

SECTION 131 FORM

S. 37

File With

Appeal NO: ABP 322154-25

Defer Re O/H ☐

Having considered the contents of the submission dated/ received 22/4/25

K6T Responsible Energy recommend that section 131 of the Planning and Development Act, 2000

be/not be invoked at this stage for the following reason(s): No new planning issues

E.O.: Daniel J Lonnor

Date: 24/4/25

For further consideration by SEO/SAO

Section 131 not to be invoked at this stage.

☐

Section 131 to be invoked – allow 2/4 weeks for reply. ☐

S.E.O.:

S.A.O.:

Date:

Date:

M

Please prepare BP submission

to: _____ - Section 131 notice enclosing a copy of the attached

Task No:

Allow 2/3/4 weeks – BP

EO:

AA:

Date:

Date:

File With _____

CORRESPONDENCE FORM

Appeal No: ABP 322454-25

Please treat correspondence received on 22/4/25 as follows:

1. Update database with new agent for Applicant/Appellant _____	
2. Acknowledge with BP _____	3. Keep copy of Board's Letter ☐
1. RETURN TO SENDER with BP _____	2. Keep Envelope: ☐ 3. Keep Copy of Board's letter ☐

Bulk Lodgement

Amendments/Comments	<i>KBT Responsible Party's observation</i>

4. Attach to file (a) R/S ☐ (b) GIS Processing ☐ (c) Processing ☐ (d) Screening ☐ (e) Inspectorate ☒	RETURN TO EO ☐
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Plans Date Stamped ☐ Date Stamped Filled in ☐	AA: _____ Date: <i>25/04/25</i>
EO: <i>Donna O'Connor</i> Date: <i>24/4/25</i>	

Kilmanagh Ballycallan Tullaroan (KBT) Responsible Energy

Details

Submitter

Name	KBT Responsible Energy
Address	C/O Shane Lynch, Banse, Kilmanagh, Co Kilkeny. R95 R207
Note	See attached appendices

In relation to application

An Bord Pleanála	PL10.322154
Planning Reference	
KCC Planning File	256003
Name	Briskalagh Ltd.
Address	In the townlands of Acragar, Ballyconra, Ballycuddihy, Ballyroe, Ballyroe (Grace), Ballyroe (Maher), Baunansk, Boherkyle, Briskalagh, Brittas, Clone, Coolnapisha, Curraghduff, Freshford, Freshford Lots, Graignesswood, Grange, Huntstown, Kilmanagh, Knockeenaglass, Knockown, Moatpark, Monabrika, Monavadaroe, Moneenau, Oldtown, Oldtownhill, Parksgrove, Picketstown, Rathaly, Sart, Sweethill, Tobernapeastia, Tullaroan, Upperwood Demesne, Co. Kilkeny.

AN BORD PLEANALA

Ldg-079487-25 ABP-

22 APR 2025

Fee: € 50 Type: CASH

Time: 10.56 By: HAWK

Име:	_____	г/г:	_____
Датум:	_____	Датум:	_____
23 APR 2022			
Вид:	_____	_____	
Где:	_____	_____	
ВИ ВОИД БГЕВИАУГА			

"Kilkenny County Council considers that the proposed development has significant potential for adverse impacts due to cumulative impacts. The applicant's presentation of the assessment of cumulative effects generally fails to identify if there is real potential for cumulative effects to occur as a result of any specific other plans, projects or activities in the area, or the environmental factors under which such effects may arise. Throughout the review of each of the specialist topic EIA chapters the finding of inadequate assessment of cumulative effects recurs. This is considered a serious flaw in the EIA and is as a result of significant deficiencies in the quality and quantum of data provided, particularly in the areas of landscape and visual effects, material assets, noise, ecology and hydrology."

Kilkenny County Council Planning Report, Page 50

"The cumulative effects of the proposed development will impose an unreasonable and disproportionate environmental loading on the character of a rural area with a locally concentrated population due principally to the combined effect of potential visibility and noise, as well as flicker and disruption of material assets, especially roads, during a prolonged period.

While proximities between individual turbines and individual dwellings appear to fall at, or close to, minimum standards, the cumulative effects will, arguably, exceed the threshold of what a community can be reasonably expected to tolerate for the overall residential amenity of the community. Guidelines and precedence do not offer reliable relevant thresholds for cumulative effects such as will occur."

Kilkenny County Council Planning Report, Appendix 3, CAAS Ltd, Environmental Impact Assessment Review Page 55.

INTRODUCTION

CHAPTER 1: LOCAL, NATIONAL AND EUROPEAN POLICIES

CHAPTER 2: HUMAN HEALTH INCLUDING NOISE

CHAPTER 3: WATER AND FLOODING

CHAPTER 4: BIODIVERSITY

CHAPTER 5: CUMULATIVE IMPACTS

CHAPTER 6: LANDSCAPE/VISUAL IMPACT

CHAPTER 7: SEPARATION DISTANCES

CHAPTER 8: IMPACT ON PROPERTY PRICES

CHAPTER 9: COMPANY STRUCTURE

CHAPTER 10: SHORTFALLS IN THE PLANNING APPLICATION & APPLICATION DEFICIENCIES

CHAPTER 11: HERITAGE

CHAPTER 12: HAUL ROUTE

CHAPTER 13: GRID ROUTE

CHAPTER 14: ARCHAEOLOGY

CHAPTER 15: COMMUNITY ENGAGEMENT

CONCLUSION

APPENDIX 1- GROSVENOR CONSULTANCY Review of First Party Appeal

APPENDIX 2- HYDRO-G Review of First Part Appeal

APPENDIX 3- MR ROGER GOODWILLIE Review of First Party Appeal

APPENDIX 4- MKO/ BRISKALAGH LTD Briskalagh Biodiversity Poster

Subject: An Bord Pleanála Reference PL10.322154
KCC Planning Application Ref. 2560003

To: An Bord Pleanála
From: KBT Responsible Energy
Contact: kbtrresponsibleenergy@gmail.com
Please reply to: kbtrresponsibleenergy@gmail.com

Dear Inspector,

This submission is made in response to the First Party Grounds Of Appeal (GOA) lodged by Briskalagh Ltd. following Kilkenny County Council's (KCC's) decision to refuse permission for the proposed wind farm development at Briskalagh. This submission supports the refusal and reiterates serious and well-founded concerns regarding residential amenity, the inadequacy of the Environmental Impact Assessment Report (EIA/R) and Natura Impact Statement (NIS), and failures in stakeholder engagement.

KBT Responsible Energy wishes to make it unequivocally clear: our community is not opposed to renewable energy. We understand the urgent need for the energy transition and have a history of welcoming wind farms that are appropriately scaled, sited, and developed in consultation with local people. Projects such as those in Foyle, Cnoc, Ballybay and the approved Farranrory serve as clear examples of how our community has supported renewable infrastructure when it is developed responsibly and transparently.

The opposition to the Briskalagh Wind Farm should not be mischaracterised as "anti-wind." It is rooted in deep concern over how this specific proposal has been handled, both in terms of its excessive scale and the lack of transparency and engagement throughout the process.

Kilkenny County Council (KCC) have conducted a comprehensive review of the planning application and have found "there are a number of significant deficiencies in the quality and quantum of data provided, particularly in the areas of landscape and visual effects, material assets, noise, ecology and hydrology. Furthermore, insufficient detail has been provided on the matter of cumulative effects, especially in regards to the likely effect on the residential amenity of the immediately adjacent residential areas. The EIA/R was found not meet the statutory EIA requirements in relation to the following sections contained therein as follows:

- a) Consideration of Reasonable Alternatives, including cable routes
- b) Description of the Proposed Project
- c) Population and Human Health
- d) Biodiversity (excluding birds)
- e) Birds
- f) Land, Soils and Geology
- g) Hydrology and Hydrogeology
- h) Air Quality
- i) Noise and Vibration
- j) Landscape and Visual
- k) Cultural Heritage
- l) Traffic and Transport
- m) Other Material Assets
- n) Interaction of Effects."

As the responsible planning authority, KCC engaged CAAS for an independent assessment, standards required for such evaluations. This reflects the rigorous approach taken by KCC to ensure a thorough and impartial review.

This community has carried out an extensive review of the planning application submitted by Briskalagh Ltd. to Kilkeny County Council with very limited resources. Professional experts were retained to review the planning application (at significant cost to the entire community) in a number of areas including noise, planning, legal, hydrology/ geology, visual impact, flooding and biodiversity to assess the application. This displays the extent of the concern that the residents of the area have regarding the proposed development. These reports were submitted to Kilkeny County Council as part of the community submissions which were signed by 547 people living in this community. In addition, a further 200 individual submissions were submitted by members of the community objecting to this planning application. The applicant makes the following statement in their Executive Summary of their First Party Grounds of Appeal:

"The Proposed Project is strongly supported by European and national policy and legislation. At a European Union level the Proposed Project is supported by the EU Renewable Energy Directive and REPowerEU. At a national level, the Proposed Wind Farm is supported by the National Planning Framework, Climate Action Plan 2024, the National Energy Security Framework, among other national climate and energy policies. The local planning policy framework is also supportive with the development of indigenous energy resources, with an emphasis on renewable energy supplies and setting ambitious target for the deployment of renewable energy, including a target of 100% of electricity demand for the County through renewables by 2030 by promoting and facilitating all forms of renewable energies and energy efficiency improvements."

This assertion regarding the proposed project is valid only if the development is demonstrably **responsible** and aligns with established standards and regulations. The policies and legislation referenced above do not endorse a project solely based on its inclusion of a renewable energy component. Rather, it must meet the required standards. The applicant's characterisation of their own development as "well-designed" is insufficient as a measure of compliance. The key message that the applicant has presented is to remind An Bord Pleanála of their legal obligations. We, as a community, are confident that An Bord Pleanála, as the competent authority, are fully aware of all of legal and statutory obligations. The implication from the applicant here is that An Bord Pleanála are obliged to approve this application, without due regard for proper planning and sustainable development. Kilkeny County Council and CAAS have clearly outlined in the refusal dated 27th February 2025 clear rationale as to why the proposed Briskalagh wind farm is not deemed to be in line with requisite standards.

We are a rural community with strong environmental values, local knowledge, and a genuine willingness to support sustainable development. From the outset, we sought to engage constructively with the developer. We asked questions, raised concerns, and requested clarification—particularly around impacts on health, water quality, flooding, biodiversity, and cumulative effects. But our concerns were consistently ignored or deferred. We were told that answers would come "at the final planning stage", by which time, public engagement had effectively ended.

Instead of dialogue, the community was subjected to a drip-feed of poor-quality information, vague assurances, and inaccessible technical reports. This approach fails to uphold the principles of public participation and transparency, and is fundamentally contrary to the Aarhus Convention, which guarantees the public the right to:

- Access environmental information,
- Participate in environmental decision-making, and
- Access justice when those rights are denied.

Equally troubling is the developer's failure to adequately assess the cumulative effects of this project. Despite national guidelines and local knowledge of environmental pressures in the area, the application treats impacts in isolation. CAAS, independent consultants to Kilkenny County Council, warned that:

"The cumulative effects of the proposed development will impose an unreasonable and disproportionate environmental loading on the character of a rural area with a locally concentrated population... the cumulative effects will, arguably, exceed the threshold of what a community can be reasonably expected to tolerate for the overall residential amenity of the community." Kilkenny County Council Planning Report, Appendix 3, CAAS Ltd, Environmental Impact Assessment Review Page 55

This statement validates the lived reality of our community, one that is being asked to carry more than its fair share of environmental burden, with little say in the matter.

We have engaged the services of Grosvenor Consultancy, Dr Pamela Bartley of Hydro-G and Mr Roger Goodwillie to undertake a review of the First Party Ground of Appeal and we submit these as appendices to this document.

We respectfully urge An Bord Pleanála to recognise not only the technical and legal shortcomings of this application, but the democratic and ethical failures that have defined the entire process. This is not a community opposed to climate action. It is a community that believes climate action must be done with people, not to them - if we are to ever reach the required targets.

Understanding the exceptional renewable energy generation in the local community:

Situated within 10km (to the west and southwest of the proposed Briskalagh wind farm) are four approved wind farms Ballybay, Foyle, An Cnoc, and the upcoming Farranrory. This community is a national leader in terms of renewable energy generation both per area and per capita. These developments position our community at the forefront of Ireland's energy transition and highlight the significant role of rural communities in delivering national climate goals.

Wind farm overview (within 10km of proposed Briskalagh)			
Wind Farm	Status	Approved Capacity (MW)	Operational Since
Ballybay	Operational	13.8	2017
Foyle	Operational	12	2017
An Cnoc	Operational	11.5	2010s
Farranrory	In Development	43.2	Expected 2026
Total		80.5	

Estimated annual energy output

Using a conservative 30% capacity factor typical for Irish onshore wind farms:
Combined output: 211,554 MWh/year

This energy is sufficient to power:

48,874 Irish homes annually:

Based on national average household electricity use of 4,200 kWh/year

Per capita generation: A national standout

The community has approximately 1400 residents, the local per capita renewable energy generation is:
151.11 MWh/person/year

By comparison:

Ireland's national average electricity use per capita is 6.9 MWh/year

This means communities in close proximity to the proposed Briskalagh wind farm are already generating nearly **22 times** more renewable wind powered electricity per person than the national average consumption per person.

In their appeal document, under Section 4.1.18: Policy and Legislation, in relation to the Kilkenny City and County Development Plan (KC&CDP) 2021-2027 the applicant argues: "as the parts of the KC&CDP which are subject to a Ministerial Direction are taken not to have come into effect, the Wind Energy Strategy Areas and its associated policies cannot be taken into account." *First Party GOA, Section 4.1.18*

They go on to claim that, despite the lack of a Wind Energy Strategy, they carried out their own environmental constraints assessment and sited turbines within "Acceptable in Principle" and "Open to Consideration" areas, even though these categories refer to the those parts of the 2021-2027 plan which remain under Ministerial Direction and have not come into effect. They also highlight that the KC&CDP supports renewable energy development in principle and suggest earlier that the Board should prioritise national and EU renewable energy policy goals.

The applicant's claim in their appeal that the Wind Energy Strategy "cannot be taken into account" is misleading. While Figure 11.4 of the 2021-2027 KC&CDP is suspended under Ministerial Direction, Figure 10.2 from the 2014-2020 Plan continues to apply, per Section 31(6)(b) of the Planning Act.

Figure 10.2 does not identify the Briskalagh site as suitable for large-scale wind energy development. Therefore, the application materially contravenes the operative plan. The applicant's reliance on suspended mapping while dismissing valid mapping from the previous plan (still in effect) amounts to a selective interpretation of planning policy, one that undermines transparency and the statutory process and is entirely disingenuous.

Please refer to KBT Submission 2-Group Submission, Appendix 6 letter from F P Logue Solicitors, dated 7th January 2025 and which outlines the Ministerial Direction on KC&CDP 2021-2027 and states as follows:

"Accordingly, in our view having regard to Section 31(6)(b) of the Act, Figure 10.2 of the Kilkenny County Development Plan 2014-2020 has not ceased to have effect, and represents, at the time of writing, the spatial categorisation of the County in relation to the potential provision of wind energy developments to which the planning authority must have regard, notwithstanding the coming into effect of the Kilkenny City and County Development Plan 2021-2027."

Additionally, we respectfully note the Boards opinion in relation to White Hills Wind Farm ABP-315365-22, Board Direction, page 7 where it was stated:

"the board is satisfied that the proposed development is in accordance with the relevant provisions of the Kilkenny Development Plan, which remain in place at this time, as provided for in Section 31(6)(b) of the Planning and Development Act 2000, as amended (noting Figure 10.2 Wind Energy Strategy of the Kilkenny County 2014-2020 development plan.)"

The Briskalagh Wind Farm proposal has also been found to contravene a wide range of planning policies at local, national, and EU levels, many of which are designed to protect rural communities, environmental integrity, and cultural heritage.

Following the extensive voluntary work we have undertaken to ensure that only appropriate development projects are advanced within the framework of local sustainable development, we wish to reaffirm our support for responsible wind energy, including the three wind farms we have already welcomed into our landscape and a fourth which has been approved.

However, the Briskalagh wind farm proposal is fundamentally different. It raises genuine and serious concerns due to its scale, location, and design, concerns which place it in direct conflict with a wide range of planning policies at local, national, and European levels- policies specifically designed to protect rural communities, environmental integrity, and cultural heritage.

These policy breaches were identified in detail by Kilkenny County Council when refusing permission and reflect a project that is inappropriately scaled, poorly sited, and procedurally flawed.

1. Kilkenny County Development Plan 2021-2027

Section 9.2 – Natural Heritage and Biodiversity:

Due to significant deficiencies in the quality and quantum of data provided, particularly in the areas of landscape and visual effects, material assets, noise, ecology and hydrology, the development fails to align with objectives to protect natural heritage, biodiversity, and the green infrastructure network. Kilkenny County Council Planning Report 27th February 2025, Page 74

Chapter 9.3 – Built and Archaeological Heritage

The wind farm would adversely impact protected heritage structures, including those in and around Kilmánagh. Kilkenny County Council Planning Report 27th February 2025, Page 75

Section 10.2.6 – Flooding

The applicant failed to adequately consider the risk of flooding downstream, particularly in Kilmánagh, and did not reference recent severe flood events in the area. Kilkenny County Council Planning Report 27th February 2025, Page 76

Figure 10.2 (Wind Energy Strategy of the Kilkenny County 2014-2020 development plan) Spatial Categorisation of Wind Energy

The site is not located in a designated area for large-scale wind development arising from Ministerial Direction on KC&CDP 2021-2027.

Core Strategy: Balanced Rural Growth

The proposed development undermines the KC&CDP 2021-2027 vision for vibrant, sustainable rural areas by:

- Imposing disproportionate environmental burdens.
- Providing little or no rural economic integration.
- Disregarding community wellbeing, amenity, and safety.

As Kilkenny County Council stated:

"The cumulative effects of the proposed development will impose an unreasonable and disproportionate environmental loading on a rural area with a locally concentrated population. The scale of the development is unprecedented in Kilkenny due to the size of the turbines and their location on lowlands surrounded and closely overlooked by a large number of houses." Kilkenny County Council Planning Report 27th February 2025, Page 66

2. National Planning Framework (NPF)

The proposal is inconsistent with key National Policy Objectives, including:

NPO 55: Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.

The proposed wind farm fails this test of appropriateness, given the density of housing, cultural importance of Kilmanagh, and serious concerns around flooding, amenity, and visual impact.

