura connectivity as we see the accumulation of wind farm on this valuable resource in County Mayo.

Peatlands represent only 3% of the Earth's surface, yet they store 25% of terrestrial carbon. Peatlands account for 1% of Ireland's surface area, equal to one third of the earth's bog area. Irish Bogs are therefore internationally significant and an invaluable resource in achieving climate goals. Unfortunately, we do not hold bogs in high regard and recent press reports stated that Eur 40 million of peat was illegally exported from 38 sites around Ireland.

In similar and equally neglectful fashion, we are destroying these unique landscapes with wind farms. We are effectively damaging our environment in a wanton mission to save it. A recent report produced by the Irish Academy of Engineers in November 2025 stated that the 2030 and 2050 CO2 reduction goals were unachievable and indeed futile. Ireland is in effect virtue signalling, while countries with huge fossil fuel reserves continue as before. In fact, they now accept that Renewable Energy is so ineffective that it needs 100% backup by fossil fuel

plants. The duplicate cost involved is making our electricity costs extremely high and internationally uncompetitive.

Peat bogs are critical carbon sinks, storing vast amounts of carbon accumulated over millennia. Construction of windfarms on peatland involves drainage and excavation, which releases stored carbon dioxide and methane, greenhouse gases far more potent than CO₂, negating much of the climate benefit of wind energy. It makes more sense to preserve the Boglands and their store of carbon.

The Ceide Fields and the Boglands of North Mayo are an invaluable international archaeological site and the mapping of the extend of the site indicates that that all of the Boglands of North Mayo should be designated as a UNESCO site.

The **Céide Fields** and **Downpatrick Head** are mentioned in the Non-Technical Summary of the Environmental Impact Assessment Report. These important archaeological and distinctive landscapes are only considered in relation to the possibility of the turbines being obvious from their location and the mitigation to minimise peat disturbance. There is no analysis of their cultural relevance or the evidence that points to the boglands covering many of the field systems of the Ceide Fields themselves. Here are the relevant details:

1. **Céide Fields:** The report mentions that there is no visibility of the proposed turbines from the Céide Fields, which is identified as the most sensitive receptor in the North Coast Plateaux Landscape Character Unit (LCU). The report concludes that the proposed development will not have significant landscape effects on the Céide Fields.
2. **Downpatrick Head:** The report identifies Downpatrick Head as a highly sensitive visual receptor due to its popularity as a tourist destination and its designation as an Ordnance Survey Ireland (OSi) viewpoint. The visual assessment concludes that Downpatrick Head will experience a "Moderate" residual visual effect due to the visibility of the majority of the proposed turbines. However, the turbines are located approximately 11 km away, and their visual impact is limited to a small horizontal extent in the background.
3. **Bogland Carbon Sink:** The report discusses the impact of the proposed development on peatlands, which are significant carbon sinks. It acknowledges that the development will result in direct impacts and loss of peat in the area of the development footprint, as well as indirect impacts due to drainage. However, the report states that the proposed development will save more CO₂ than is released, and mitigation measures will be implemented to minimize the disturbance of peatlands.

Likewise, the red-lined areas outlined around the turbines has not taken into consideration the connected environment in terms of flora, fauna and people living in this area of North Mayo.

I am attaching the two following reports in the References that clearly shows the precious archaeological heritage of the Ceide Fields and the Boglands of North Mayo.