3. Wind Energy Development Guidelines (2006 and Draft 2019)

The development does not achieve the required balance between:

- Renewable energy targets,
- Protection of residential amenity,
- Environmental constraints, and
- Proper planning and sustainable development.

4. Climate Action Plan 2024 (CAP24)

While CAP24 encourages renewable energy expansion, it requires

- Protecting biodiversity,
- Safeguarding water quality,
- Respect for existing communities,
- Transparent public participation.

The Briskalagh proposal fails these tests.

5. EU Directives and International Environmental Policy

Water Framework Directive

The applicant has not provided adequate demonstration that the development would protect groundwater and surface water from pollution or disruption.

Habitats Directive

The applicant has not provided sufficient ecological data to assess risks to protected habitats, species, and Natura 2000 sites.

6. European Landscape Convention (Council of Europe, 2000)

Ireland is a signatory to the European Landscape Convention, which recognises landscape as a critical component of quality of life, local identity, and cultural heritage. The Briskalagh proposal contravenes this principle by failing to protect the lived landscape values that underpin Kilmanagh's distinct identity, including the Ballykeeffe Amphitheatre, tourism assets, and the rural setting, all of which are vital to local wellbeing and sustainable development.

7. Aarhus Convention (EU & UN Treaty on Environmental Democracy)

Ireland is bound to uphold public participation, transparency, and access to environmental information in planning decisions.

The Briskalagh process falls short of these obligations, given the identified procedural flaws, environmental data gaps, and lack of meaningful community engagement.

Summary:

The Briskalagh Wind Farm proposal:

- Contravenes multiple core objectives of the Kilkenny County Development Plan,
- Conflicts with Ireland's National Planning Framework and Climate Action Plan,
- Fails to comply with EU law under the Habitats and Water Framework Directives,
- Contravenes the European Landscape Convention by failing to protect landscape as lived cultural space,
- Undermines public participation principles under the Aarhus Convention.

These policy conflicts are not minor or technical, they go to the heart of what sustainable, participatory, and lawful development should look like.

An Bord Pleanála is respectfully urged to uphold the protection of community-based sustainable development, and to defend the policies of Kilkenny, of Ireland, and of the European Union by refusing permission for a project that so clearly fails these tests.

NOISE:

The size and scale of the 185-metre-high turbines are not currently operational on the island of Ireland, in such close proximity to two village settlements and a densely populated and diverse landscape affecting approx. 215 homes within a 2km radius of the project and moreover the height differential between the turbines is 60m

Kilkenny County Council Planning Report, Appendix 6 includes a response from Kilkenny County Council dated 23-02-2024 to the EIA Scoping Report for Briskalagh and Grid Route energy development plan. They request a number of matters to be addressed in the EIA to be submitted, including the following.

Page 14

"C. iii. The applicant should ensure that all activities at the site shall not give rise to noise levels off site at the nearest occupied dwellings, which exceed the following sound pressure limits;

- DAY: 45dB(A) LA90 (10 minutes).
- NIGHT: 43dB(A) LA90 (10 minutes)."

As stated by Grosvenor Consultancy in their review of the First Party Appeal:

"We repeat our conclusions dated 04 February 2025:"

"This is particularly relevant in this case, as it is deemed that when the assessed significantly adverse Residential Amenity Impacts and all other material factors are duly considered in the planning balance, as to the benefits of the proposed development, it is our professional judgement that these in combination are not just considered to be significantly adverse but overwhelmingly adverse";

Final Conclusion.

"We repeat, that we consider that consenting the proposed Briskalagh wind farm would create an unacceptable risk of adverse WTN impacts to the local residents and therefore, this unsustainable application be should be refused development consent";

Kilkenny County Council Planning Report in Appendix 1 - Public submissions Summary, page 18 Human health, include the following excerpt from a third party submission:

"The proposed construction compound including parking and spoil management areas about 700m from R695 through Kilkmanagh is intrusive to quality living and will be a constant noise. The proposed location lies at the southern end of the planned development, further south than proposed T7; why this was not planned further north near where most turbines are planned." KBT agrees with this third-party submission. The planning of this construction compound and spoil management area will be a source of much noise during the two-year construction period. This area, south from proposed T7, is far from the proposed entrance in the north for working traffic, and does not make sense. This is unnecessary traffic infringing on Kilkmanagh village. From an environmental perspective too this is unnecessary travel for heavy load trucks and personnel that require to enter and leave the site on a daily basis.

SHADOW FLICKER:

The applicant acknowledges that 41 homes may experience shadow flicker above the legal threshold and propose mitigation via a screening measures "OR" the implementation of SCADA-controlled turbine shutdowns. However, there are no guarantees that Briskalagh Ltd. will implement SCADA, nor that it will function effectively. Moreover, the proposal to offer "screening" or "blinds" instead of enforcing turbine shutdowns places the burden on impacted residents — not the developer.

Therefore, Kilkenney County Council as the Planning Authority was correct in concluding that the shadow flicker impacts are significant, long-term, and incapable of being mitigated. Additionally, as reported by CAAS:

"Significant deficiencies in those assessments as identified in later parts of this review are such that a reasoned conclusion on effects on human health cannot be made." Kilkenney County Council Planning Report Appendix 3 CAAS Review of EIA for proposed renewable energy development at Briskalagh - 2560003 page 18

Furthermore:

"the efficacy of mitigation and monitoring proposals with regard to effects on population and human health cannot be adequately determined." Appendix 3 CAAS Review of EIA for proposed renewable energy development at Briskalagh - 2560003 Page 19

KBT Responsible Energy wish to highlight that the proximity of the proposed wind farm to residential properties and village settlements cannot be dismissed by the applicant and the proximity should be borne in mind in context of the above. And, as previously stated in our submission to KCC, the applicant references and relies on data from surveys and reports on human health & public perception of wind farms which are completely out of date and bear no relevance to the industrial scale project that is being proposed adjacent to Kilmanagh & Tullaroan villages and the significant number of family homes located within close proximity to the proposed development.

The developer has demonstrably failed to acknowledge and adequately assess the various risks and impacts to St. Aidan's National School (Kilmanagh Village), Scoil Ruadháin (Tullaroan Village), Giant Steps Montessori (H104), Ballagh, Kilmanagh as sensitive receptors.

In fact, nowhere within the developer's application was Giant Steps Montessori (H104, located 1001m from Turbine 7) acknowledged or mentioned.

This is further compounded in their appeal document (Section 4.1.12 Impact on Sensitive Receptors - Local Schools), where the applicant repeatedly misidentifies Giant Steps Montessori as H093 when it is in fact H104.

Please refer to the submission from Ms Mariann Cleere dated 04/02/2025 to KCC which states her home and Montessori are H104. The applicant claims in their appeal Section 4.1.12 that 'St. Aidan's NS.....and Giant Steps Montessori (Sensitive Receptor ID - H093 were considered in both the shadow flicker and noise impact assessments within the EIA'. The applicant goes on to talk about shadow flicker and noise predictions for Giant Steps Montessori School, again misidentified as H093 in paragraph 4 of Appeal Section 4.1.12; these statements/predictions must obviously be treated by ABP as completely erroneous since MKO has identified and repeatedly referenced the wrong premises number entirely i.e. H093.

Also in paragraph 4 of appeal Section 4.1.12, the applicant asserts "The Montessori School is located on the L1008 local..... the section of the L1008 along which it is located is not proposed to be used as a construction haul route."

This is factually incorrect as the Montessori is not located on the L1008 road and furthermore, there is no L1008 road within the locality, therefore, MKO's suggestion that the road on which

the Montessori is located will not be used as a construction haul route cannot be taken as either factual nor correct.

Again, this further compounds our opinion that the developer's application and appeal is littered with errors, omissions and conflicting information and their assertions therefore cannot be taken at face value.

This also begs the question whether the applicant's noise and flicker predictions for all identified sensitive receptors are accurate and can be trusted.

We firmly state that given this level of erroneous detail and disparity that the applicant's planning application and appeal are both evidently deficient in detail and cannot be treated as either factual or sound in method.

ELECTROMAGNETIC:

Kilkenny County Council Planning Report, Appendix 6, includes a response from Kilkenny County Council dated 23-02-2024 to the EIA Scoping Report for Briskalagh and grid route energy development plan. They request the following to be addressed in the EIA/R to be submitted.

Page 12: "The following should be taken into consideration of part of this application as a minimum:..."*electromagnetic*"

The possible electromagnetic impact of the proposed development was dismissed by the developer in the GOP and thus no mitigation is considered.

In Chapter 5-46 of the planning application the developer discusses electromagnetic interference of the underground cables, dismissing any effects from those, but does not mention wind turbines.

Chapter 5-36 of the planning application "To date, there is no credible peer reviewed scientific evidence that demonstrates a direct causal link between wind turbines and adverse health impacts in people living in proximity to them. There is no evidence for any adverse health effects from wind turbine shadow flicker or electromagnetic frequency."

Although in Chapter 5-85 it is stated that "Wind turbines, like all large structures, have the potential to interfere with broadcast signals, by acting as a physical barrier or causing a degree of scattering to microwave links. The alternating current, electrical generating and transformer equipment associated with wind turbines, like all electrical equipment, also generates its own electromagnetic fields, and this can interfere with broadcast communications."

Chapter 10 of the Kilkenny City & County Kilkenny Development Plan 2021-2027 has as the following strategic aim:

"To ensure a sufficient level of water services within the county for the implementation of the core strategy, provide a framework for the protection of the environment, including water quality and the avoidance of flood risk".

Drinking water supply/wells:

The Kilkenny West Group Water Scheme Co-Operative Society Ltd. (under whose auspices the Ballycallyan Group Water Scheme is now run) raised concerns in their submission to KCC in relation to the protection of a drinking water source which provides water to 320 residents and community facilities due to critical risks to groundwater quality and sustainability by the development's proximity to high-sensitivity groundwater zones.

Additionally,

"The local authority has significant concerns in relation to the site of the proposed development of wind turbines and borrow pit to a depth of 9.5m on the site of a drinking water supply source, and potential for foundations at T7 to dig directly into the water table. This would increase the risk of groundwater contamination. There is a risk to groundwater at T3, T4, T5 and potentially T6 and T7." **Kilkenny County Council Planning Report, Page 56**

An applicant for such a development must provide sufficient, site-specific, quantified evidence to allow a planning authority to arrive at a reasoned conclusion about likely significant effects. Generalised hydrology sections without modelling do not meet this requirement.

"The assessment as provided in this chapter of the EIA does not provide sufficient information to support a reasoned conclusion regarding effects on the environmental factor of water. **Kilkenny County Council Planning Report, Appendix 3 CAAS EIA Review, page 37.**

"The lack of clarity and detail in such measures does not support the given findings that likely residual effects on downstream watercourses and associated water-dependent ecosystems will be imperceptible." **Kilkenny County Council Planning Report, Appendix 3 EIA Review, Page 40**

This is especially critical here, as the site lies above a regionally important, highly vulnerable aquifer, and the Ballycallyan Group Water Scheme and multiple private wells lie within 1-2 km of proposed Wind Farm and haul routes.

The appeal offers no new hydrological data, no model outputs, no well vulnerability mapping, and no reassessment of flood pathways downstream to Kilmánagh, despite these being raised by KCC, CAAS, local group water scheme representatives, and Third-party experts (i.e. Dr Pamela Bartley, as cited in the KBT Submission 1- Expert Review Appendix 3).

These omissions persist in the appeal, meaning the precautionary principle must apply: without site-specific modelling or adequate impact assessment, significant impacts cannot be ruled out.

Furthermore, in the applicants Ground of Appeal (GOA), Appendix 2, Response By Hydro Environmental Services (HES) mentions the following (Page 4)

"Runoff from the works areas will be collected in collector drains and treated and attenuated via in-line controls and treatment systems such as check dams, silt traps, silt fences and settlement ponds;

All water will be treated to a high quality and slowed down prior to release; and, The treated water will be released in a diffuse and controlled manner through the use of level spreaders and vegetation filters and will not be directly discharged into any watercourse."

It is not clear from the maps in the EIA, where vegetation filters would be and where dams, traps, silt fences and settlement ponds will be located and their sizes/dimensions, and if these have any interaction with the pluvial runoff downslope towards the Kilmanagh / Tullaroan River.

Water quality monitoring is only proposed during the construction phase (HES GOP page 6/7). It is not clear what will be monitored, the quality of the River, or the output of the traps/fences/ponds.

Geological maps mention general soils/subsoils/bedrock of the area, underlain by shale and limestone bedrock. The Ballycallan GWS borehole indicates that this extends into karstified limestone. In the proposed wind farm area this should be confirmed by a range of boreholes to establish the depth and nature of bedrock.

However, only two boreholes were investigated, with further test pits mostly into soil and subsoil levels. "Boreholes should extend at least to the actual depth below the proposed invert elevations for the foundations of the turbines. This is a lacuna that would support Kilkenny County Council's reasons for refusal". (Dr Pamela Bartley, Hydro-G- KBT Submission 1- Expert Review, Appendix 3).

Of concern, too, is the remark (GOA, Appendix 2, HES Page 9, in response to Uisce Éireann) that "short-term temporary excavation dewatering may be required in some turbine base excavations (as assessed in Section 9.5.2.4 of the EIA). All water pumped from the excavation will be treated via attenuation and settlement ponds or via a Siltbuster (refer to Section 9.5.2.12). There will be no discharge of untreated water from excavations".

It is not clear what 'dewatering' here means, and if this interferes with the river. Moreover, this response re-confirms the necessity for the developer to have exact borehole information for all turbine base locations, as these will reach a considerable depth. Especially the area around T7, for which there is no information, this causes real concern.

The remains nearby of a historical weir in the Kilmanagh / Tullaroan River, that in some way must be connected to a mill race near the Kilmanagh bridge, suggests a special environment in this area.

Lastly, KBT points to the report of Dr Bartley (January 2025, KBT Submission 1, Expert Review, Appendix 3, Page 15) on the extent of vulnerability zone along the Kilmanagh / Tullaroan River:

"The Groundwater Protection Scheme Report (GWPSR) for Kilkenny (Kilkenny County Council & GSI, 2002) states, on page 62, that "the thickness of the unsaturated zone will increase moving away from the Kilmanagh River, and the zone of extreme vulnerability is not thought to extend more than 100m on either side of the River". Kilkenny County Council are

referred to their own GWPSPR specifically written for protection of resources in their own county in which extreme vulnerability is reported to extend in the order of 100m either side of the Killmanagh River (referred to as the Tullaroan Stream by the applicant's agents). Therefore, the "self-imposed 50m buffer" proposed by the applicant seems only to suit their needs rather than protection of infiltrating water to the groundwater system. Whilst they may attempt to submit information at a later stage that all the proposed construction areas referred to are not mapped by the GSI as having 'Extreme Vulnerability', they will be 'Extreme Vulnerability' by the time the excavations proposed were completed."

Flooding:

With specific consideration to flooding:

- No hydraulic assessment or analysis has been undertaken in relation to the proposed new access road across the Killmanagh/Oldtown/Tullaroan River between the proposed T7 and T6.
- The potential adverse impacts in relation to this proposal have not been quantified in any way. These present a potential significant flood risk elsewhere.
- The potential adverse impact to the existing hydrological regime of the area due to the proposed spoil management and borrow pits has not been quantified in any way.
- These significant excavations and spoil stockpiling areas have the potential to alter catchment runoff flow-paths and increase flood risk elsewhere.

"There are sound grounds for refusal on the basis that the agent for the applicant's assertion that there would be no flooding at the wind farm site is missing the point. The issue is downstream receptors and they are already experiencing flood events. It is beyond scientific doubt that the landscape alterations proposed for the Briskalagh applicant would exacerbate the current flood experience". (Dr Pamela Bartley, as cited in the KBT Submission 1 - Expert Review, Appendix 3.

In relation to the points above, in consideration of the type, form and scale of development as proposed, the instances of previous significant fluvial and pluvial flood events at and downstream of the proposed wind farm, and in particular at Killmanagh Village, it would be normal practice to undertake a detailed hydrological assessment and fluvial and pluvial hydraulic analysis and modelling exercise in this regard.

No such assessment and analysis has been undertaken in support of this application.

In the absence of any detailed hydrological assessment and hydraulic analysis, the development as proposed presents an inherent flood risk to lands and properties adjacent to and downstream of the proposed development.

Alterations To Killmanagh/ Tullaroan River prior to electrofishing survey:

HES response to Hydro-G report (Page 19):

"Hydro-G also reference the embankment excavation and re-alignment works that have been observed and recorded in the Aquatic Survey Report (Appendix 6-3 of the EIA) undertaken on the river and say that these have not been assessed in the FRA. This is correct, those alterations were not assessed in the FRA. However, we can state the following having observed the alterations:

Downstream of WF-1: banks of the river channel appear to have been strengthened, and the erosion and maintain water quality, and the widening of the river will slow water flow slightly, therefore reducing downstream flood risk slightly.

Downstream of WF-3: The modified river channel is in an area of sand and gravel that appears to be continuously altered by river flow. It appears the recent (observed) works here are intended to strengthen the damaged river bank in a likely attempt to improve water quality and prevent further erosion. The works also lengthen the river flow path (to its original pathway rather than the shortened pathway to LHS of the island), which in itself will slightly reduce any perceived increase in downstream flood risk or maintain its original form."

and, also on page 18

"...the natural and variable conditions of the river channel and the wider catchment are likely to alter continuously, both with land use change, and with variations in agriculture and forestry."

There should be no interference with these river banks, as they are the responsibility of Inland Fisheries Ireland and this should have been reported. Widening will result in increased water flow in periods with much rain thus increasing erosion. The meandering path of rivers that indeed changes with time is a natural process that allows for slowing down the river flow path reducing downstream flood risk. Widening and straightening will increase the flow path and flood risk downstream where flooding is already an issue.

Grounds of Appeal defence of EIA:

The applicant, in their First Party Grounds of Appeal document (Page 24) make the point that "the quality and quantum of data provided in the EIA prepared for the proposed Briskalagh Renewable Energy Development is in accordance with the best-practice legislation and guidance. It should also be noted that it is commensurate with the data provided in EIARs that have been reviewed and accepted by the Board in recent grants of planning permission for other renewable energy developments (i.e. Borrisbeg Renewable Energy Development (ABP Ref. 318704), Sheskin South Wind Farm (ABP Ref. 315933), Ballivor Wind Farm (ABP Ref. 316212) and Glenard Wind Farm (ABP Ref. 312659))."

HES (Hydro Environmental Services) in their document Response by Hydro-Environmental Services (Page 2) make similar claims about developments which are located in geographical locations unlike Kilmanagh, Tullaroan and Ballycallyan.

"The mitigation measures detailed in Chapter 8 of the submitted EIA are tried and tested, best-practice mitigation measures for the protection of soils and geology. These mitigation measures are used at construction sites across the country and have been successfully used in the construction of the numerous existing wind farms. Furthermore, these best practice mitigation measures have been deemed appropriate in several recent decisions to grant permission for similar development, issued by both An Bord Pleanála and Local Authorities – please refer to recently permitted Glenard Wind Farm (ABP Case No: 312659) and the permitted Seven Hills Wind Farm (ABP Case No. 313750). With the implementation of these best in-class mitigation measures there will be no significant effects on the land, soils and geological environment."

This misses the point completely as every proposed development should be judged on their own merits and one must remind, that our community encompasses two vibrant villages with

homes, schools, shops, churches, GAA and other sports facilities just over 1km from the proposed wind farm.

BIODIVERSITY – SUMMARY ISSUES OF APPLICATION

Botany: Plants/Trees

- Goodwillie: Botanical report particularly bad including poor species knowledge
- Kilkenny County Council planners report: Lack of information and location of Third schedule invasive species on site and along turbine delivery route
- KBT: No mention of tree felling along grid/haul route and substation, despite locals being told otherwise
- Goodwillie: missing ecological value/condition of various areas of hedgerow/treelines that will be removed/felled. This needs to be assessed and mapped to ensure sufficient mitigation
- KBT: Missing information of location of certain plants and rich ground flora areas, such as Black Poplar, and listings and maps of surveyed species
- Kilkenny County Council planners report: The report used only online resources and did not examine the species list resulting from the onsite botanical surveys for FPO species

Mosses/Liverworts/Lichens

- Literature provided but no observations, field surveys, mapping nor species lists

Fish/Aquatic Life

- Destruction of Riverbanks one month prior to electrofishing, impacting presence of and habitat for fish species (as well as mammals and birds) thus invalidating survey results
- No assessment of impacts on water quality and effects on SAC and annexed species from construction works

Mammals

- Otter: conflicting information on holts
- Questionable validity of surveys, not in optimal season
- Mitigation should be included in NIS
- Badger: holt survey not in optimal season, not a reliable representation
- No assessment of impacts on water quality and effects on SAC and annexed species from construction works

Bats

- Only one survey, no baseline information, not undertaken in peak season
- Complex 3- no investigation despite having potential
- Kilkenny County Council planners report: Assessment of impact on bat population is lacking in several aspects (survey, display of potential roost features in mature trees to be felled, lack of consideration/assessment of value of ecological corridors in bat baseline which will be fragmented as a result of felling resulting in need for re-examination of potential impacts and mitigation measures)
- Bats and their roosts are protected by Irish and EU law. There is no guarantee that bat species will survive the construction activities on site because of habitat destruction and changing destruction of habitats and changing local landscape
- Hedge removal has knock-on effects/impacts on bat behaviour and commuting routes

Birds

- Unacceptable risk to Kestrel
- Lack assessment Snipe, Buzzard, Sparrowhawk
- Deficiencies in methodology to identify target species and collision risk assessments, omitting certain bird species
- Only Kingfisher assessed in NIS, no other SCI species
- No full data set of SCI species recorded
- Missing relevant literature regarding migratory pathways of recorded species, target species, cumulative impact assessment
- Missing additional information
- Inadequate reference to red-listed lapwing
- No night surveys/Owl sightings
- No Hen Harrier though locally known to be present
- Lacunae in report, not compliant with CJEU C-258/11 case
- PIE poster and community information on bird identifications on site that are not included in final reporting and supporting information, questioning the reliability of the ornithological results (see further below)

Amphibians/Reptiles

- No surveys undertaken though NBDC evidence the presence of Common Frog and Smooth Newt in hectares S35/S45
- Thus the EIA is incomplete in this respect

BRISKALAGH LTD INFORMATION POSTER AND MISSING BIRD SPECIES FROM EIA REPORT

At 4.1.9 of the Grounds of Appeal document, the applicant states:

"A submission included the following statement:

"Kestrel and other raptor species, Cormorant, Curlew, Kingfisher are all observed onsite and as the applicant states, "Important migratory and recolonising species were also observed on site including Golden Plover, Greylag goose, Lapwings, Little Egret and even a Great Spotted Woodpecker was spotted once on site".

It is noted that the quote attributed to the applicant is false and does not appear in any of the documents submitted with the planning application. In addition, cormorant, curlew, lapwing and greylag goose were not recorded within the Proposed Wind Farm site during the two years of surveying."

KBT Responsible Energy wishes to draw the Boards attention to the Briskalagh Biodiversity Poster, an extract from which is below and the full copy is attached at Appendix 4.

The poster displays the logo of MKO in the top right-hand corner of the page and was:

- displayed at Public Information Exhibitions, and
- up to this date is still accessible on the Briskalagh website which as the applicant stated in Appendix 2-1 of the planning application was a "communication channel to keep members of the public informed about the Proposed Project. All information that was made available to the community has been uploaded to the website throughout the consultation period".

Bird Species

A wide variety of common and widespread bird species typical of farmland habitats have been recorded in the study area. Of particular note are raptor species such as Buzzard, Kestrel, Peregrine falcon, and Sparrowhawk. Species associated with aquatic habitats were also observed including Grey Heron, Moorhen, Cormorant, Curlew and Kingfisher. Important migratory and re-colonising species were also observed on site including Golden Plover, Greylag goose, Lapwings, Little Egret and even a Great Spotted Woodpecker was spotted once on site.

Buzzards are seen and heard soaring above fields. Kestrels are easily distinguished by their trademark hovering behaviour as they search the ground for prey. Grey Heron can be seen perched and slowly working through watercourses within the study area. Kingfisher are observed foraging along the banks of the Tullaroan stream in the southern end of the site.



According to this poster all those bird species were listed onsite. Even within their appeal, the applicant has made a glaring error in stating that these birds were not found on site and also in stating the quote is falsely attributed.

How are the relevant planning authorities and the community expected to trust the findings of a biodiversity EIA which contains so many errors, some of which are now explained by the applicant as "typographical errors" and a denial of statements which the applicant has repeatedly made to the community. This community can only conclude that the contents of the biodiversity chapter cannot be trusted to be factually accurate.

KBT Responsible Energy in our submission to KCC provides photographic evidence for the local presence of owls in Kilmannagh, which is dismissed by the applicant. Neither is the hen harrier, seen regularly over the years near the Kilmannagh/Tullaroan River by a local farmer, been given any attention.

The community living within close proximity understand that this site is of county importance to many of the bird species listed, and as such this habitat should therefore be protected from any further harm caused by human, industrial or mechanical presence.

The crucial ornithological habitat at Bristakalagh and the surrounding townlands should be protected, left undisturbed, and preserved to support the continued survival of these vulnerable bird species.

COMPLAINT:

KBT Responsible Energy understand that there are multiple legal compliance issues related to EU environmental law, including both the SEA Directive (2001/42/EC) and the Habitats Directive (92/43/EEC), particularly around bats, protected habitats, and the adequacy of environmental assessments.

The developer's claim of compliance with CJEU C-258/11 is contradicted by both the Planning Authority and CAAS independent expert review. The NIS contains gaps, defers critical surveys, and relies on unproven mitigation, thereby failing the legal test set out in that judgment.

CJEU C-258/11 does not allow any reliance on unverified mitigation or vague future surveys, it demands all effects be ruled out beyond scientific doubt at the time of assessment.

"there is significant lack of supporting information for certain ecological receptors (such as birds) in both the Stage 1 Screening and Stage 2 Appropriate Assessment. As a result, the subsequent assessments of potential effects, application of mitigation measures, assessment of residual and cumulative effects, are not supported in terms of a complete Appropriate Assessment process"

Therefore, it is deemed that this NIS is non-compliant with the Habitats Directive... "Kilkenny County Council Planning Report, Appendix 4 CAAS Review of NIS for proposed renewable energy development at Briskalagh - 2560003 Page 1.

"the survey results presented in the report are not a reliable representation of other activity and habitat use within the proposed development boundary and zone of influence and are thus not sufficient to support an assessment" Kilkenny County Council Planning Report, Appendix 4 CAAS Review of NIS for proposed renewable energy development at Briskalagh - 2560003 Page 4

Furthermore, only using online resources and not examining the list of species resulting from the onsite botanical surveys for FPO species "calls into doubt the accuracy and reliability of the botanical report which supports the habitats identified for the NIS and forms the baseline for the assessment of effects" Kilkenny County Council Planning Report, Appendix 4 CAAS Review of NIS for proposed renewable energy development at Briskalagh - 2560003 Page 5

The developer's appeal attempts to dismiss community and expert concerns over missing or incomplete ornithological data and the inadequate assessment of collision risk and migratory bird impacts.

This omission is critical, especially in a SPA catchment zone, and directly undermines the validity of the NIS and EIA/R under both EU and Irish environmental law.

The developer's reliance on selective data presentation and generalised assumptions about bird behaviour:

- Fails to meet legal requirements,
 - Was not accepted by KCC or CAAS expert advisors,
 - And introduces reasonable scientific doubt into the assessment process.
- In light of the above, the precautionary principle must apply, and we respectfully request that An Bord Pleanála should uphold the refusal on this basis.

"The efficacy of mitigation and monitoring proposals with regard to effects on population and human health cannot be adequately determined." CAAS Review of EIA for proposed renewable energy development at Briskalagh - 2560003 Page 19

Given the cumulative impact of multiple wind farms within 10 km of the proposed development, Ballybay, Foyle, Cnoc, and Farranrory, a comprehensive assessment is essential. This must consider long-term as well as immediate effects, ensuring a holistic evaluation of human health, environmental, community, and biodiversity impacts.

The close concentration of these projects demands an analysis beyond individual assessments, factoring in combined noise and infrasound levels, flicker, visual intrusion, and ecological disruption. Additionally, changes in land use, wildlife habitats, and socio-economic effects must be fully addressed.

Assessing the impact of 185-metre-high turbines is particularly challenging, especially given their proximity to two villages and a densely populated landscape. With approx. 215 homes within 2 km and a 60-metre height variation between turbines, the risks and uncertainties are significant.

"Kilkenny County Council considers that the proposed development has significant potential for adverse impacts due to cumulative impacts. The applicant's presentation of the assessment of cumulative effects generally fails to identify if there is real potential for cumulative effects to occur as a result of any specific other plans, projects or activities in the area, or the environmental factors under which such effects may arise. Throughout the review of each of the specialist EIA chapters the finding of inadequate assessment of cumulative effects recurs. This is considered a serious flaw in the EIA and is as a result of significant deficiencies in the quality and quantum of data provided, particularly in the areas of landscape and visual effects, material assets, noise, ecology and hydrology." Kilkenny County Council Planning Report, Page 50

"The cumulative effects of the proposed development will impose an unreasonable and disproportionate environmental loading on the character of a rural area with a locally concentrated population due principally to the combined effect of potential visibility and noise, as well as flicker and disruption of material assets, especially roads, during a prolonged period". Kilkenny County Council Planning Report, Page 63

Significant discrepancies have been noted in the planning application by KBT Responsible Energy, independent experts Grosvenor Consultancy, Huson & Associates, Dr Pamela Bartley, Mr Roger Goodwillie, along with the planning authority KCC and CAAS Consultancy in fourteen chapters of the EIA.

Until all discrepancies in the those chapters are fully resolved, the applicant cannot reasonably claim that cumulative impact has been properly assessed. Neither the cumulative impact of this development within the site itself nor its interaction with existing wind farms in the locality can be considered fully evaluated.

The developer's defence of their photomontages and visual impact assessment (LVIA) relies on technical compliance with guidance but does not respond to the core concern: that their selected viewpoints are unrepresentative and obscure the worst-case visual impact, particularly from the closest and most affected residential areas.

The EPA 2022 Guidelines require "Where uncertainty arises then an EIA needs to describe the 'worst case' scenario of the accumulation of effects that could arise from these other projects". Additionally an EIA should be objective and transparent.

"Kilkenny County Council has reviewed Chapter 13 of the EIA "Landscape and Visual" and identified deficiencies in relation to three main areas of concern relating to

- a. the use of misleading classification of impact significance,
- b. the failure to illustrate the appearance of typical or worst-case visibility in the immediate vicinity of the largest concentration of affected residents, and
- c. the failure to adequately assess the cumulative effect on the character of the landscape.

The assessments of the majority of the effects of visibility and significance are underreported for those viewing points that are closest to the proposed development. The assessment fails to highlight the significance of the fact that these closest views are locations from which there is currently little or no visibility or cumulative effects of other windfarm developments." Kilkenny County Council Planning Report Page 64

The Briskalagh planning application submitted to KCC contained photomontages intended to illustrate the potential visual impact of the development. However, in multiple instances, key details are obscured by trees, buildings, or other features, raising concerns about the accuracy and transparency of the visual assessment;

- 6 of the 7 photomontages within 2km were taken in August, before hedge-cutting season, when dense vegetation reduced visibility,
- Foreground objects, overcast lighting, or strategic siting obscured key visual details in several official viewpoints (e.g. VP8 and VP13)

For a comprehensive analysis of these issues, please refer to KBT Submission 2 – Group Submission, Chapter 7 (Landscape/Visual/Photomontages).

The community offered the applicant access to private lands and residences for the purpose of capturing a selection of representative photomontage viewpoints. These offers were declined by the applicant, raising serious concerns about transparency in the assessment process. (Please note that the community **did not** request the applicant to provide photomontages from each residential home in the area as stated by the applicant in the GOA). This lack of meaningful engagement has further eroded confidence in the completeness and reliability of the applicant's visual impact assessment. Consequently, the community was left with no option but to independently commission alternative viewpoint images at considerable expense. These images, included in KBT Submission 2 (Appendix 7), provide clearer, more accurate, and unobstructed representations of the potential visual impact of the proposed development.

Although the applicant's appeal repeatedly seeks to dismiss these images, we respectfully emphasise to the Board that they were produced in direct response to the deficiencies identified in the applicant's own photomontages and viewpoint selection. Our intention was to offer visual representations from more appropriate and relevant perspectives.

We fully acknowledge that our community-produced images may have some shortcomings, due to financial and time constraints, but they were prepared by a professional who has extensive experience in this area. It was never our intention, nor do we believe it should be an expectation of a community, to provide photomontages to the standard which would be expected from a firm such as MKO.

We are a small rural community with limited resources, and we have made every effort to contribute meaningfully within those constraints. At the first PIE in August 2023, our concerns regarding the selection of viewpoints were expressed to MKO representatives, who were requested to provide photomontages from more appropriate locations, this was not facilitated in the intervening 15 months.

Had the applicant chosen to engage constructively with the community on this matter, the need for this independent work could have been avoided. Instead, the applicant's dismissive and uncooperative approach reflects a continued disregard for genuine community concerns and represents a missed opportunity for constructive dialogue and collaboration.

Dismissing community-sourced photomontages without engaging with their substance, while simultaneously refusing to create photomontages from offered locations, shows procedural unfairness and a failure of transparency and further disingenuous behaviour.

Kilkenny County Council have stated that "The overall assessment is deficient on account of a lack of rigour and objectivity in the matter of assessing the significance of landscape and visual impacts." **Kilkenny County Council Planning Report Page 66**

And then go on to state:

"Therefore, notwithstanding the National imperatives on renewable energy it is considered that the proposed development on its own and in combination with other windfarms already constructed and permitted in the area will have a disproportionate undue and unreasonable impact on the visual landscape amenity of the area and in particular will severely impact negatively the residential amenity of the community in close proximity." **Kilkenny County Council Planning Report Page 76.**

In relation to point 4.1.4 of their appeal, the applicant states: 'In the case of Tom Ryall Park, the attention of players and spectators is primarily directed towards the activity on the field, rather than the surrounding landscape'. This statement is too simplistic a rationale and/or is deliberately obtuse. It completely deflects from the issue and does not at all address the major and inevitable visual impact that seven 185m turbines moving behind two sets of south facing goalposts during matches or training sessions will cause.

The fact of the matter is that players, officials and spectators will struggle to discern the two sets of south facing goalposts due to moving turbines behind them. Players will have a harder time scoring due to the visual distraction caused by the turbines.

In light of the above, it is entirely foreseeable that Tom Ryall Park is at risk of falling out of favour with opposing teams, particularly as a preferred neutral venue due to visual clash/visual distraction issues should the Briskalagh wind farm be permitted. This loss of attraction will in turn lead to a reduction in the number of competitive fixtures and subsequent reduction in gate receipts/income for both clubs.

Tom Ryall Park also contains a community walkway surrounding pitch 2 which is closest to the proposed development. This walkway is used extensively by many members of our community both young and old during daytime and nighttime hours. It is impossible for users of that facility to avoid the visual impact of the proposed development when walking northwards.

Tom Ryall Park is also used by the local primary school which has approximately 200 pupils, some of whom have special needs. The applicant does not address this issue nor do they address the overall impact on the school, which is located adjacent to Tom Ryall Park.

As state on page 64 of the Killkenny County Council Planning Report:

'Killkenny County Council.....identified deficiencies in relation to three main areas of concern relating to:

(a) the use of misleading classification of impact significance,

(b) the failure to illustrate the appearance of typical or worst-case visibility in the immediate

vicinity of the largest concentration of affected residents, and

(c) the failure to adequately assess the cumulative effect on the character of the landscape.

In relation to deficiency (b) above, MKO could and should have tried to provide photomontages captured from Tom Ryall Park, this being an obvious focal point for the local community, however they chose not to because this would have indeed represented worst-case visibility in the immediate vicinity to the largest concentration of affected residents.

In relation to deficiency (c) above, with regard to Tom Ryall Park, Graigue Ballycallyan GAA and St. Brigid's Camogie Club, the applicant has indeed failed to adequately assess the cumulative effect on the character of the landscape in respect of visual distraction, visual clash, consequential loss of attraction, consequential loss of gate revenue/income.

Section 5.13 of the 2006 Wind Energy Development Guidelines states:

"In general, to ensure optimal performance and to account for turbulence and wake effects, the minimum distances between wind turbines will generally be three times the rotor distances (=3d) in the crosswind direction and seven times the rotor diameter (=7d) in the prevailing downward direction."

This is a design standard for new wind farms, not just extensions. It is not limited to scenarios where turbines are being sited near existing ones.

It applies to all layouts where efficient wind capture, wake turbulence control, and safety are relevant.