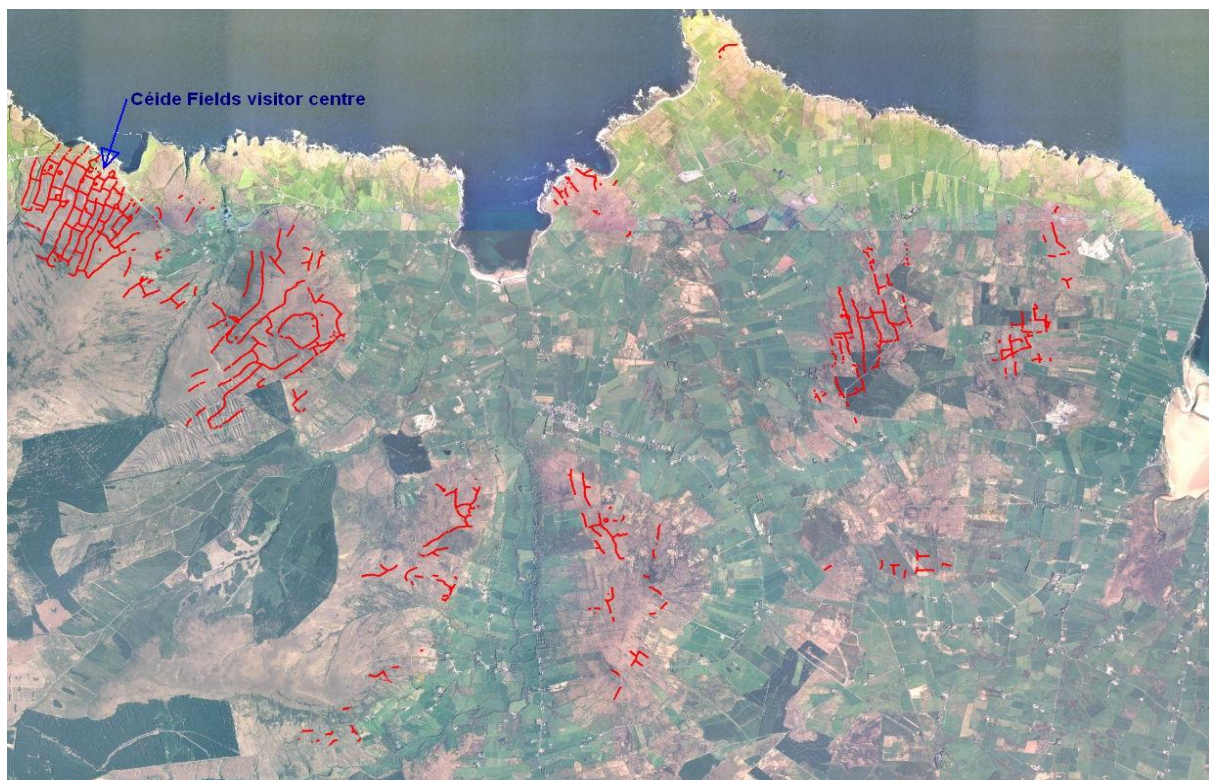
The value of this archaeological find has remained hidden beneath the boglands and only some areas have been exposed out of respect to achieve the objective of preserving its history. There has been a dearth of research funding in recent years to carry out appropriate

research. This is why Keerglen Wind Farm, Tirawley Wind Farm, Tyrawley Wind Farm and others proposed down the line on these historic hills would totally destroy the achievements of the Ceide Fields and the Boglands of Mayo and its future recognition as a UNESCO site. This is equally and more important than other designated areas of Mayo, for example the Nephin Complex and others in North Mayo.

This area of Mayo has been severely neglected as it sits on boundary of the Ballina Municipality and the Belmullet-Westport Municipality and the fringes near the boundaries tend to be neglected, but this fringe area is the jewel in the crown of County Mayo in terms of: a landscape equalling, if not surpassing, the Cliffs of Moher; the internationally renowned and unique Down Patrick Head; the archaeology of international note in the Ceide Fields and North Mayo Boglands to mention one of the most famous; its biodiversity in terms of migratory pathways across the Atlantic; the flora and fauna of the boglands and marine life, the Wild Atlantic Way and its economic and social value for inhabitants and the diaspora, and many more. The granting of any planning permission in this landscape is not at all feasible and mitigations do not suffice in this area.

The following two reports on excavations on the Ceide Hill (Caulfield S, Byrne G, Dunne N, & Warren G, 2011) and Rathlacken (Byrne G, Warren G, Rathbone S, Mullreavy D & Walsh P, 2009)

Map 26



This Map 26 shows the red lines which indicated stone walled fields as are fully researched on the Ceide Field site exist in the Lacken Hills on the footprint of Tirawley Wind Farm. The field systems have not been exposed to preserve their integrity, until sufficient funding is in

place to adequately present it to the public as an interpretative centre as an educational and tourist resource. I think if wind turbines are placed there a world-famous archaeological site will be seriously compromised. The evidence points to the Ceide excavation as being only the tip of the iceberg and that the field complex extends across the mountains and into parts of Lacken hills beneath this Tirawley Wind Farm and into other parts of the parishes of Lacken, Ballycastle, Kilfian and other areas. The physical evidence is there on the map.