The applicant in their appeal claims that the 3x and 7x rotor diameter spacing recommendations apply only where new turbines are placed near existing turbines, not within a new standalone layout.

The Environment Section of Kilkenny County Council raised the following concerns:

"Wind turbines are determined to have infringed on the minimum recommended separation distances to some dwellings but it is perceived that the locations have been chosen with respect to other constraints including bedrock and optimum wind harvesting."

Concerns in relation to 'Windtake' that the layout of wind turbines are below the recommended separation distances according to the WEDGs 2006 and this clustering of turbines may exacerbate noise levels at SNR (sensitive noise receptors) via a cumulative effect." Kilkenny County Council Planning Report, Page 32

Huson & Associates "Review of Proposed Briskalagh Wind Farm Planning Application", as per KBT "Submission 1" also states *"The distance between the wind turbine towers is significantly less than recommended to reduce wake turbulence effects which can lead to higher noise emissions and lower efficiency."*

Furthermore, we are deeply concerned by the applicant's intention to select turbines through a competitive tender process and dictated by the manufacturer. This approach is problematic, as key factors such as noise mitigation, ice accumulation controls, and flicker shutdown mechanisms depend heavily on the quality and specifications of the turbines. Additionally, turbine separation distances are directly linked to final turbine specifications, a critical factor that cannot be overlooked. The close spacing of the seven proposed turbines is likely to cause turbulence within the wind farm, reducing power output, increasing acoustic emissions, and accelerating wear and tear, ultimately exacerbating noise issues over time.

Critically, the applicant does not address the following in their appeal:

- Mr Con Sheehan's concern that insufficient turbine spacing might invalidate manufacturer warranties or compromise performance due to wake effects (Sheehan Land Surveys submission to Kilkenny County Council).
- Why they did not commit to a turbine model, despite spacing and noise/shadow flicker modelling being entirely based on that unknown model
- KBT Responsible Energy's argument that visibility and dominance, not just distance, define unacceptable impact, especially for 185m turbines within 750m-1km.

We also note that KCC requested at point b in the pre-planning letter to MKO dated 23rd February 2024 "The proposed model of Wind Turbine shall be considered in the Environmental Impact Assessment Report (EIA)".

While the developer claims compliance with setback standards (500m and 4x tip height), this compliance is based on hypothetical turbine models, not confirmed ones.

Ms Sheehan also argues that the actual layout violates technical spacing standards that protect turbine function and safety, an issue the developer fails to address by not supplying the requested manufacturers recommended minimum separation distances for the N163STE example turbine to Kilkeny County Council or to An Bord Pleanála. We understand this is not the final turbine, however these separation distances will give an indication that the spacing in this wind farm proposal is more than likely far too close.

We would like to draw the Board's attention to the following two legal cases which are relevant to the appeal by Briskalagh Ltd:

Gibbet Hill: (Byrne V ABO Wind Ireland Ltd)

The Gibbet Hill wind farm was reported as over 1km from the plaintiff's dwelling. (The turbine separation distance from the plaintiff's house was therefore a minimum of 8 times tip height and a minimum of 11 times rotor diameter.) The plaintiff's house was upwind. We note the wind farm company admitted liability to noise nuisance and shadow flicker. We have checked the turbine separation distances for Gibbet Hill on Google maps and the 2006 WEDG recommendations. The proposed Briskalagh turbines are also below the 2006 WEDG recommendations. The Gibbet Hill turbines were located near forestry (as with Briskalagh). We believe that the inadequate separation, coupled with the adjacent forestry caused a huge wind shear factor at Gibbet Hill which caused both turbulence and noise.

There are striking resemblances between Gibbet Hill and Briskalagh in that

- There are at least 25 homes located within 1km and upwind, rising to 64 homes located circa 2km and upwind of the proposed Briskalagh turbines,
- Separation distances between turbines at both sites are below the 2006 WEDG recommendations,
- There is forestry in the Briskalagh proposed wind farm which will contribute to wind shear.

The inadequate separation coupled with the adjacent forestry we believe, caused a huge wind shear factor which caused both turbulence, wear and tear, and noise at Gibbet Hill and the same factors undoubtedly pose noise and turbulence, wear & tear risks at Briskalagh. To sum up in practical terms the issue with inadequate turbine separation: if one single 90 metre rotor diameter turbine at Gibbet Hill affected a family home over a kilometre away, then seven proposed 163 metre rotor diameter turbines at Briskalagh are liable to affect several family homes up to and beyond 1.8 kilometre away.

Webster & Another vs Meenacloghspar (Wind) Ltd: Sorten & Another vs Meenacloghspar (Wind) Ltd. (Ballyduff Windfarm):

With regard to Ballyduff Windfarm, Justice Egan's ruling stated that inflow from one turbine to another may have been a factor in the noise nuisance element. The same inflow risk presents with Briskalagh due to insufficient spacing between turbines, contrary to the 2006 WEDG recommendations. We respectfully ask that An Bord Pleanála be mindful of Justice Egan's ruling and prevent another Ballyduff scenario occurring at Briskalagh by upholding the refusal decision made by Kilkeny County Council.

On behalf of those living within proximity to the proposed development, we respectfully ask the Board to consider that residential amenity impact is not resolved by distance alone, especially with 185m turbines in low-lying sites surrounded by elevated homes. We also conclude that Kilkenny County Council was correct to conclude that the proximity and position of these turbines gives rise to "excessive", and impacts which are "incapable of being mitigated", regardless of the nominal distance figure quoted.

In Section 4.1.10 of the GOA:

The applicant acknowledges public concern about property value decline but assert the issue was addressed in Section 5.7 of the EIA.

The applicant cites a 2023 Irish working paper (CERIS study), which "suggests a potential 14.7% decrease in property values within 1km of a turbine", however the applicant dismisses this as it is "based on a small sample of 225 houses" and "further research is needed before drawing firm conclusions."

The applicant is however happy to rely on older, foreign studies including the 2009 and 2013 US studies from Lawrence Berkeley National Laboratory and UK studies commissioned by RenewableUK 2014, Climate Exchange 2016.

To dismiss peer-reviewed Irish research (CERIS) as too small, while citing 10+ year-old foreign studies based on smaller turbines and different planning systems does not refute this issue.

Additionally, there has been no acknowledgement of the local context, particularly that this proposed wind farm would be:

- one of the largest wind farms in Ireland by turbine height (185m),
- located just over 1km to a village centre (which is unprecedented),
- and the number of family homes located within 2 km and which are predicted to experience significant cumulative impacts.

The Planning and Development Act 2000 (as amended) and Irish planning case law recognise residential amenity as a concern.

If a development undermines the enjoyment, health, or character of a home, introduces dominant, intrusive, or excessive structures or causes constant operational impacts (like noise or flicker) it goes without saying that it may diminish the use and value of that property.

Additionally, the proposed Briskalagh wind farm also poses serious amenity impacts:

- 41 homes are expected to receive excessive shadow flicker,
- 276 noise-sensitive receptors were identified by Grosvenor Consultancy,
- The turbines exceed 180m in height and are less than 1 km from multiple houses,
- Photomontages show several clusters where homes will experience direct line-of-sight to turbines, with no intervening vegetation.

These effects cumulatively degrade local amenity to a point where diminished property value is a reasonable outcome.

Even if property devaluation in itself is not determinative, the underlying causes of devaluation, amenity loss, health risk perception, noise, flicker and landscape change are all material planning concerns.

In Section 4.1.17 of their appeal, Briskalagh Ltd. seeks to dismiss public and community concerns regarding their company structure. Transparency, legal responsibility, and capacity to deliver mitigation are all material considerations under Irish and EU planning law.

Questions were raised by the community regarding the ownership structure of the applicant Briskalagh Ltd. The applicant has not addressed these questions in their Ground of Appeal (GOA). The GOA states that Briskalagh Ltd is an associated company of Enerco Energy Ltd., an Irish Owned company based in Cork. The ownership of Briskalagh is not addressed.

Company Accounts:

The latest published accounts filed with the Companies Registration Office for both companies state the following:

Enerco Energy Ltd: Filed Accounts for the year ended 31st December 2023

Note 15 - Controlling party

The Company is a wholly owned subsidiary of Clona Unlimited whose registered address is The Red House, One The Parade, Castletown, IM9 1LG, Isle of Man. The Company's ultimate parent is Craydel Holdings Isle of Man Unlimited whose registered address is Fort Anne, Douglas, IM1 5PD, Isle of Man.

Briskalagh Ltd: Filed Accounts for the 9 month period ending 30th September 2023

Note 9 - Controlling party

The Company is a wholly owned subsidiary of Clona Unlimited, whose registered address is the Red House One The Parade, Castletown, IM9 1LG, Isle of Man. The Company's ultimate parent is Craydel Holdings Isle of Man Unlimited whose registered address is Fort Anne, Douglas, IM1 5PD, Isle of Man.

It is evident from the publicly available information that both companies are not Irish owned.

The applicant also states that "*It is common practice for a Special Purpose Vehicles (SPV) to be set up for each Renewable Energy Development*". This community can only conclude that an SPV is being used to protect the interests and assets of the owners where they are engaged in very high risk environmental construction activity such as wind farm development. The proposed company Briskalagh Ltd does not protect the interests of the community and is wholly irresponsible. How can a company with no trading history and zero net assets be considered a suitable applicant for a large scale industrial wind farm?

From a review of the public filings available from the Companies Registration Office for the applicant Briskalagh Ltd, we believe that a number of the landowner consents are invalid.

It is also interesting to note in section 4.1.17 of the GOA that the applicant is reminding the An Bord Pleanála that each planning application must be assessed independently. In other sections of the GOA, the applicant is happy to state that An Bord Pleanála should reference other related projects undertaken by associated companies of the Applicant to substantiate their claims.

The lack of transparency means that the public cannot be assured of the delivery or enforceability of critical environmental protections.

Where a developer is represented by agents, subsidiaries, or related entities, lack of clarity over legal and operational responsibility for these commitments creates concern in the EIA process. This is especially critical in projects with long-term environmental impacts, such as wind farms.

If the entity lacks substance, or if there is ambiguity about who holds legal and financial responsibility for implementing conditions or responding to enforcement we must ask if the planning authority can ensure compliance

In the Executive Summary of the GOA the applicant calls on An Bord Pleanála "to consider the applicant's interest". The irony of this statement is not lost on this community coming from the applicant Briskalagh Ltd which is wholly owned by an unlimited company registered in the Isle of Man. The most common reason that companies register in the Isle of Man is for its favourable corporation tax environment.

Meenbog:

The issue of Meenbog was raised by this community as it is owned by Planree Ltd, which is another associated company of Enerco Energy Ltd, similar to Briskalagh Ltd. All 3 companies have a common director.

This company was the subject of a High Court Order in April 2024 in which the company was prohibited from carrying out any further development of the Meenbog wind farm. This Court Order was secured by Donegal County Council for what was described as "multiple" deviations from the Planning Permission. The Court of Appeal, in December 2024, upheld the decision of the High Court and dismissed the appeal on all grounds.

MKO state in the GOA that "the developer of Meenbog Wind Farm Planree Ltd continues to work with the relevant authorities to resolve the issues at the development". This does not appear to be the case as the developer has not accepted the decision of the High Court and instead appealed to the Court of Appeal. How does this constitute "working with the authorities"?

It is very difficult for this community to reconcile all of the claims being made by the applicant in their planning application and GOA when an associated company has been found guilty by the High Court and the Court of Appeal of "multiple deviations from a Planning Permission" on another renewable wind energy development.

CHAPTER 10: SHORTFALLS IN THE PLANNING APPLICATION & APPLICATION DEFICIENCIES

Several issues were raised by KBT Responsible Energy in relation to maps, scale bars, and detail on maps.

- Mapping was fragmented, and lacking critical contextual data. Of the 92 plans from MKO, only one (230502-01) includes a scaling bar.
- The absence of scaling bars made it nearly impossible to grasp the overall layout, including turbine placement. Some maps lack background details, such as rivers, villages, and houses, making orientation difficult (e.g. Site Location Map 230502-2 P01). A particular concern is drawing D105 from Hydro Environmental Services, which depicts a new entrance in Kilmanagh village but omits the nearby housing estate. This is misleading, as other available maps (e.g. 230502-04, Sheet 1 of 25) include these houses
- Previously refused applications were excluded from cumulative impact analysis.

The applicant does not directly refute or correct any of the concerns about:

- Map clarity and legibility,
- Missing receptors in scoping exercise,
- Omission of refused precedent.

The applicant relies on technical compliance to justify a submission that was not meaningfully accessible to many affected residents, violating the Aarhus Convention principle of effective public participation.

These procedural flaws hindered transparency, frustrated meaningful public review, and undermined legal compliance with both Irish and EU planning law.

It is our opinion that the planning application failed the test of accessibility, completeness, and procedural fairness required for major infrastructure development.

Two national schools and two Montessori schools were not included in the scoping process. This is particularly serious given proximity to grid/ haul routes and construction zones. No explanation or update on this was provided in the applicant's appeal.

Kilmanagh village:

In Section 14.48 of the EIA, the applicant refers to two minor NIAH entries (a pub/welling house and a water pump) but omits any assessment of the church in Kilmanagh, which sits just 60m uphill from them.

The creamery building (RPS D38) is not assessed in any meaningful way in the appeal or EIA, even though it's a protected structure in direct proximity to the grid infrastructure route and visual zone.

The applicants appeal:

- does not take account or real-life visibility, such as seasonal vegetation thinning, open sightlines on roads, or the elevated siting of the church and
- does not take account of the community photographic evidence showing Foyle Wind Farm turbines (which are smaller and further away) which impact the visual character of the church already.

Kilkenny County Council (KCC) in their planning report stated as follows:

"Failure to adequately assess or demonstrate that the proposed development would not have significant adverse impacts on existing structures on (a) the Record of Monuments and Place with regard to impacts on their setting or sub-surface archaeology, and (b) the setting of a number of buildings with listed in the Kilkenney Record of Protected Structures."

KCC highlighted "concerns on the potential impacts on the setting of St. Aidan's Church of Ireland and graveyard and on the setting of protected structure D38 Kilmanagh Creamery". "The proposed development would therefore give rise to adverse impact on the built and archaeological heritage of the county, and would be contrary to the policies as set out in the Kilkenny City and County Development Plan in chapter 9 which seeks to protect and sustainable management of the heritage of Kilkenny for the benefit of current and future generations." P. 25 60003 Kilkenny County Council Planning Report Pages 74 & 75

The applicant has repeatedly failed to consider and state the true visual impact effect on St. Aidan's Church of Ireland church and graveyard and the Creamery building both in their application and the subsequent appeal. In our opinion the impact will be severe as indicated also by KCC and CAAS in their reports.

St. Aidan's Church is one of the most prominent and symbolic landmarks in Kilmagh. To position turbines just over 1 km behind it, with heights of 185m, is visually ruinous, especially when past refusals in the area were based on a 25m mast being "too dominant" for the setting. The failure to meaningfully assess impacts on the creamery building, or to evaluate mitigation, further undermines the EIA's reliability and legal sufficiency."

Grid Route & Haul Route:

Kilkenny County Council Planning Report, Appendix 1: The planning report predicts negative effects on subsurface features in Freshford and a graveyard at Freshford Lots, which require mitigation. The mitigation would include monitoring and test-excavation, or creation of buffer zones. However, NMS, Dept. of Housing, Local Government and Heritage submission of 06-02-2025 requires an Archaeological Impact Assessment (including Archaeological Geophysical Survey and Archaeological Test Excavation), with a report of this assessment to be submitted to the Dpt. and the Planning Authority prior to any planning decision. (*Italics by KBT*)

KBT supports this conclusion whole heartedly, and especially would like to highlight the Geophysical Survey to be applied to the whole Wind Farm area, in addition to the old church and graveyard in Tullaroan.

NMA expresses further concern for impacts on the local vernacular structures that the infrastructure associated with the Grid Route will cause, especially with regard to historic bridges.

Kilkenny County Council Planning Report, Appendix 1: there are 13 protected structures and 29 National Inventory of Architectural Heritage (NIAH) structures within 100m of the grid connection route, including six bridges that need to be crossed. The effects on the settings of these sites (Chapter 14.4.4) and the assessment of cumulative effects (Ch. 14.5) rely on the classification of landscape effects that is provided in chapter 13. Kilkenny County Council has concluded that these classifications are unreliable and therefore no reasoned conclusion can be reached.

Briskalagh Wind Farm area:

The proposed wind farm area constitutes an area where people formerly are known to have lived with remnants/ruins of houses and kiln still present. The proposed wind farm site is located on both sides of a river. The local area includes several ringforts and enclosures; they indicate human presence since at least Early Christian times. It is very well possible that earlier remains are to be found, in addition to the three recorded monuments within the wind farm site. Especially since rivers always were attractive to people for a variety of reasons. The proposed wind farm area to be developed is large and will require much groundworks and alteration of the landscape. As such, simple test excavations are definitely not enough. The proposed mitigation is to monitor during development and when something is found, to take action.

Hence, KBT Responsible Energy points anew to the letter cited above from NMS, Dept. of Housing, Local Government and Heritage submission of 06-02-2025 that requires an Archaeological Impact Assessment (including Archaeological Geophysical Survey and Archaeological Test Excavation), with a report of this assessment to be submitted to the Dpt. and the Planning Authority PRIOR to any planning decision. (*Italics and capitals by KBT*).

KBT would even suggest LIDAR surveys over the whole valley area.

KBT also notes a fish weir, that existed formerly and as such mentioned on OS maps from the past. This weir is not mentioned in the Heritage section, however some stones from the weir are still visible. The weir is located in the area where a river crossing is proposed, to facilitate Turbine 7 in addition to a construction compound and a spoil management area. Surely, if works are planned in that location, these should definitely be preceded with detailed non-intrusive geophysical surveys, and test excavation.

Kilkenny County Council Planning Report, Appendix 1 - Third-party public submissions Summary, page 30-31, cite the following:

"The cumulative effect of the project will have significant impact on the natural and built heritage of this region and **potentially negatively impact on the recreational and heritage value** of the regional displacing future jobs in the heritage and tourism sector. The scale of the development displaces other potential developments for economic development through eco tourism. Kilkenny's tourism relies on scenic beauty. The applicant's reference to a Scottish tourism study which is of no relevance to the proposed project and Fálte Ireland survey which are out of dated and not relevant for such a large-scale industrial wind farm."