J. Circular Economy

The Circular Economy and Miscellaneous Provisions Act 2022 and the policy document the National Circular Economy Strategy is relevant to all industries in Ireland today. Has the applicant adequately assessed procurement, materials, waste streams and decommissioning resource recovery. This is relevant to plan for goods and services to construct, maintain and decommission the wind farm? The carbon sequestration value of the Boglands of North Mayo are all so relevant.

The **Circular Economy and Miscellaneous Provisions Act 2022** can have a significant impact on the development of wind farms in Ireland, particularly through its influence on public procurement, resource efficiency, waste reduction, and lifecycle management of infrastructure. Has the applicant adequately assessed procurement, materials, waste streams and decommissioning resource recovery. This is relevant to plan for goods and services to construct, maintain and decommission the wind farm? The carbon sequestration value of the Boglands of North Mayo are all so relevant.

Under Section 7 of the Act, the Government is required to promote circular economy principles in public procurement. For publicly funded or State-supported wind energy projects, developers may increasingly be required to demonstrate:

- Use of recycled and recyclable materials in turbine components, foundations, cables, and substations.
- Design for durability, repairability, and refurbishment.
- Reduced embodied carbon in construction materials such as steel and concrete.
- Supply chain sustainability and responsible sourcing of materials.

This aligns with Ireland's **Green Public Procurement (GPP) Guidance**, which encourages environmental criteria throughout the procurement process.

Lifecycle Assessment of Wind Turbines

Traditionally, procurement decisions focused heavily on upfront cost. Circular economy principles encourage consideration of the entire lifecycle of wind turbines, including:

- Manufacturing impacts.
- Operational maintenance requirements.
- End-of-life decommissioning.
- Potential for reuse or recycling of components.

Developers may need to provide evidence that turbine blades, towers, generators, and electrical equipment can be recovered, refurbished, or recycled at the end of their operational life.

Management of Wind Turbine Blade Waste

One of the major environmental challenges facing the wind sector is the disposal of composite turbine blades.

The Circular Economy Act strengthens Ireland's focus on:

- Waste prevention.
- Resource recovery.
- Extended product life.

As a result, future wind farm developments may be expected to:

- Select turbine manufacturers with blade recycling programmes.
- Incorporate plans for blade reuse or material recovery.
- Demonstrate compliance with emerging circular economy targets for construction and industrial sectors.

Encouraging Local and Secondary Material Markets

The legislation promotes keeping materials in use for as long as possible. This may encourage:

- Reuse of excavated materials during site construction.
- Use of recycled aggregates in access roads and infrastructure.
- Refurbishment of electrical equipment where technically feasible.
- Development of Irish recycling industries capable of processing wind farm components.

Influence on Planning and Environmental Assessments

Although the Act does not directly regulate planning permission for wind farms, circular economy considerations are increasingly being incorporated into:

- Environmental Impact Assessment Reports (EIARs).
- Sustainability statements.
- Public sector project evaluations.

Developers who can demonstrate strong circular economy performance may be better positioned to satisfy environmental policy objectives.

Alignment with Climate Action Policy

The Act complements the **Climate Action and Low Carbon Development Act 2015** and Ireland's renewable energy targets. Wind energy is essential to decarbonisation, but the Circular Economy Act seeks to ensure that renewable infrastructure is developed sustainably by:

- Minimising resource consumption.

- Reducing waste generation.
- Maximising material recovery.
- Supporting a low-carbon, resource-efficient economy.

Example Application to an Irish Wind Farm

For a new publicly procured or State-supported wind farm, procurement specifications could require bidders to:

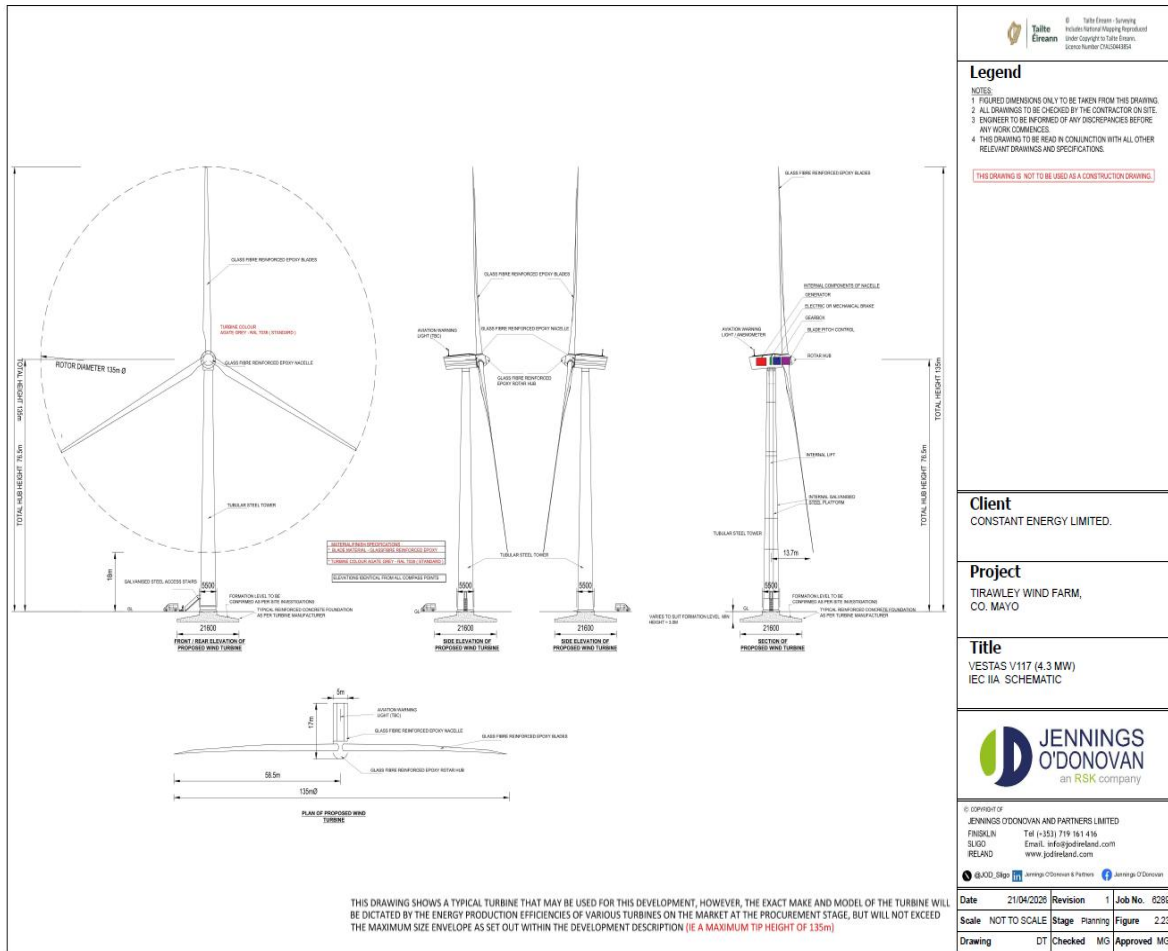
- Provide a circularity strategy for turbine components.
- Use low-carbon concrete and recycled steel where possible.
- Commit to recycling turbine blades at end-of-life.
- Demonstrate maintenance practices that extend asset life.
- Report on material recovery rates during decommissioning.

Other Legislation that may impact is as follows:

The development of wind farms in Ireland is influenced by several legislative and policy measures that promote environmental sustainability and circular economy principles. The **Climate Action and Low Carbon Development Act 2015**, **Directive 2014/24/EU**, and the **European Union (Award of Public Authority Contracts) Regulations 2016** enable public authorities to incorporate environmental criteria into procurement processes, encouraging developers to adopt low-carbon construction methods, sustainable materials, energy-efficient practices, and measures to minimise environmental impacts. The Circular Economy and Miscellaneous Provisions Act 2022 further supports this approach by promoting circular economy principles in public procurement, encouraging resource efficiency, waste reduction, recycling, and the reuse of materials throughout the lifecycle of wind farm projects, from construction to decommissioning.