The Grounds of Appeal document (GOA) fails to address the objection from Kilkenny County Council where the Council in its Notification of Decision to Refuse Planning Permission, cites "disturbance of access" as a specific concern under Refusal Reason 1. Furthermore, the Kilkenny County Council Planning Report highlights concerns regarding the suitability of potential diversions and construction haul/delivery routes to cater for construction traffic and diverted local traffic, specifically mentioning the R694 regional road. This directly counters the idea that access disruption will be easily managed.

In the Grounds of Appeal document, Briskalagh Ltd states that Scoil Ruadháin NS, Tullaroan "is not located along any of the proposed construction material haul routes or the proposed turbine delivery route." The school in question is 200m from the crossroads in Tullaroan, the proposed haul route for construction material traffic both to and from the site navigate via that crossroads. It will not be safe for anyone, let alone children to walk, run or cycle on those roads.

Briskalagh Ltd, in their Grounds of Appeal, have been disingenuous with their calculations on the volumes of traffic that will be traveling through Tullaroan and Kilkenny village. Traffic that will be passing multiple housing estates, the local national school, shops and churches either as Construction Materials Transport or to gain access to Construction compounds 1-3. They have sidestepped the concerns raised by residents with regards to the safety of children and the general public in Kilkenny and Tullaroan villages and on the surrounding roads.

The assertion by the applicant that the potential for access disturbance is minimal and easily mitigated is directly contradicted by the concerns raised by Kilkenny County Council, the national roads authority (TII), the local community group KBT Responsible Energy, and hundreds of local residents that signed submissions. The evidence clearly indicates that the proposed haul route poses a significant threat to residential amenity through unacceptable levels of access disruption. The potential negative impacts on the community's daily lives due to the proposed haul route are simply too significant to ignore.

The proposed project includes removal of vegetation including trees in the proposed wind farm area, and undoubtedly also along the transport and proposed grid routes. Those trees are important storages for moisture and rain, with roots holding soils/humus together. Trees capture rainwater, thus mitigating natural disasters such as flooding events and (land)slides. If these trees are felled, roads and verges will be more exposed to (soil) erosion, flooding and aquaplaning.

Especially during the construction period, which could last up to two years, this will be an added big risk to the already challenging conditions caused by increased (heavy) traffic and undoubtedly dirty roads.

Kilkenny County Council Planning Report, Appendix 6 to their report includes a response from Kilkenny County Council dated 23-02-2024 to the EIA Scoping Report for Briskalagh and Grid Route energy development plan. They request a number of matters to be addressed in the EIA/R to be submitted, including issues relating to the cable connection route.

Page 8:

"I note that the applicant has indicated following the strategic regional road R694 from Freshford its juncture with the N77 near Ballyragget. This particular regional road is narrow in cross section and to facilitate the construction of such a grid connection route would require its closure for an extended period noting the extent is over 8km. This is unlikely to be acceptable and the developer is advised to consider alternative route avoiding regional roads. It is further noted that the applicant proposes to install the cable connection longitudinally along the N77 through Ballyragget village. This is unlikely to be acceptable to Kilkenny County Council or TII. An alternative route of connection to the substation shall be required."

This advice was not followed by the applicant.

Page 9:

"Directional drilling under structures is noted as being considered on occasions. The required dimensions under structures can only safely be confirmed by way of a bridge specific design report on how the directional drilling will affect the individual bridge, due to the unique ground conditions under it. This shall be carried out by a Chartered Engineer with Bridge and geotechnical experience. This information shall form part of the original planning information submitted and if absent will be requested as further information."

N P. 25 60003 Kilkenny County Council Planning Report: "The cable ducting route will traverse several bridges and substantial water courses. The applicant has proposed several systems to address this but failed to detail specific units to specific crossings, and details for how the relevant water courses will be protected during the works. Inadequate information provided in relation to directional drilling. Inadequate information has been presented in relation to surface water and potential flooding impacts."

P. 25 60003 Kilkenny County Council Planning Report: "Furthermore, the applicant has failed to demonstrate that the proposed grid connection route will not adversely impact Uisce Éireann infrastructure including the local road L5023 in Tullaroan, along the R694 road at Freshford and at Ballyragget on the N77."

P. 25 60003 Kilkenny County Council Planning Report: "Kilmanagh Creamery, and the zones of archaeological potential along the grid connection route with particular regard to impacts within the settlement of Freshford, in particular relating to St. Lachtain's Church and graveyard national monuments. Furthermore, the applicant has failed to demonstrate that the proposed development will not lead to structural, visual or conservation impacts due to the proposed works associated with the proposed grid connection at a number of historic bridges which are listed on the Kilkenny Record of Protected Structures, on the National Inventory of Architectural Heritage, or form part of the vernacular heritage of the county."

No bridge specific design report was found in the application documents.

The proposed project will most likely result in the removal of vegetation including trees along the haul route. But trees are important storages for moisture and rain, with roots holding soils/humus together. Trees capture rainwater, thus mitigating natural disasters such as flooding events and (land)slides. If these trees are felled, roads and verges will be more exposed to (soil) erosion, flooding and aquaplaning.

The applicant states in the GOP that there would be no trees felled near the Haul and Grid Route. However, some people in Tullaroan received communications indicating that trees near to their houses would be felled to facilitate transport.

Especially during the construction period, which could last up to two years, absence of trees/roadside vegetation will be an added big risk to the already challenging conditions caused by increased (heavy) traffic and undoubtedly dirty roads.

CHAPTER 14: ARCHAEOLOGY

KBT points to chapter 10 Heritage above, highlighting the potential for archaeological sites in the proposed Wind Farm site, and the requirements from NMS and CAAS for non-intrusive geophysical survey combined with archaeological test excavations leading to an Archaeological Impact Assessment to be presented to National Monuments Service in the Department of Housing, Local Government and Heritage *prior* to any planning decision. KBT would even suggest LIDAR survey, as this is a landscape which would largely disappear during the development/construction phase with much soil removal. As mentioned in chapter 10, archaeological remains indicate the presence of people at least since Early Christian times, and the Kilmanagh / Tullaroan River could have been very attractive during previous times, too (Bronze Age, Neolithic etc.).

CHAPTER 15: COMMUNITY ENGAGEMENT

In Section 4.1.11, the developer attempts to respond to community criticism regarding the lack of engagement.

The Grounds of Appeal document (GOA) fails to demonstrate any meaningful, proactive engagement with the community. While the developer cites compliance with statutory processes and minor layout changes, this falls far short of the transparent, inclusive dialogue expected of modern renewable energy projects.

Over 199 personal submissions and 547 signatures attached to the KBT Submission 3-Community Submission should not be dismissed or ignored. These were grounded in lived experience, supported by environmental expertise, and motivated by the lack of consultation, not by ideology. These submissions and signatures demonstrably contradict the applicants' statements within the GOA of "active engagement" with the community and "understanding of the key issues".

The developer's (GOA) presents an image of responsible and inclusive community engagement. However, the reality, as captured in the KBT Responsible Energy Submission 3 and experienced firsthand by the residents of Kilmarnagh, Ballycallyan, Tullaroan, and surrounding areas, is one of superficial outreach, selective reporting, and glaring omissions.

Throughout the process, the community was treated as passive recipients of a project they were expected to accept. Key information was withheld or delayed and social & environmental concerns were largely ignored.

Despite claiming strong community engagement, the developer's appeal fails to acknowledge or include:

- The numerous letters submitted by concerned residents and local groups highlighting concern regarding vague and conflicting information; unanswered questions on key environmental concerns; dismissive attitudes towards local knowledge and lived experience; clarity on the design process of the community benefit fund and calls for key information;
- The email correspondence sent by individuals outlining their objections and sharing personal impacts;
- And the huge opposition reflected in 199 individual submissions and 547 signatures included in the KBT Responsible Energy Submission 3.
- Additionally, the developer made no reference to the July 2023 community letter signed by over 800 local residents, despite its clear significance and relevance.

Minimisation of Kilmarnagh Village:

Additionally, the systematic omission and minimisation of Kilmarnagh village, the settlement most directly affected by the proposed Briskalagh Wind Farm must be noted as the applicant has failed entirely to address this in the GOA.

From the outset, the developer has understated Kilmarnagh significance, and proximity. In early promotional materials, including newsletters, and consultation documents, the development was described as being "3.5km south of Tullaroan," while no mention whatsoever was made of Kilmarnagh, despite it lying under 1 kilometre from the closest turbine in the original layout.

This trend continued throughout the Environmental Impact Assessment Report (EIA/R) and persists in the Grounds of Appeal, forming part of a broader pattern of procedural unfairness that has excluded Kilmarnagh from fair consideration and meaningful participation.

Kilmanagh is occasionally mentioned in the developer's reports, but it is consistently grouped with Tullaroan and Ballycallan into a vague category of "local receptors." This downplays its unique vulnerability, especially given:

- its proximity to turbines and haul routes,
- its residential density, including housing estates and rural dwellings,
- its public amenities such as a national school and heritage structures.

No photomontages or assessments were provided to evaluate the impact of turbines on the church, its spire, or its role in Kilmanagh's skyline. This omission represents a significant flaw in the cultural heritage assessment and demonstrates a lack of regard for Kilmanagh's historical identity.

In addition, we note the applicant refers to a temporary access road which will be constructed off the L-1009 in the south of the site. This is the access point located near Kilmanagh.

We wish to highlight that the L-1009 is in fact running through the centre of the village of Kilmanagh, 120m from the entrance to St Aidan's National School as referenced in the third-party submissions. Despite widespread community submissions raising deep concerns about pedestrian safety, air quality, and amenity, this impact is framed as "manageable"

For a rural village, the traffic burden represents an enormous and disproportionate burden.

These omissions and distortions are not isolated. They reflect a consistent pattern across the project lifecycle:

- Kilmanagh was excluded from early engagement materials, despite being the nearest village.
- its community assets, homes, and heritage were downplayed, misrepresented, or ignored in key assessments.
- No photomontages were ever produced to show the true visual impact on the heart of the village.
- And at every stage, Kilmanagh was treated not as a stakeholder, but as a peripheral concern.

This treatment has effectively denied Kilmanagh village and its residents the opportunity to participate meaningfully in a process that will directly shape its future.

All of the above conduct contravenes the core principles of the Aarhus Convention, to which Ireland is a signatory. The developer's approach failed to provide:

- Timely access to complete and understandable information,
- Early and ongoing opportunities for public participation, and
- Mechanisms through which public input could shape the outcome.

The experience of the residents of Kilmanagh, Ballycallan, Tullaroan and the surrounding areas was a top-down, drip-feed of information, one-way dialogue and deferral of the provision of critical information until the planning application stage.

This is not a case of "community resistance to renewables." This is a case of resistance to concerns being ignored and silenced. This is a community that values responsible development (as proven by the wind farms already in operation and planning agreed) and transparency, and one that has been systematically denied a seat at the table.

In Mr. Con Sheehan's initial observation to KCC, he states 'Also note the location of the Met Mast which I believe to be in a very poor location for the purpose it is intended. Turbulence from the adjacent turbines will make it ineffective. The recommended spacing from a met mast to a turbine is 2.5 rotor diameters'.

The applicant has not made any statement or mitigation in their appeal regarding Mr. Sheehan's submission that the improper siting of the mast renders it ineffective. Surely, the proper positioning of such a critical piece of infrastructure that is integral to a wind farm is vital and cannot be erected in an ineffective position that will render it ineffective or cause it to gather incorrect/insufficient meteorological data including wind speeds. An improperly positioned meteorological (met) mast in a wind farm can have a significant negative impact on the entire project. The met mast is critical because it collects wind data (speed, direction, turbulence, etc.), is used for energy yield assessment, turbine siting, and financial modelling. If the mast is not sited correctly, there are several potential consequences including:

1. Inaccurate Wind Resource Assessment: The primary function of the met mast is to measure the wind resource. If it's not placed in a representative location, the data won't reflect the actual conditions across the site and could lead to over- or underestimation of annual energy production (AEP).
 2. Suboptimal energy capture, Increased wake losses, Uneven wear due to turbulent inflow.
 3. Turbulence and Shear Mischaracterisation.
- If not placed correctly, the mast might not capture realistic turbulence intensity or wind shear which can cause:
- Incorrect turbine class selection,
 - Structural issues or reduced turbine life.

4. Obstructions and Flow Distortion - If placed near trees, buildings, or hills, it might experience: Flow distortion, measurement bias due to non-homogeneous terrain or obstacles.
5. Regulatory and Compliance Issues: Some authorities require bankable wind data. If the met mast doesn't comply with IEC standards or industry best practices, the data might be rejected.

Furthermore, the GOA document is silent on the unauthorised temporary met mast structure that was erected by the appellant or their agent far longer than was permissible. The met mast was erected on 8/9/2022 and remained in situ until 29/11/2024, far longer than the 15 months permitted under Class 20A of Planning & Development Regulations Schedule 2 Part 1- Exempted Development.

We respectfully ask the Board that all wind speed measurements and meteorological data that were captured from this illegal met mast structure should be deemed invalid/inadmissible.

CONCLUSION

This community respectfully urges the Board to uphold Kilkeny County Council's refusal. The Proposed Project:

- Would cause unacceptable and unmitigable harm to residential amenity.
- Is based on an EIA and NIS that are incomplete and legally deficient.
- Fails to adequately assess cumulative and ecological impacts.
- Was developed without genuine public consultation and in breach of good planning practices.
- The refusal by Kilkeny County Council was entirely in line with proper planning and sustainable development, and must be maintained.

KBT Responsible Energy, representing the communities of Killmanagh, Ballycallan, and Tullaroan, submits this response with deep concern for the integrity of the planning process and the rights of communities impacted by large-scale infrastructure development.

Our community is not anti-renewable. On the contrary, we are a community that has welcomed responsibly-sited wind farms in the past, and we understand the vital role renewable energy must play in addressing the climate crisis. What we oppose is poor planning, disregard for legislation and procedures, and a process that excludes the very people it affects the most.

This application, and the developer's appeal, rest on a foundation that is deeply flawed, both technically and procedurally. Nowhere is this more evident than in the Environmental Impact Assessment Report (EIA) submitted by the developer.

The EIA fails on multiple, critical fronts:

1. It does not adequately assess cumulative impacts, particularly the combined effects of noise, visual intrusion, shadow flicker, and disruption to rural life.
2. As noted by CAAS: "The cumulative effects... will, arguably, exceed the threshold of what a community can be reasonably expected to tolerate."
3. It lacks clarity and consistency, with vague mitigation measures, missing details on turbine placement, hardstanding areas, and traffic impact sequencing.
4. It omits key environmental risks, particularly in relation to water quality and flooding, where CAAS and Kilkeny County Council both flagged insufficient modelling, lack of reference to known local flood events, and a failure to address the risk to downstream communities like Killmanagh.
5. It fails to meet the legal standards of EU environmental law, particularly under the Habitats Directive and Article 6(3), as confirmed by Kilkeny County Council: *"The Planning Authority has determined that this NIS is non-compliant with the Habitats Directive..." Kilkeny County Council Planning Report Page 70*
6. It is not based on full or timely disclosure to the public. The EIA was withheld from meaningful community input until the final stages of the process, a direct violation of the spirit and requirements of the Aarhus Convention.

This is not just a technical document with a few oversights. It is a report that fails in its core purpose: to transparently and credibly assess the environmental consequences of a major development.

Despite all of this, the developer presses ahead with an appeal, without acknowledging the deeply flawed engagement process, the omissions in their documentation, or the serious concerns raised by the community and the competent authority.

On Wednesday 16th of April 2025, the Taoiseach, Micheál Martin stated on 'The Pat Kenny Show' the following:

"We are saying to every county council in the country, you have to play your part". In light of the information on page 5 & 6 of this document, as stated earlier, the communities in close proximity to the proposed Briskalagh wind farm are already generating nearly 22 times more renewable wind powered electricity per person than the national average consumption per person.

playing our part.

We, the communities of Kilmanagh, Ballycallan and Tullaroan are of the opinion that we are

We respectfully ask An Bord Pleanála to:

- Uphold the decision of Kilkeny County Council to refuse this application, appeal,
- Recognise the multiple legal, environmental, and procedural failings in the developer's
- And ensure that future applications in this area meet the standards of honest consultation, lawful assessment, and environmental responsibility that communities like ours deserve.

Please find an enclosed fee of €50.

Thank you for considering our submission.



Shane Lynch

On behalf of Kilmanagh, Ballycallan, Tullaroan (KBT) Responsible Energy.

Date: 21/04/2025

GROSVENOR CONSULTANCY
Review of First Part Appeal

Appendix 1

An Bord Pleanála Planning Reference: - P10.322154

GROSVENOR CONSULTANCY

Planning & Noise Consultancy Services
Representing Vulnerable Residents & Communities

Proposed Briskalagh Renewable Energy Development
in the vicinity of Kilmanagh and Environs - County Kilkenny.

Planning application Reference: 25/60003.

Re: First Party Appeal of Decision to Refuse Permission - Kilkenny County Council PL Ref. 25/60003

On behalf of Kilmanagh Community Group.

"KBT Responsible Energy".

16th April 2025.

Grosvenor Consultancy's Response to the Applicant's Appeal submission dated 26 March 2025.

Grosvenor Consultancy has reviewed the Applicant's appeal response to the An Bord Pleanála following the substantive refusal of development consent of Kilkenny County Council. After a thorough review of the Applicant's submitted Wind Turbine Noise and Residential Amenity EIA/R, our professional position remains that the Council's grounds for refusal of consent are substantive and materially justified, as set out in detail in the grounds for refusal which we endorse and support.

We repeat our conclusions dated 04 February 2025:

"This is particularly relevant in this case, as it is deemed that when the assessed significantly adverse Residential Amenity Impacts and all other material factors are duly considered in the planning balance, as to the benefits of the proposed development, it is our professional judgement that these in combination are not just considered to be significantly adverse but, overwhelmingly adverse;"

Final Conclusion.

"We repeat, that we consider that consenting the proposed Briskalagh wind farm would create an unacceptable risk of adverse WTN impacts to the local residents and therefore, this unsustainable application be should be refused development consent;"

Extract from the Applicants' Grounds of Appeal (GOA) as copied below:

The GOA Report outlines the project background, the reasons for Kilkenny County Council's refusal, and the Applicant's Grounds of Appeal. It directly addresses and refutes the three refusal reasons, demonstrating that they are fundamentally flawed and that the Proposed Project aligns with proper planning and sustainable development. As such, it argues that Kilkenny County Council's decision should be overturned and planning permission granted by An Bord Pleanála. Additionally, the GOA Report provides a comprehensive response to all Third-Party and Statutory Consultee submissions and highlights An Bord Pleanála's legal obligations under the Climate Action and Low Carbon Development Act 2015 (as amended) and the Planning and Development Act 2000 (as amended) in assessing renewable wind energy projects. The Proposed Project, if permitted, will contribute towards national wind energy target of 9GW. The importance of the Proposed Project with regards to the climate goals cannot be overlooked.