In addition, **Circular 17/2025 makes Green Public Procurement (GPP)** a mandatory consideration for Irish public sector bodies, requiring them to apply environmental sustainability criteria where appropriate and report on their implementation. Together, these measures encourage wind farm developers to demonstrate strong environmental performance and support Ireland's climate action, sustainability, and renewable energy objectives.

Equally important is the pre-production of materials in terms of mining for minerals, fossil fuels used in manufacture , travel, and labour costs prior to delivery to Ireland.



K. Decommissioning and Long-Term Governance

The Planning and Development Act, the EIA Directive requires planning for whole life-cycle impacts. The 'Polluter Pays Principal' is a fundamental principle in EU environmental law.

The planning sought is for 10 years and is there transparency on who maintains, monitors, mitigates, decommissions over the other 25 years of a wind farm. Communities must not be left in limbo and uncertainty. Who is responsible after the 10-year planning runs out? Who is responsible after 35 years or if upgrades or modernisation are required? How is decommissioning funded? How is restoration guaranteed? These are all legitimate planning concerns.

M. Cumulative Effects

The EIA requires a cumulative effects assessment. The Habitat's Directive (Article 6 (3)) requires in-combination assessment alone or in combination with other plans and projects.

Has a cumulative effects impact assessment been carried out by the Applicant? It is not sufficient to assess Tirawley Wind Farm in isolation. Cumulative impacts in respect of the existing Bellacorrick Wind Farms and other operational wind farms in North Mayo, eg, Killala,

Glenora, Keerglen (at appeal stage with ACP), Clydagh pre-planning at ACP, and other farms in the pipeline. The cumulative transmission and substation infrastructure from the various farm. Cumulative battery storage systems. Cumulative bird mortality and impacts across SACs, SPAs and pNHAs. Cumulative peatland disturbance and cumulative landscape industrialisation.

A cumulative assessment impact plan is essential and this application does not contain a comprehensive plan of this nature.

Summary and Conclusions

The contention of this observation, on the Tirawley Wind Farm, is that the EIAR and the Natura Impact Statement do not provide sufficient information to enable An Coimisiún Pleanála to lawfully conclude that significant effects have been adequately assessed.

The EIAR has not demonstrated, beyond reasonable scientific doubt, that the proposed development will avoid adverse effects on European sites within its zone of influence. The hydrology, archaeology, habitat, ornithology, health and well-being, community receptors in the North Mayo Boglands Cultural Landscape could experience these adverse effects.

The grounds for refusal emerged as the EIARs failed to research, analyse and report the impact of the wind farm to meet the legislative requirements of the:

Habitats Directive 92/43/EEC, Article 6(3) – to satisfy the ‘reasonable scientific doubt’ test.

Environmental Impact Assessment (EIA) Directive, Article 3 – assessment of all likely significant effects and interactions.

Aarhus Convention – public participation and access to environmental information

These three legal pillars support a large proportion of the concerns around adequacy of assessment observed in relation to Natura sites, ornithology, hydrology, community receptors, Vector 4 omission, landscape, public participation and cumulative effects in this application.

National and local planning legislation will be analysed and presented throughout this document to support the grounds for refusal of this application for a wind farm.

They include legislation and Irish guidelines

The following are the proposed grounds labelled A to I for refusal of this application;

- N. **Zone of Influence and Red-Line Boundary Deficiencies.** Red lines and blue lines wind turbine focus obscures the reality of the linkages to European sites and the wider environment, particularly the Lacken Saltmarsh and Kilcummin Head SAC, with its vibrant flora and fauna.
- O. **Application Form Accuracy and Natura Site Proximity.** The answer to the question in the Application Form for the Tirawley Wind Farm “Does the work relate to work within or close to a European Site or a Natural Heritage Area?” is NO. The answer is misleading and

the reader of the Application Form would conclude that the wind farm is not close to a European site or a Natural Heritage Area. This is a major planning concern as the maps in the Drawing Schedule of the EIAR suggests otherwise.