In response to the above, Grosvenor Consultancy's carefully considered position is that when carefully weighed in the planning balance, the Applicants' argument that the protection of residential amenity can be ignored or set aside by, 'climate goals' is in effect unsustainable and considered to be irresponsible.

To be clear, the Applicant is a commercial developer and has a duty of care to those who are at high risk of being significantly adversely impacted, the Councils Grounds for refusal acknowledge this Statutory duty and have responded correctly and appropriately in seeking to safeguard the health and wellbeing of a considerable number of local residents, which includes vulnerable residents and the nearby School.

The Applicant states, that the site of the proposed Briskalagh Wind turbines is suitable when it is not and furthermore, we repeat this proposal is not a sustainable development.

Ultimately, it is considered that the Proposed Project is in accordance with the provisions of proper planning and sustainable development and should be granted planning permission in respect of the suitability of the site and the need for renewable energy development. It is the policy of the government to rapidly accelerate the roll-out of renewable energy technology. However, if suitable sites are ruled out, such as the Proposed Project, it is unlikely that any acceleration will be seen.

The Applicant cites and lists Climate Change Policies as justification for consenting this proposal, but none of these can be considered to be materially sufficient, to override the overwhelming and unacceptable risk to public health should the An Bord Pleanála grant consent to this proposal. It is clearly evident that Kilkenny County Council has rightly and correctly weighed the acknowledged benefits of renewable generation in the planning balance, against the significant environmental harm identified by the Council, who subsequently refused development consent.

It is also the case, that that the Council will be put into an invidious position whereby, the Councils Environmental Health Officers regrettably, will be required to satisfactorily manage potentially substantive wind turbine noise complaints, which are highly likely to involve lengthy and costly legal redress. We point to the recent High Court judgement of Justice Egan, which found on behalf of the plaintiffs and the more recent Gibbet Hill Case reported on 14/03/2025, an extract of which is provided below:

"The operators and owner of a wind farm in Co Wexford have admitted liability in a High Court action brought by a married couple who claimed the wind farm had negatively impacted their home's usability. Raymond Byrne and Lorna Moorhead alleged the facility had "destroyed" their enjoyment of their home due to noise, vibration, and shadow flicker. The wind farm operators, ABO Wind Ireland Ltd and ABO Wind OMS Ireland Ltd, and the owner, Wexwind Ltd, all admitted liability in the High Court case, which was ongoing for 11 days at the time of the admission".

"Raymond Byrne and Lorna Moorhead's case, taken against ABO Wind Ireland Ltd, ABO Wind OMS Ireland Ltd and Wexwind Ltd, claims the defendants caused or permitted noise, vibration and shadow flicker to be emitted from Gibbet Hill Wind Farm, located close to Buncloy"

This nuisance has caused the couple – who live just over 1km from the facility – stress, anxiety and sleep disturbance, and "destroyed" the "use and enjoyment" of their property, they allege.

Grosvenor Consultancy previously stated position regarding the Applicants' proposed separation distances between the 7 large scale powerful Briskalagh 185m to blade tip wind turbines and

numerous residents' homes, is that the separation distances are insufficient to adequately protect residential amenity, especially from adverse wind turbine noise - acoustic pollution impacts.

Applicants' Stated Position on Adverse Human Health Impacts.

We note the Applicant's Appeal submission to the An Bord Pleanála and submit the following comments in response to the extracts copied below:

Human Health

Some third-party submissions include observations in relation to the potential for negative health effects associated with the Proposed Project due to the scale of the turbines proposed and proximity to local residents and local communities including Kilmacnagh and Tallaroin as well as the wide range of organisations, schools clubs and other associated activities. Concern was raised regarding potential for noise pollution, infrasound, health, and shadow flicker and impacts on mental health.

As discussed in Section 3.6.2 of the EIAR, while there are anecdotal reports of negative health effects on people who live very close to wind turbines, peer-reviewed research has not supported these statements. There is currently no published credible scientific evidence to positively link wind turbines with adverse health effects.

Extensive research has been carried out in the US, Canada, UK, Australia, and by the World Health Organisation (2018) and the HSE (2017). All studies conclude that that exposure to wind farms does not trigger adverse health effects.

The Health Service Executive (HSE) 'Position Paper on Wind Turbines and Public Health' was published in February 2017 to address the rise in wind farm development and concerns regarding potential effects on public health. The paper discusses previous observations and case studies which describe a broad range of health effects that are associated with wind turbine noise, shadow flicker and electromagnetic radiation.

A number of comprehensive reviews conducted in recent years to examine whether these health effects are proven has highlighted the lack of published and high quality scientific evidence to support adverse effects of wind turbines on health.

Grosvenor Consultancy robustly refutes the Applicants position on Human Health and submits that substantive evidence has been provided to Kilkenny County Council planning in support their considered refusal of planning consent.

The Applicant has reiterated their reliance on the dated Simon Chapman Chapter 5 Human Health in an apparent attempt to avoid responsibility for the health and wellbeing of local residents, should this materially flawed wind farm proposal be consented by An Bord Pleanála.

On behalf of the justifiably concerned local community, we note that the Applicants' position is clear by stating that:

None of the submissions received in relation to this topic area have set out any clear and credible evidence which in any way alters the findings of the EIAR in this regard. As such, it is concluded that the information contained within the EIAR remains valid and robust.

In the event of significant adverse health and wellbeing impacts being reported by affected local residents, directly attributed to the commencement and continuing operation of the Briskalah wind farm, the Applicant has in effect knowingly pursued this proposed development, contrary to the substantive evidence submitted to Kilkenny County Council Planning.

5.13 Windtake

For reference, Grosvenor Consultancy has provided an extract below from WEDG 2006 guidelines Para 5.13 Windtake.

Proposed Wind Farm turbines.

Please refer to Chapter 3 and Chapter 4 of the EIA/R for further details in relation to the locations of the

In conclusion, the proposed turbine layout has been carefully designed using industry-standard software to optimise energy yield while maintaining appropriate separation distances. The referenced guideline distances apply to existing turbines rather than those within a new development. The design process has been a collaborative effort, ensuring technical feasibility while minimising environmental impact.

The reference to 3 and 7 rotor diameters from the Guidelines relates to the required separation from any existing wind turbines rather than the required separation between the proposed turbines. As stated in Chapter 4, Section 4.3.1.1 of the EIA/R, the proposed wind turbine layout has been optimised using wind farm design software (WindPro) to maximise the energy yield from the Proposed Wind Farm, while maintaining sufficient distances between the proposed turbines to ensure turbulence and wake effects do not compromise turbine performance.

The design of the Proposed Wind Farm has been an informed and collaborative process from the outset, involving the designers, developers, engineers, landowners, environmental, hydrological and geotechnical, archaeological specialists and traffic consultants. The aim being to reduce potential for environmental effects while designing a project capable of being constructed and viable.

One third-party submission made an observation relating to the spacing between the proposed turbine locations stating that it does not comply with the separation distances recommended within the Guidelines (i.e. 3 rotor diameters in the cross wind direction and 7 rotor diameters in the prevailing wind direction).

4.115 Insufficient Turbine Spacing

Grosvenor Consultancy notes the Applicants' Appeal response with regards the material concerns ('observations') raised by 'one thirds - party' on behalf of the local community, 'KBT Responsible Renewable Energy'. Reference extract below:

Insufficient Wind Turbine Spacing.

Grosvenor Consultancy fully endorses the substantive evidence submitted by Mr WL Huson BSc (Hons) MSc CPhys MInstP MIOA MAAS. Applied Physics, UK, who has identified substantive material flaws in the Applicants Noise Impact Assessment.

A turbine noise prediction model was prepared for the Proposed Wind Farm. The predicted turbine noise levels have been calculated in accordance with the ICA (APC) recommendations. The assessment has confirmed that, once the appropriate mitigation measures are implemented, the residual turbine noise levels associated with the Proposed Wind Farm will be within the best practice noise criteria curves recommended in Irish guidance document 'Wind Energy Development Guidelines for Planning Authorities 2006'. Therefore, it is considered that no significant effect is associated with the Proposed Project.

Applicants Position on Wind Turbine Noise:

Furthermore, it is with significant concern that the Applicant has elected to proceed, following Kilkenny Council's decision to refuse consent, despite being informed of the substantive risks to public health and wellbeing this specific wind turbine development poses in this unsuitable location.

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation

$$f(x) = \int_0^x \frac{1}{1+t^2} dt$$

It is well known that this function is the arctangent function, i.e., $f(x) = \arctan x$.

The second part of the paper is devoted to the study of the properties of the function $g(x)$ defined by the equation

$$g(x) = \int_0^x \frac{t}{1+t^2} dt$$

It is well known that this function is the logarithm of the square of the square root of $1+x^2$, i.e., $g(x) = \frac{1}{2} \ln(1+x^2)$.

The third part of the paper is devoted to the study of the properties of the function $h(x)$ defined by the equation

$$h(x) = \int_0^x \frac{t^2}{1+t^2} dt$$

It is well known that this function is the difference between the logarithm of the square of the square root of $1+x^2$ and the arctangent function, i.e., $h(x) = \frac{1}{2} \ln(1+x^2) - \arctan x$.

The fourth part of the paper is devoted to the study of the properties of the function $k(x)$ defined by the equation

$$k(x) = \int_0^x \frac{t^3}{1+t^2} dt$$

It is well known that this function is the difference between the logarithm of the square of the square root of $1+x^2$ and the arctangent function, i.e., $k(x) = \frac{1}{2} \ln(1+x^2) - \arctan x$.

The fifth part of the paper is devoted to the study of the properties of the function $l(x)$ defined by the equation

$$l(x) = \int_0^x \frac{t^4}{1+t^2} dt$$

It is well known that this function is the difference between the logarithm of the square of the square root of $1+x^2$ and the arctangent function, i.e., $l(x) = \frac{1}{2} \ln(1+x^2) - \arctan x$.

The sixth part of the paper is devoted to the study of the properties of the function $m(x)$ defined by the equation

$$m(x) = \int_0^x \frac{t^5}{1+t^2} dt$$

The question of windtake should be dealt with at scoping stage and/or during pre-application discussions, to ensure that any proposed layout of wind turbines takes into account the development potential of an adjoining site for a similar development.

In general, to ensure optimal performance and to account for turbulence and wake effects, the minimum distances between wind turbines will generally be three times the rotor diameter (=3d) in the crosswind direction and seven times the rotor diameter (=7d) in the prevailing downwind direction. Bearing in mind the requirements for optimal performance, a distance of not less than two rotor blades from adjoining property boundaries will generally be acceptable, unless by written agreement of adjoining landowners to a lesser distance. However, where permission for wind energy development has been granted on an adjacent site, the principle of the minimum separation distances between turbines in crosswind and downwind directions indicated above should be respected.

Grosvenor Consultancy has also reviewed the Briskalagh Wind Farm planning application submission by 'Sheehan Land Surveys Ltd Consulting Land surveyors and mappers' on behalf of "KBT Responsible Energy" dated 13 January 2025 to Kilkenney County Council, who have raised material concerns regarding turbine separation distances:

This submission copied in full below, stated:

"I highly recommend this application be looked at in detail with respect to the turbine to turbine separation distances within this application site boundary.

I am a chartered Land Surveyor, in private practice since 1994, becoming a Fellow member of the Society of Chartered Surveyors of Ireland & the RICS in 2006.

Since 2017 I have been working in a professional capacity mapping distances and dimensions of various Windfarms in Cork, Kerry, Waterford, Limerick and Wexford counties on behalf of certain residents who have complaints of noise nuisance created by the operation of wind turbines. I was also the surveyor involved in mapping the dimensions of the Ballyduff wind farm on behalf of the Plaintiffs who were impacted by amplitude modulation and turbine noise to such an extent that one of the Plaintiffs had to abandon his home and was found to have suffered psychological injury. The findings in this case were made by the High Court in a judgment of Ms. Justice Egan delivered on the 8th March 2024 (Webster & Anor -v- Meenacloghspar (Wind) Limited and Shorten & Anor -v- Meenacloghspar (Wind) Limited. In that judgment regard is had to the proximity of the turbines to the homes of the Plaintiffs and to the many factors which may be contributing to turbine noise, including possible wake effects of one turbine on the other turbine (the particular windfarm in that case has just two turbines);

I have recently carried out a study of all of the Windfarms I have worked on (on behalf of injured parties) and one factor that I happened upon is present in all. This is the spacing of certain turbines relative to each other. It is a factor in wake turbulence at particular turbines, creating noise nuisance for nearby residents.

On reading the WEDG 2006 guidelines, referring to "wind take" on page 34, one could miss the recommended siting of turbines relative to each other (as distinct from siting relative to dwellings and adjacent windfarms / properties outside of the windfarm control). It reads "In general, to ensure optimal performance and to account for turbulence and wake effects, the minimum distances between wind turbines will generally be three times the rotor diameter (=3d) in the crosswind direction and seven times the rotor diameter (=7d) in the prevailing downwind direction."

This application (planning reference 25/60003) in particular has challenged me, a Chartered Land surveyor with speciality in mapping and analysis of same, to find a suitable map in the entire

2. The second part outlines the various methods and tools used to collect and analyze data. This includes both traditional manual methods and modern digital technologies, highlighting the benefits of each approach.

3. The third part focuses on the role of the management team in overseeing the data collection process. It stresses the need for clear communication and coordination between different departments to ensure that data is collected consistently and accurately.

4. The fourth part discusses the challenges faced during the data collection process, such as data quality issues, incomplete information, and the risk of data loss. It provides strategies to mitigate these risks and ensure the integrity of the data.

5. The fifth part describes the process of data analysis and interpretation. It explains how the collected data is processed, analyzed, and then used to draw meaningful conclusions and make informed decisions.

6. The sixth part discusses the importance of data security and privacy. It outlines the measures taken to protect sensitive information from unauthorized access and ensure compliance with relevant regulations.

7. The seventh part provides a summary of the key findings and conclusions of the study. It highlights the main insights gained from the data and the implications for the organization's future operations.

8. The eighth part includes a list of references and sources used in the document. This provides a clear record of the information sources and allows for further exploration of the topics discussed.

9. The ninth part contains a list of appendices, which include additional data, charts, and supporting documents. These are provided to give readers a more detailed view of the data and the analysis process.

10. The final part of the document is a conclusion, which summarizes the overall findings and the significance of the study. It reiterates the importance of accurate data collection and analysis for the success of the organization.

application that enables me to properly scale anything. One has to go the Hydrology report to get the information where the seven turbines are all shown together with a scale and/or scalebar. Planning reference 25/60003, to which this observation refers, has, as one can see in Map 1 (next page), completely ignored the turbine separation distances from adjacent turbines. Also note the location of the Met mast which I believe to be in a very poor location for the purpose it is intended. Turbulence from the adjacent turbines will make it ineffective. The recommended spacing from a met mast to a turbine is 2.5 rotor diameters.

Of the windfarms I have been involved in to date, those WEDG 2006 guidelines on turbine separation distances from adjacent turbines have not been complied with, as is the case here.

Recommendation On the basis of what I have outlined and experienced, I highly recommend the following information be sought from the developers to enable the County Council and other parties carry out an in-depth analysis of the proposal, and in fact, the entire validity of the proposal in relation to the Wind Energy Development Guidelines 2006.

1: The manufacturer's specifications for the particular model of turbines used in their design (the Nordex N163 STE) with specific reference to the minimum separation distances from turbine to turbine within the windfarm (not windfarm to windfarm). This should also be shown on a dedicated plan and the rotor diameters between turbines given similar to Map 1 on page 3 of this observation. (Turbine manufacturers recommend separation distances to avoid excess turbulence, wind shear, noise and other impacts on the integrity of the turbine). This is to enable them provide a warranty for the turbine being used and indicate the actual power output that will be achieved versus the application stated output.

It is my opinion that the developers will not get a valid warranty for the eventual turbine, after their tender process, for a spacing less than 5 rotor diameters in the prevailing wind direction and 3 rotor diameters in other directions. The layout on Map 1 shows a significant lack of spacing, if this is the case.

In the event that the aforementioned information is not supplied to the County Council I highly recommend that this application is refused.

For additional reference, Grosvenor Consultancy has also, reviewed the Irish Wind Energy Industry Best Practice Guidelines, reference extracts below:

"This process will typically result in a "wind turbine search area". This identifies areas where turbines can be located, subject to review of impacts on other aspects of the environment. These additional constraints can be examined once an initial turbine layout has been identified. It is also good practice to ask the wind turbine supplier to comment on the proposed wind turbine layout. Examples of design constraints are outlined in Table 7.1. Thereafter, a wind model of the proposed wind farm can be very useful in finalising the last stages of the wind farm layout design. It is a commercial decision for the developer to carry out this work at this stage. It can include, for example:

- optimisation of the turbine layout for power production purposes
- reduction of wake effects
- assessment of potential turbulence effects on long-term turbine performance

The turbine layout is likely to eventually require some level of approval by the wind turbine manufacturer if a turbine warranty is to be issued, and this will need to be borne in mind".

Table 7.1: Wind Turbine Layout – Examples of Design Consultants

Typical Application ⁶⁷	
Aim of Application of Constraint	Constraint
as per current DOEHLG Guidelines and relevant county Wind Energy Strategy, where this is reasonable (e.g., this might not always be readily attainable for small landholdings)	neighbouring property/nearby dwellings
noise monitoring and modelling: end result compliance with standards can vary very significantly depending on the number of houses and their proximity to turbines; it will depend on the turbine chosen and its sound power level; any additional local authority noise requirements will need to be met.	separation distance to avoid a variety of impacts, e.g., blade overhang
Where the local authority will allow, limits can be significantly relaxed for dwellings associated with the proposed development. ⁶⁸	meet noise protection and shadow flicker guidelines
Shadow flicker modelling, as for noise	

The Applicants' assertion in their appeal statement, that: 'The reference to 3 and 7 rotor diameters from the guidelines relates to the required separation distances from any existing turbines rather than the required separation between the proposed turbines';

is a fundamental misrepresentation the 2006 WEDG Para 5.13 which actually states:

'The question of windtake should be dealt with at scoping stage and/or during pre-application discussions, to ensure that any proposed layout of wind turbines takes into account the development potential of an adjoining site for a similar development.'