- P. Consultation with **Map 8** below clearly shows the Lacken Saltmarsh and Kilcummin Head SAC, the Killala Bay and Moy Estuary SPA/SAC/Ramsar site, Creevagh Head, Downpatrick Head and Lacken Saltmarsh and Kilcummin Head are all proposed National Heritage Areas (pNHA). Not only one European site, but many and three pNHAs.

The omission of a former application for four wind turbines Planning Reference No. 11/409 in the Lacken Hills was not referred to in the application. This was 2011 and it was refused planning permission. The grounds for refusal are still pertinent for this Tirawley application today.

- Q. **Omission of Vector Sheet Four and Mapping completeness.** The Drawing Schedule EIAR maps and vector maps are misleading to the public due to mapping incompleteness and assessment transparency. The mapping and environmental assessment is not sufficiently complete to enable informed assessment of hydrological, archaeological, habitat, ornithological and the social implications, etc,
- R. **Ornithology and Ecological Connectivity.** The impact on ornithology is not researched thoroughly using the most modern-day research methods. Mapping, survey design, survey coverage and SPA connectivity and collision and displacement concerns arise. The transects show a focus on Lacken Bay and the red-lines of the wind farm to the exclusion of the Lacken Saltmarsh and Kilcummin Head (SAC) which is an important site for birds and bat life. In 2013, for example on this SAC documentation 2,200 golden plover were recorded on this site.
- S. **Population, Human Health and Well-being.** The people of Lacken and its hinterland are not fully considered or consulted regarding health and well-being. This absence is a serious omission in the EIARs Chapter 5 on Population and Human Health. No comprehensive Human Health Impact Assessment was reported. The research is very outdated in Appendix 5.1 and very little cognisance taken of recent scientific advances in this field of human health influenced by wind farm development in a very rural community.
- T. **Sensitive Community Receptors.** St Patrick's Lacken Cross Secondary School, St Patricks and St Cuimmin's Church, and the Lacken Sensory Garden, Sheltered Housing beside the church, the Community Centre there also have been given little consideration in all of the EIARs. They are not ordinary receptors, but community focal points and each community receptor required individual impact assessment which was not reported on in the EIARs.

CRC/C/GC/26 (2023): General comment No 26 (2023) on children's rights and the environment with a special focus on climate change mandates that the 'green transition' to renewable energy must not inadvertently harm children. The United Nations Convention on the Rights of a Child (UNCRC) defines a child as up to the age of 18 years of age.

WHO Fourth Ministerial Conference on Environment and Health in Budapest in 2004.

Regarding precaution, the World Health Organization states:

“...where there is a reasonable possibility that public health will be damaged, action should be taken to protect public health without awaiting full scientific proof.”

There is an opportunity to invoke the precautionary principle. Until guidelines are established that protect human health and social-economic viability, no further development of wind energy facilities should occur.....

- U. **Socio-Economic and Tourism Effects.** The social and economic impact on the community is not adequately presented in the EIAR. Rural decline, tourism assets compromised for the future, regional and local walking and cycling routes degraded, the Wild Atlantic Way, Wild Mayo Destination and Experience Development Plan and projects for North Mayo Coastal and Inland are areas not examined in full.
- V. **Landscape and Visual Impact and ZTV Analysis.** The Zone of Theoretical Visibility map highlights the vast visual impact of the wind farm in the whole Killala Bay and North Mayo coastal area and also inland territories of North Mayo. This area is protected in the Mayo County Development Plan objectives and the Planning Section of Mayo County Council do not support this development and advised the applicant not to proceed with the wind farm plan. The effect on designated tourism landscapes, for example, the Wild Atlantic Way, the Ceide Fields, Downpatrick Head, Lacken Strand and Kilcummin Head are compromised. The question also arises from the photomontages as to whether the viewpoints were selected to reveal impacts or minimise them? This application could actually be decided in one fell stroke by applying the Landscape Appraisal guideline for County Mayo with respect to Sub-sections 2.5 and 4.1. of ‘The Landscape Character Assessment’ of County Mayo.
- W. **Cultural Heritage, Hydrology, Biodiversity, Ceide Field and Boglands/Peatlands.** The Boglands of North Mayo are an invaluable under researched international archaeological site and the mapping of the extend of the site indicates that that all of the Boglands of North Mayo should be designated as a UNESCO site. It warrants greater consideration than just assessing whether the wind turbines break the ridgeline to be observed from the Ceide Fields. Inadequate evaluation of the meaning of Cultural Heritage and Biodiversity, and the disregard of the archaeology of the Ceide Fields and Mayo Boglands System. The map of the network of stone-walled fields, synonymous with the Ceide Fields and an extension of same, are shown beneath some of the footprint of the Tirawley Wind Farm in **Map 26**.
- X. **Circular Economy.** The Circular Economy and Miscellaneous Provisions Act 2022 and the policy document the National Circular Economy Strategy is relevant to all industries in Ireland today. Has the applicant adequately assessed procurement, materials, waste streams and decommissioning resource recovery? This is relevant to plan for goods and services to construct, maintain and decommission the wind farm? The carbon sequestration value of the Boglands of North Mayo are all so relevant in this context.
- Y. **Decommissioning and Long-Term Governance.**— The Planning and Development Act, the EIA Directive is relevant here and the Polluter Pays Principal is a fundamental principle in EU environmental law. The planning has been sought for 10 years and is there transparency on who maintains, monitors, mitigates, decommissions over the other 25 years of a wind farm. Communities must not be left in limbo and uncertainty. Who is responsible after the 10-year planning runs out? Who is responsible after 35 years or if

upgrades or modernisation are required? How is decommissioning funded? How is restoration guaranteed? These are all legitimate planning concerns.

- Z. **Cumulative Effects.** The EIA requires a cumulative effects assessment. The Habitat's Directive (Article 6 (3)) requires in-combination assessment alone or in combination with other plans and projects.

References

Habitats Directive 92/43/EEC, Article 6(3) – to satisfy the 'reasonable scientific doubt' test.

Environmental Impact Assessment (EIA) Directive, Article 3 – assessment of all likely significant effects and interactions.

Aarhus Convention – public participation and access to environmental information.

Planning and Development Act 2024 (as amended)

Strategic Infrastructure Act 2006

EIA Directive 2011/92/EU (as amended by 2014/52/EU)

Birds Directive 2009/147/EC

Irish Wind Energy Development Guidelines 2006

Draft Revised Irish Wind Energy Guidelines (2019)

Mayo County Development Plan 2022-2028

Draft Mayo Renewable Energy Strategy.

Application Form for Tirawley Wind Form

<https://www.pleanala.ie/publicaccess/Case%20Documentation/324258/Applicant%20Documents/Application%20Documents/Application%20Form/SID-Application-Form-Tues%2028th.pdf?r=400693852996>

Archaeological Excavations at Rathlackan E580 Neolithic and Bronze Age Landscapes of North Mayo

https://www.academia.edu/31796044/Archaeological_Excavations_at_Rathlackan_E580_Neolithic_and_Bronze_Age_Landscapes_of_North_Mayo

Aarhus Convention and the European Community.

[www.npws.iehttps://w/sites/default/files/publications/pdf/IWM%2088%20Sax%20hirculus.pdf](https://www.npws.ie/sites/default/files/publications/pdf/IWM%2088%20Sax%20hirculus.pdf)

Basner, M. & McGuire, S. (2018) *Sleep and noise: effects, mechanisms, and mitigation*. *Noise & Health*, 20(76), 145–158. EEA (2020) *Environmental Noise in Europe – 2020*. European Environment Agency, Luxembourg.