Given that there are currently no operational turbines in close proximity to the proposed Briskalagh 150m to blade tip turbines or, that due to the significant constraints in proximity to the proposed Briskalagh wind turbines, i.e., there is insufficient space for additional wind turbine development, due to the number of residential receptors surrounding the proposed development site it is apparent that the Applicant has either misunderstood or has misrepresented this material matter.

Furthermore, the Irish Wind Energy Industry Best Practice Guidelines as extracted in Table 7.1 below also states;

'Constraint distance to other turbines within the wind farm' - 'to avoid wake effects' and that this is; 'usually a minimum of 4 rotor diameters';

'About the Author.
 I am John V Yelland MA DPhil (Oxon) MinstP FIET AMASA MIO, an independent consultant with experience in many areas of acoustics and physics. My earliest encounter with acoustics was in the course of research into the high frequency acoustic impedance of liquid helium three for my doctoral thesis at the Clarendon Laboratory, Oxford University, some fifty years ago. My latest is in research into the very low frequency acoustic emissions of wind turbines. I have worked in senior research and development positions in and for large and small companies in the UK and Europe.

I have been elected to corporate membership of the Institute of Physics and of its offshoot the Institute of Acoustics. I have been directly elected by invitation to Fellowship of the Institute of Engineering Technology. I am also an Associate Member of the Acoustical Society of America.

Although I have many years of experience in the above fields I believe that the rigorous application of the principles of good science, and an in depth understanding of the mathematics that this requires, are the most important attributes when acting as a wind farm noise consultant. I prefer to offer transparent and accessible evidence to support my findings rather than bland assurances of my "professional judgement".

To provide additional clarity and informed material evidence by an expert witness, Grosvenor Consultancy references, John V Yelland MA DPhil (Oxon) MinstP FIET AMASA MIO, (since retired) submitted in response to a wind farm application in 2018. It is considered that this evidence is material to the Briskalagh wind turbine application and the Applicants' appeal response.

neighbouring wind energy development	where a neighbour is also committed to wind energy development, or has planning permission, or has installed wind turbines, significant wake effects on a neighbouring wind development should be avoided	For an existing or permitted neighbouring development, a <i>minimum</i> distance of four rotor diameters should be allowed to the neighbouring turbines; analysis of wake effects can be of benefit in this instance. Discussion with the relevant developer in this instance may avoid a potential planning objection.
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Furthermore, table 7.1 then references *'Neighbouring wind energy developments'* as a separate issue and that likewise, a minimum separation distance is also four rotor diameters.

Constraint	Aim of Application of Constraint	Typical Application
distance to other turbines within the wind farm	avoid wake effects	this is a commercial decision for the developer and can ideally be informed by a wake analysis - usually a <i>minimum</i> of 4 rotor diameters; this can be reduced for very small developments, depending on the orientation of the turbines with respect to the prevailing wind direction; may require larger distances in some instances, depending on acceptability of wake effects obtained from wind analysis

When approached by prospective wind farm neighbours I undertake a preliminary noise impact assessment (NIA) before representing them, which I decline to do if developer's NIA demonstrates true compliance with planning guidance. This may explain why only 10% of the applications and appeals in which I have participated have been consented or allowed. I also advise County, District, Community and Parish Councils.'

'Review of Applicant's Wind Farm Design'

'Introduction

This section is concerned with aspects of the wind farm design that affect noise immission levels at receptors but do not feature in the noise impact assessment. In the present case they are two in number.

Inflow turbulence is well known to a source of LLFN from operating turbines. Turbine spacing is commented upon, but not regulated, by planning guidance¹ (EN3). The present application proposes a turbine density more double that advised by EN3. Doubling the number of turbines in the available space more than doubles the noise but less than double the electrical output power compared to an EN3 compliant design.

The many errors and omissions in the ANIA could in principle each be covered by a planning condition. But such a condition would (I suggest) fail the necessity test, as the only reason they are necessary is that the applicant has failed to supply information required by planning guidance to enable a decision².

Turbine Spacing

The proposed turbine positions are unusually closely spaced in the downwind direction (the prevailing wind direction being SW); planning guidance (EN3) advises $4D \times 6D$ (crosswind $\times$ downwind, where D is the rotor diameter). With the proposed 117 m rotor diameter the crosswind spacings are not far from the advised 468 m. For downwind spacings EN3 advises 702 m; the applicant proposes a typical downwind spacing of around 400m, in the worst case 375 m. Such overcrowding of turbines puts downwind turbines in the turbulent airstream of those upwind of them. This inflow turbulence significantly and progressively increases the noise emissions of the downwind turbines.

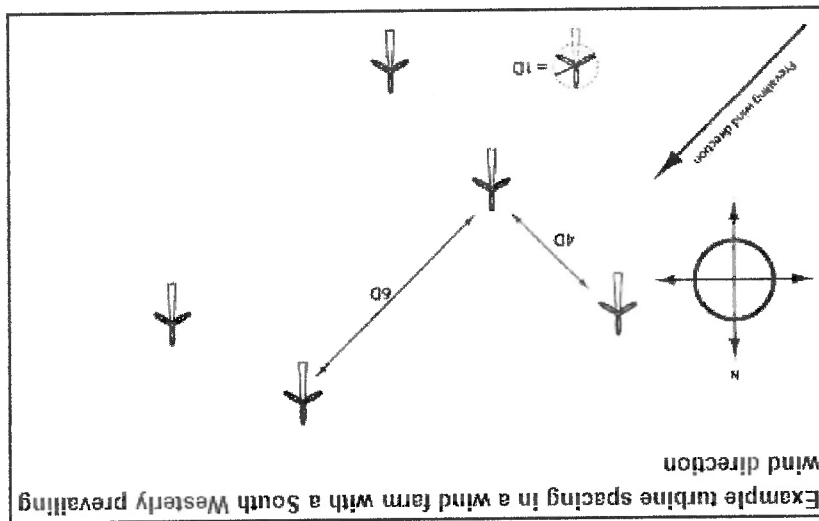


Figure 1: Government Planning Portal turbine spacing advice.

January 2025.

Finally, the Applicant cites the unsound and totally inadequate separation distances to residents at a minimum of 740m, when in fact Grosvenor Consultants's robust evidence clearly demonstrates that this minimum distance will not protect visual or acoustic residential amenity.

Grosvenor Consultancy is not persuaded that the Applicant has demonstrated that the proposed Brisklagh turbine spacings are adequate and therefore, we fully endorse the material concerns raised by 'Sheehan Land Surveys Ltd' in their submission referenced above, dated 13th January 2025.

in turbine noise generation at many points, for example (pdf page 75):
 "The characteristics of non-uniform inflow turbulence noise are expected to be as follows:- Inflow turbulence would cause additional low frequency noise, but the higher frequency trailing edge noise should be largely unaltered."

The reason for both the lower electrical output and the higher noise output is that the operation of turbine is compromised when it is in the turbulent wake of another. Whilst the 4D x 6D spacing is advised in EN3 rather than mandated, the increased inflow turbulence characteristic of closer spacings would invalidate the turbine manufacturer's operational noise warranty, so published generation and noise data, being based on measurements of isolated single turbines, can no longer be relied upon. I have not allowed for this in my NIA, but I would have expected for some margin below the ETSU limit to be reserved to accommodate it.

There are two adverse consequences of such "overcrowding" of turbines. The electrical power generated by the development is significantly reduced, which may affect the planning balance, which is not relevant here. But the turbine noise emission power of all the turbines except those the windward positions (T4, T7, T15, T16) would be significantly increased, due to amplified into turbulence, which is relevant here. Unfortunately, the geography of the site has dictated a wind farm layout that is fairly linear and parallel to the prevailing wind direction (SW), which ensures that the leeward NE turbines will emit significantly increased noise and decreased electrical power.

Government Planning Portal turbine spacing advice EN3. 6 times turbine blade diameter in the prevailing South Westerly & 4 times turbine blade diameter in the cross wind direction.

in the area will have a disproportionate undue and unreasonable impact on the visual landscape amenity of the area and in particular will severely impact negatively on the residential amenity of the area and in proximity. The proposed development would therefore be contrary to the proper planning and sustainable development of the area.

The location of the Applicant's proposed large scale Briskalagh Industrial Wind Power development is considered to be materially flawed and out of scale within the tranquil setting and confines of Kilmanagh and the local vulnerable rural community.

END.

Appendix 2

HYDRO-G
Review of First Part Appeal

17th April 2025

To:

KBT Responsible Energy

Re: 1st Party Appeal to An Bord Pleanála by MKO on Behalf of Briskalagh Limited

Kilkenny County Council REFUSAL on PL 2560003

To Whom It May Concern

An Bord Pleanála Planning Reference # PL10.322154.

I am writing this Technical Advice Note as an expert in water, impact assessment, the Water Framework Directive and legal aspects relating to water. I am writing this Note as an expert whose technical report accompanied KBT Responsible Energy's Objection to an application for a renewable energy development proposed by 'Briskalagh Limited'. Kilkenny County Council **Refused Permission** on the planning application lodged with them under File Ref 2560003. Kilkenny County Council's Refusal and determination that the Planning Application lodged by MKO was invalidly supported by evidence or the application of EIA law, was informed by reports they commissioned experts in EIA, SEA and other environmental matters: Those experts were CAAS and the Board is advised to review CAAS's credentials at <https://www.caas.ie/>.

1

With respect to the review completed by CAAS which Paul Fingleton and Conor Skehan contributed to and approved, there is the CAAS report entitled Environmental Impact Assessment Review for Kilkenny County Council (Appendix 3 CAAS Ltd, dated 25th January 2025) and a report entitled 'Natura Impact Statement Review for Kilkenny County Council' (Appendix 4 CAAS Ltd, dated 21st January 2025) presented by both Karen Dylan Shevlin and Paul Fingleton. Therefore, the Board's efforts are greatly aided by the independent planning, EIA, ecological experts commissioned by Kilkenny County Council in their Refusal on the planning application lodged with them under File Ref 2560003.

With respect to the experts, CAAS, who advised of the deficiencies and lacunae in the EIA and Associated information submitted to Kilkenny County Council for the **Refused Permission** on the planning application lodged with them under File Ref 2560003, the expert credentials presented on 'The Team' tab of the CAAS website include, as follows:

Paul Fingleton MSC, Director: Is an environmental manager and impact assessor who has experience on projects of varying scale and complexity for a wide range of public and private sector clients. He has particular experience in relation to large-scale industrial projects. Paul contributed to the preparation of the EPA's Guidelines on the Information to be contained in Environmental Impact Statements and the accompanying Advice Notes on Current Practice in EIA.

Conor Skehan BSC, MLARC: has an unparalleled range of international and Irish experience. With a background in architecture and landscape Architecture, he is a recognised authority on strategic planning, landscape

management, visual impact assessment and Environmental Impact Assessment. He has written a number of seminal guidelines in these areas and maintained his position as a leading academic in planning and impact assessment for over twenty years. He is also an advisor to the UN on SEA.

It is therefore clear that Kilkenny County Council's Reasons for Refusal are supported by experts in the arena of EIA, SEA and advisors to the EPA and UN. The 1st Party Appeal is unfounded and unjust. The Board has ample grounds to refuse the appeal for all reasons detailed in the CAAS Reports on the EIA Process, EIAI lacunae, NIS lacunae and Kilkenny County Council's own Reports.

I, Dr. Pamela Bartley, am considered an expert service provider in the matter of water, the Water Framework Directive, Public Water Supply, hydrology and hydrogeology. I assessed all the original information presented by the applicant's agents in their EIAI and Flood Risk Assessment. I prepared a technical report for KBT Responsible Energy when they objected to the Planning Application. My original report is presented as Appendix A to this Observation on the Grounds of Appeal presented for their client (MKO, January 2025).

In the matter of the applicant's agent's Grounds of Appeal Document, I hereby give notice that nothing written in the Appeal Report by MKO and no text presented by Hydro-G in the January 2025 Report, attached here for convenience as overall conclusions presented by Hydro-G in the January 2025 Report, formed a component of the KBT Responsible Energy's Overall Objection lodged in response to the EIAI and NIS submitted to Kilkenny County Council for PL File Ref 2560003.

Self-regulation for energy prospectors appears to be what the consultants are advocating for their clients. The board would be well minded to seek the opinions of Fisheries, the EPA AND LAWPPO on the matter of unauthorised developments in stream works and environmental impact.

The fact of the matter is that the information presented in the applicant's Flood Risk Assessment to the Competent Planning Authority, Kilkenny County Council, concluded that there would be No Risk of Flooding AT THE APPLICATION Site. Kilkenny County Council DID NOT err in their planning assessment of the case, given a number of wind farms in operation and granted, the village of Kilmanagh floods and presents nuisance and health risk to the members of the community, and so, the area should not have been targeted by MKO and HES. Kilkenny County Council were correct in their determination of the case and The Board should be minded to uphold the REFUSAL on the grounds of Flooding, Public Water Supply and the National Biodiversity Plan, which is the correct instrument to address climate challenges. More construction is not the answer in this location.

The information presented by the applicant, in their own photographic evidence in their own Baseline Aquatic Report, portrayed savage environmental terrorism as if it were wholly acceptable. The attempted defence of the applicant's agents thinking that it is ok to go into a river with a bulldozer, and HES's attempted defence, presented in the MKO (2025) appeal, seems to be an attempt to convince the board that it is entirely okay? I assert that the photographs presented in the Baseline Aquatic Environment Report are contrary to the Statutory requirements of the Objectives of WFD, Birds and Habitat regulations (in relation to the Kingfisher), Ireland's Water Action Plan 2025 as part of the River Basin Management Plan 2022-2027. HES (2025) in the MKO (2025) Grounds of Appeal report state that:

2. The second part of the document focuses on the implementation of the proposed changes. It details the steps involved in the rollout process, from initial planning to final execution. This section also addresses potential challenges and provides strategies to overcome them, ensuring a smooth transition for all stakeholders.

3. The third part of the document discusses the long-term impact of the changes. It highlights the expected benefits, such as improved efficiency and cost savings, and provides a timeline for when these benefits are anticipated to be realized. This section also includes a summary of the key findings and recommendations for future action.

4. The final part of the document is a conclusion that summarizes the overall findings and provides a final recommendation. It reiterates the importance of the changes and encourages all stakeholders to support the implementation process. This section also includes a list of references and a bibliography for further reading.

“ • Downstream of WF-1: banks of the river channel appear to have been strengthened, and the channel has been widened. The strengthening of the LHS bank (left hand side) will prevent erosion and maintain water quality, and the widening of the river will slow water flow slightly, therefore reducing downstream flood risk slightly.

• Downstream of WF-3: The modified river channel is in an area of sand and gravel that appears to be continuously altered by river flow. It appears the recent (observed) works here are intended to strengthen the damaged river bank in a likely attempt to improve water quality and prevent further erosion. The works also lengthen the river flow path (to its original pathway rather than the shortened pathway to LHS of the island), which in itself will slightly reduce any perceived increase in downstream flood risk or maintain its original form.

• Both of these observations occur over short distances (<50m) and are located in a catchment area of some 40km² (to the bridge in Kilmannah). The Tullaroan River falls at a moderate slope of some 80m from its northern extents to the bridge in Kilmannah over a distance of ~8.4km. As a result of these catchment conditions, neither of these observations have the potential to significantly alter flood flows in the downstream river. Also, the natural and variable conditions of the river channel and the wider catchment are likely to alter continuously, both with land use change, and with variations in agriculture and forestry”.

3

I, Dr. Pamela Bartley of Hydro-G, beg of the Board not to fall for those Grounds of Appeal. The statements presented by HES in an attempt to support and defend his ecological colleagues in MKO and on behalf of his client “Brisksalagh Ltd” are a biased, non technical, opinion that “intended to strengthen the damaged river bank in a likely attempt to improve water quality and prevent further erosion. The works also lengthen the river flow path (to its original pathway rather than the shortened pathway to LHS of the island), which in itself will slightly reduce any perceived increase in downstream flood risk or maintain its original form.” Well, that is so ludicrous that I as a hydrologist and a person who is passionate about protecting nature and biodiversity can only offer to the Board that a picture paints a more effective point. I refer the Board to my original January 2025 report that presented the same photographs as the applicant’s agents submitted to Kilkenny County Council as part of their planning documents:

The original evidence of the damaged hydrological system is provided in photographs in the MKO Aquatic Baseline Report, as their numbered Plates 4.2 and 4.5, as reproduced here as Plates A and B of the Hydro-G submission with the original text from MKO also included within the box delineation of the direct extract from the MKO Baseline Aquatic Assessment for Brisksalagh Ltd’s project. I tell the Board now here that no hydrologist and no scientist and no engineer should attempt to say that this is beneficial to the aquatic environment. The fact that the applicant’s agents attempt to defend this is exactly what CAAS called out in their itemisation of lacunae in the detail presented for Mitigation Measures in the original EIA. Might HES or MKO think that during the construction of turbine enabling routes and stream crossings, they should repeat and repeat actions like scraping gravel spawning beds for salmon to suit the applicant’s needs?

Downstream of the survey location point, evidence of watercourse alterations was observed on the Tullaroan Stream watercourse (Irish Grid Ref: S 38910 54596). The banks of the watercourse had been recently altered with evidence of some riverbed alterations also with bank material within the watercourse channel. This area of watercourse was heavily silted at the time of survey compared to the section immediately upstream with bank alterations likely being the cause of excess siltation.



Plate 4-2: Area of altered watercourse downstream of survey location WF-1.

At the bridge structure at the upstream extent of the survey location there was a pipe extracting water from the watercourse.

While undertaking the otter survey at the survey location, Otter (*Lutra lutra*) spraint and tracks were recorded. The Otter spraint contained some crayfish remains. There were no other otter signs recorded at this survey location.

A kingfisher (*Alcedo atthis*) flew upstream through the survey location during the survey. No kingfisher burrows were recorded within the vicinity of the survey area.

Plate A MKO's Plate 4-2 of the Aquatic Baseline Report (Appendix 6-3, Briskalagh EIA) and their own text describing evidence of Otters and Kingfisher protected species.