Bolin K, et al, Infrasound and low frequency noise from wind turbines: exposure and health effects. Karl Bolin et al 2011 Environ. Res. Lett. 6 035103

<https://acrobat.adobe.com/id/urn%3Aaid%3Asc%3AEU%3A0ae8af29-6737-4206-8ab0-e000ec276bd1/?filetype=application%2Fvnd.openxmlformats-officedocument.wordprocessingml.document&viewer%21megaVerb=group-discover>

Cave B, Claßen T, Fischer-Bonde B, Humboldt-Dachroeden S, Martin-Olmedo P, Mekel O et al. (2020). *Human health: Ensuring a high level of protection. A reference paper on addressing Human Health in Environmental Impact Assessment. As per EU Directive 2011/92/EU amended by 2014/52/EU*. Fargo, ND (USA); Utrecht, Netherlands: International Association for Impact Assessment and European Public Health Association
https://rucforsk.ruc.dk/ws/portalfiles/portal/76015473/Human_Health_Ensuring_Protection_Main_and_Appendices.pdf

Department of Agriculture, Food and the Marine (2005) GAEC 2
https://environment.ec.europa.eu/law-and-governance/aarhus_en

Department of Agriculture, Food and the Marine, 2025
<https://www.gov.ie/en/department-of-agriculture-food-and-the-marine/press-releases/introduction-of-gaec-2-as-part-of-conditionality-from-2025/>

Excavations on Céide Hill, Behy & Glenulra, North Co. Mayo, 1963-1994
Seamas Caulfield, Gretta Byrne, Noel Dunne and Graeme Warren
With substantial contributions by Seán Ó Nualláin and Madeline Murray
And specialist reports from Killian Driscoll, Linda Fibiger, Meriel McClatchie,
Lorna O'Donnell and Helen Roche GIS managed by Emmett O'Keeffe December 2011
<https://researchrepository.ucd.ie/entities/publication/eb6fc103-ccf1-4d3a-ae38-8374aab609bf>

Judicial Interpretation of Climate Obligations in Planning Law: Coolglas Windfarm Ltd v An Bord Pleanála
<https://www.casemine.com/commentary/uk/judicial-interpretation-of-climate-obligations-in-planning-law:-coolglas-windfarm-ltd-v-an-bord-plean%C3%A1la/view>

Knopper, L D & Ollson, C O, Environmental Health effects and wind turbines: A review of the literature, , 14 September 2011 Volume 10, article number 78, (2011) Open Access.

Ontario Energy Board
<https://www.rds.oeb.ca/record/document>

Open Submission: Risk of Harm to Children and Industrial Wind Turbines Health and Social-economic Impacts in Canada Submitted by Carmen Krogh, BSc Pharm May 1, 2013.

Maynard, R E Professor, Editor: Moorhousse, A Dr, Environmental Noise and Health in the UK, A report by the Ad Hoc Expert Group on Noise and Health Chairman, © Health Protection Agency 2010 Produced by the Health Protection Agency, Chilton, Didcot, Oxfordshire OX11 0RQ, for the Ad Hoc Expert Group on Noise and Health ISBN 978-0-85951-668-6 www.hpa.org.uk

Stansfeld, S.A. & Clark, C. (2015) *Health effects of noise exposure in children*. *Current Environmental Health Reports*, 2(2), 171–178. WHO (2018) *Environmental Noise Guidelines for the European Region*. World Health Organization Regional Office for Europe.

<https://www.ohchr.org/en/documents/general-comments-and-recommendations/crcgc26-general-comment-no-26-2023-childrens-rights>

The Italian Review of International and Comparative Law
Volume 3, Issue 2, 15 November 2023, Pages 223-226

The Judicial Protection of the Environment in International and European Law

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<https://doi.org/10.1163/27725650-03020003>

<https://fra.europa.eu/en/publication/2025/climate-change-ecthr-and-cjeu-case-law>

European Court Principles in environmental jurisprudence relevant to wind farms

The European Court Principles in environmental jurisprudence relevant to wind farms include the following key principles

https://www.npws.ie/sites/default/files/protected-sites/statutory_instrument_maps/MAP000516.pdf

<https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY000516.pdf>

https://www.npws.ie/sites/default/files/protected-sites/conservation_objectives/CO000516.pdf

<https://www.pleanala.ie/publicaccess/EIAR-NIS/500344/500344%20-%20eiar-eiar%20volume%201%20non%20technical%20summary.pdf?r=890278200877>