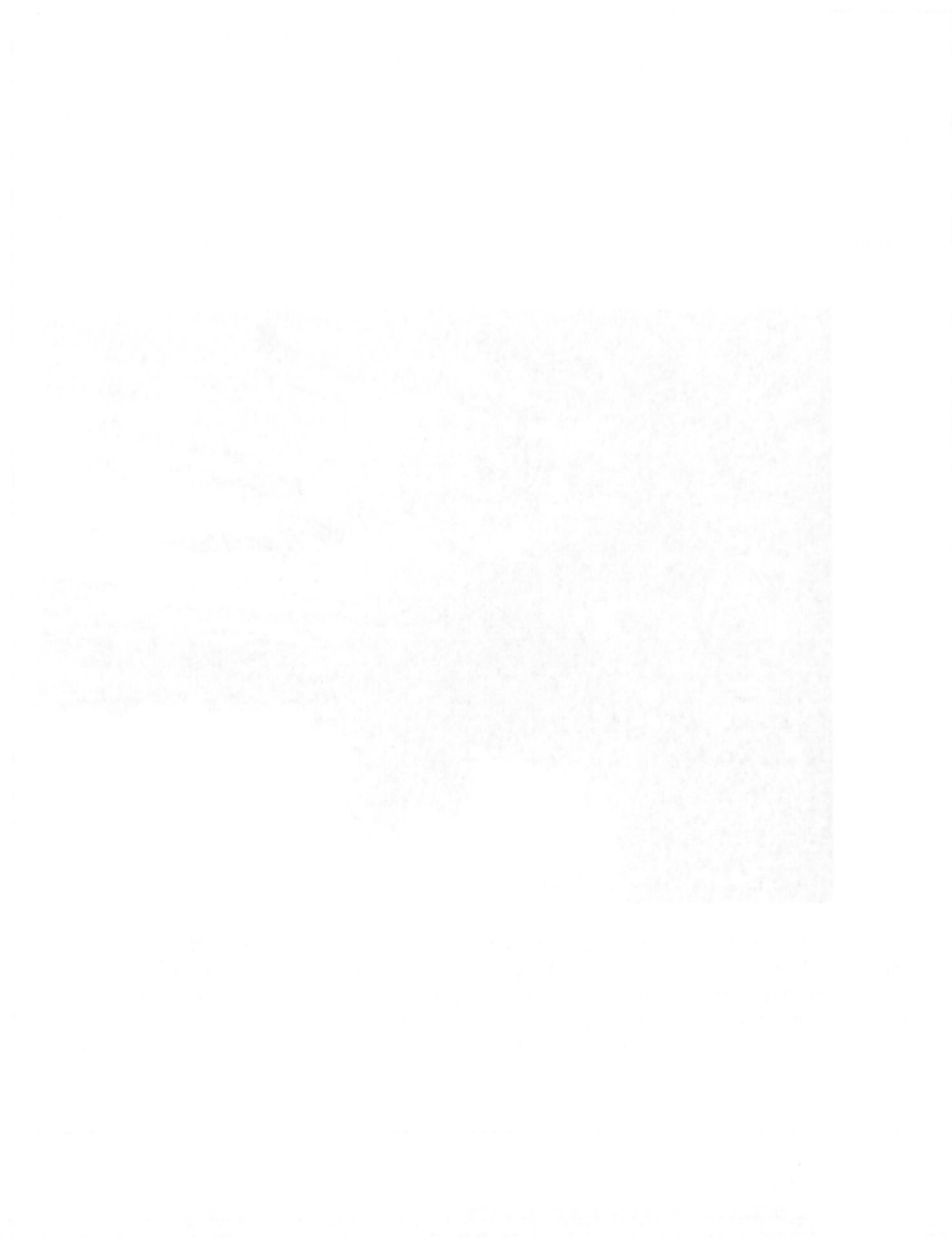




Plate 4-5: Area of altered watercourse downstream of survey location WK-3 at the confluence of the Tullaghan stream, Foylagh and Briskalagh watercourses

Plate B MKO's Plate 4-5 of the Aquatic Baseline Report (Appendix 6-3, Briskalagh EIA) showing one of the many Poor Status Stretches of a river system within the proposed wind farm development site.

With reference to the detail of the Aquatic Baseline Report (Appendix 6-3), Page 6 Conclusions state, as follows:

"At present, watercourses within the proposed wind farm study area are not satisfying the objectives of the Water Framework Directive (WFD) which is to achieve at least Q4 Good Status by 2027."

&

"Seven of the watercourses sampled received Q3-4 Moderate and Q3 Poor and at present, these watercourses along the proposed grid route are not satisfying the objectives of the Water Framework Directive (WFD) which is to achieve at least Q4 Good Status by 2027."

There is a grave lack of joined up thinking in that agents for developers are sent out to evaluate a hydrological system and they report back that it is damaged and in poor ecological condition and yet an EIA is submitted to attempt to defend proposals for large scale construction in the same damaged habitat. This is not what was intended by the EIA Directive nor its Irish Statutory Instrument's EIA Regulations.

The legal significance of the information presented by the applicant is that there is a protected species but no habitat and there is evidence that the habitat requires restoration, as specified by the European Union (2024) REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on nature restoration and amending Regulation (EU) 2022/869. It clearly sets out targets for the year 2030, i.e. less than 7 years' time. Kilkenny County Council's Reasons for Refusal joins the trend of Clare County Council in their Refusal on PL



24/60411 on the basis of an unacceptable potential impact on biodiversity and water. Refer to Appendix B of the Hydro-G (2025) report that was submitted as part of KBT Responsible Energy's Objection on the original Planning File.

In the matter of the Grounds of Appeal report prepared by MKO and HES, they still fail to grasp the significance of the fact that their Desk Study WFD Assessment (Appendix 9-3 of the EIA) fails to acknowledge or reference the site-specific field results presented in the Aquatic Baseline Report (Appendix 6-3) of the same EIA.

Hydro-G advises the Board that the applicant's agents are attempting to sway the Board towards a decision that is contrary to the tenets of the Water Framework Directive and its associated Irish Statutory Instrument named the Surface Water Regulations (2009, as amended).

Hydro-G again asserts that the proposal to build another wind farm and another grid connection at this location is in direct contravention of Ireland's River Basin Management Plan 2022 – 2027 (<https://www.gov.ie/en/policy-information/8da54-river-basin-management-plan-2022-2027/>) and the Programmes of Measures for the River Action Plan 2024. Upland rivers and hillside source areas are a CRITICAL component of the enabling of energy prospector companies, Proper Planning, The Water Framework Directive, The Surface Water Regulations, The River Basin Management Plan 2022 – 2027, The National Biodiversity Plan, the requirements for correct application of the Cumulative Impact Assessment Process must also be relentlessly defended and upheld in the law. For those and many other reasons, the Board have just reasons to support and Uphold the Refusal by Kilkenny County Council.

In the matter of flooding. HES (2025) in their Grounds of Appeal are misquoting, perhaps even Gas Lighting, the Departments (2009) Guidelines on Flooding. The facts of this case are:

- No hydraulic assessment or analysis has been undertaken in relation to the proposed new access road across the Tullaroan/Killmanagh/Oldtown River between proposed turbine T7 and turbine T6.
- The potential adverse impact in relation to this proposal has not been quantified in any way. The presents a potential significant flood risk elsewhere.
- The potential adverse impact to the existing hydrological regime of the area due to the proposed spoil management and borrow pits has not been quantified in any way.
- These significant excavations and spoil stockpiling areas have the potential to alter catchment runoff flow paths and increase flood risk elsewhere.
- In relation to the points above, in consideration of the type, form and scale of development as proposed, the instances of previous significant fluvial and pluvial flood events at and downstream of the proposed windfarm, and in particular at Killmanagh Village, it would be normal practice to undertake a detailed hydrological assessment and fluvial and pluvial hydraulic analysis and modelling exercise in this regard.
- No such assessment and analysis has been undertaken in support of this application. In the absence any

I request that the Board's Inspectors' report specifically addresses Hydro-G's text in Section 3.5 of the Hydro-G (2025) report in which I outline that significant instances of flooding have been experienced immediately downstream of Kilmannagh Village in recent years. The catchment area of the Oldtown/Kilmannagh/Tullaroan River immediately upstream of Kilmannagh Bridge, and within the area of the proposed 7 No. wind turbines, is significantly elevated beyond the left and right overbanks of the stream channel. This results in a 'flashy' catchment at this location and a relative quick time to peak of any flood event. Refer to Hydro-G's (2025) Objection Report submitted to Kilkenny County Council in January 2025 as part of the KBT Responsible Energy Objection and Plates C, D and E for the evidence of the current flooding downstream of the proposed development area. The Department of the Environment's 2009 Guidelines DO NOT ADVOCATE making a situation worse than it already is. HES are incorrect in their presentation in the Grounds of Appeal. Flooding is not only a nuisance but the bacteriological load that is released from residences' underground septic tank systems is a public health and disease risk. The area floods already, so to move in bulldozers, scrape land, alter streams, compress rock into ground, deliver 100's of concrete trucks and all other construction in the upland setting will make things worse.

With respect to the fact that the applicant received a 'No Objection in Principle' letter from Uisce Éireann is inconsequential. Interrogation of the detail of the 'No Objection in Principle' letter from Uisce Éireann enables a conclusion that Uisce Éireann considered only the development proposal's road alterations and building sites in the context of intersection with water distribution assets and wastewater mains networks. There are no catchment assessments, water accounting or resource evaluations in the applicant's original detail. The National Water Resource Plan (NWRP) has identified areas in which the abstractions from surface waters must be reduced due to likely reductions in rainfall recharge or because of current over abstractions. There is no reference in the applicant's original detail to the NWRP's intentions for the development area under proposal. No detail for the required specific Risk Assessment has been presented by the applicant with respect to the European Union Drinking Water Regulations 2023 (SI 99 of 2023) despite the fact that the proposed Briskalagh Ltd. Wind Farm development is mapped by the EPA in their publicly available ENVISION mapping system (<https://gis.epa.ie/EPAMaps/Water>) as "Mapped Protected Area Drinking Water – Groundwater" Drinking Water – Groundwater for the Drinking Water [IE_SE_G_083, EU_NAME Kilmanagh Gravels, Type GWB, EU_PA_Code IEPA1_SE_G_009, EU_PA_Type Article 7 Abstraction for Drinking Water]. Kilkenny County Council are advised that the construction pads of hardcore, [IE_SE_G_009, NAME Ballingarry, Type GWB, EU_PA_Code IEPA1_SE_G_009, EU_PA_Type Article 7 Abstraction for Drinking Water].

trenches and earth movement have not been appropriately assessed with respect to the underlying mapped Protected Drinking Water - Groundwater.

I will again present the Board's Inspector with justification TO UPHOLD KILKENNY COUNTY COUNCIL'S REFUSAL, with specific reference to Flood Risk, Public Water Supply, WFD Objectives and Lands, Soils & Geology, as follows:

1. Kilkenny County Council correctly acted in their Refusal because there was too much understatement of Risk with respect to the Impact Assessment and that previous understatement of Risk by wind farm developers have very recently resulted in real environmental damage: namely at Meenbog Wind Farm, Co. Donegal. Acknowledgement of accountability and learning from experience must be properly carried forward. The site investigation methodology presented for Briskalagh is far from the agent's reported "comprehensive" and is so basic as to preclude any defensible conclusions on Risk: point source (probe) methods of Site Investigation are completed to depths that do not even encounter the depths to which foundations will be constructed. Herein presents failure potential. As a professional hydrogeologist I suggest that the proposal is indefensible and that Kilkenny County Council had reasoned grounds for refusal.

2. Kilkenny County Council correctly acted in their Refusal because the development proposal is directly connected to the aquifer and catchments that support important sources of Public Water Supply: both Group Water Schemes, Callan PWS and Kilkenny's RWSS upgraded scheme. There are unacceptable uncertainties with respect to the alteration of catchment recharge rates, residual risks, gases and oils contained within the turbine hubs and persistent chemicals used to coat the turbine blades. The lacunae with respect to the Drinking Waters Regulations (2023) obligations and the lack of catchment-based Risk and Impact assessment is unacceptable when the proposed cluster of turbines development area is mapped by the EPA's publicly available Envision Mapping system as a "Mapped Protected Area Drinking Water – Groundwater".

3. The applicant presented photographic evidence and ecological field survey information presenting POOR STATUS water bodies (Aquatic Survey Appendix 6-3 of the EIA). The obligations placed on local and National Planning Authorities by virtue of the Water Framework Directive and the associated Surface Water Regulations (2009, as amended) cannot be ignored. The legal obligation is to achieve 'At Least Good Status' in the coming years. The river systems in proximity to the development are reported by the applicant's agents as not Good Status. The Competent Authority cannot ignore the Obligations of the Water Framework Directive. The proposal is in direct contravention of Ireland's River Basin Management Plan 2022 – 2027 (<https://www.gov.ie/en/policy-information/8da54-river-basin-management-plan-2022-2027/>) and the Programmes of Measures for the River Action Plan 2024. Upland rivers and hillside source areas are a CRITICAL component of the attainment of Good Status in catchments.

4. The proposal is contrary to the European Union's (2024) Nature Restoration Law and Ireland's 4th National Biodiversity Action Plan (NBAP), which sets the national biodiversity agenda for the period 2023-2030 and aims to deliver the transformative changes required to the ways in which we value and protect nature. The Wildlife (Amendment) Act 2023 introduced a new public sector duty on biodiversity. The legislation provides that every public body, as listed in the Act, is obliged to have regard to the objectives and targets in the National Biodiversity Action Plan (<https://www.npws.ie/legislation/national->

biodiversity-action-plan). Impact on water is a biodiversity issue. EIARs depending on a baseline describing existing habitats and species are missing the point and do not understand that we are in a 'shifted baseline, a degraded baseline'. The aim is to Restore. To grant permission to the development would be contrary to national, European and UN Objectives for Restoration.

5. Flooding is already an issue for the landscape downstream of the proposed development area. There are nuances in the Flood Risk text that are neither scientifically nor technically justified. There are sound grounds for refusal on the basis that the agent for the applicant's assertion that there would be no flooding at the wind farm site is missing the point. The issue is downstream receptors and they are already experiencing flood events. It is beyond scientific doubt that the landscape alterations proposed for the Briskalagh applicant would exacerbate the current flood experience.

6. To propose a 15ha quarry on an elevated site, where not even 1 bench of rock excavation is proposed, is surely contrary to proper land use planning. The agents for the applicant's attempt to revert to the archaic reference language of "Borrow Pits", when they are really referring to quarrying. This is contrary to EPA (2022) Guidelines on accessibility of EIAR to the public. In addition, the lack of Impact Assessment for the proposed quarry is contrary to the EIA Directive and EIA Regulations.

7. The Grounds of Appeal presented by MKO (2025) are weak and not founded in either science or fact. Kilkenny County Council acted in the correct application of Planning Laws. Kilkenny County Council engaged experts in the field of EIA, EIARs and NIS. Kilkenny County Council have now acted and ruled in a similar manner to Clare County Council in their refusal of another MKO application (Clare PL 24/60411) in that MKO cannot apply the concept of Cumulative Impact Assessment, which is a central tenet of the EIA Directive and associated Statutory Instrument EIA Regulations. There are many wind farms built and permitted in this catchment. The scientific concept of the 'Tipping Point' is applicable here and the risk posed to human health and nature is unacceptable. The scale is contrary to Proper Planning.

In closing, whilst the recent ruling of Mr. Justice Humphreys in the High Court is that Climate Action must be taken seriously, the rulings of Mr. Justice Holland and Ms. Justice Butler carry more substance and legal weight than an opinion: the planning and environmental laws must take precedence. Flooding is a water issue and a public health issue and Flood Guidelines for Planning Authorities are clear and established. In the information presented to Kilkenny County Council in the Planning Application, the applicant only assessed the potential for flooding at their own development site. There is already significant flooding downstream of the development and the risk to downstream receptors is real. Whilst agents for WEI might attempt to convince the media and judiciary that too many windfarm applications are being refused, the real truth is that the agents present development proposals in landscapes that have water supply or habitat importance and are therefore indefensible in planning law. Incorrectly applied mapping and scoping is the true issue here. If the sites were suitable, there would be no issue. The site chosen for Briskalagh Ltd. is not suitable for many practical reasons. Kilkenny County Council were correct in their Refusal.

Yours Sincerely

Pamela Bartley

Dr. Pamela Bartley B.Eng, M.Sc., Ph.D.

Principal in Water. Hydro-G.

17th April 2025

Appendix A

Original Hydro-G Report in support of KBT Responsible Energy's Objection on PL 2560003.

Expert Opinion on Behalf of KBT Responsible Energy

Prepared by

Dr. Pamela Bartley B.Eng, M.Sc., Ph.D.

Expert Service Provider

Hydro-G

Briskalagh Ltd. Proposed Wind Turbine Development

MKO EIA R Briskalagh

Aquatic Baseline Survey

Hydrology & Hydrogeology

Flooding

Land, Soils & Geology

Construction & Environmental Plan

Kilkenny County Council

Planning Reference 2560003

Wind Turbine Agglomeration and Associated Enabling Works.
Development Across 35 Townlands in County Kilkenny

JANUARY 2025

1. Introduction

2. Theoretical background

3. Methodology

4. Results and discussion

5. Conclusion

6. References

7. Appendix

8. Acknowledgements

9. Bibliography



Hydro-G

50 Henry St.
Galway
H91 FA4X

pamela@hydro-g.com

Project No.:	2025_WFs_14_Kilmanagh_Briskalah3_KBT_Kilkenny
Report Status:	Issue 25.1
Report Title:	Expert Opinion on Behalf KBT Responsible Energy and Kilkenny County Council's Planning Reference 2560003.
Legislation of Particular Note:	• Local Government (Water Pollution) Acts 1977 & 1990. • Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. (i.e. The Water Framework Directive). • Directive 2014/52/EU of the European Parliament and of the Council of 16 April 2014 amending Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment (EIA Directive). • European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018. S.I. No. 296/2018. • Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks • European Communities (Assessment and Management of Flood Risks) Regulations 2010. S.I. No. 122/2010 as amended • European Communities (Assessment and Management of Flood Risks) (Amendment) Regulations 2015. S.I. No. 495/2015. • European Union (2024) REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on nature restoration and amending Regulation (EU) 2022/869. THE EUROPEAN PARLIAMENT THE COUNCIL Brussels, 15 March 2024. • European Communities Environmental Objectives (Surface Water) Regulations, S.I. No. 272 of 2009 as amended. • European Communities Environmental Objectives (Groundwater) Regulations, S.I. No. 9 Of 2010 as amended. • European Communities (Birds and Natural Habitats) Regulations, 2011. S.I. No. 477 of 2011. • European Communities (Birds and Natural Habitats) (AMENDMENT) Regulations, 2021. S.I. No. 293 of 2021. • European Union (Drinking Water) Regulations 2023 (S.I. No. 99 of 2023). • European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations, 2009. S.I. No. 296 of 2009. • European Union Environmental Objectives (Freshwater Pearl Mussel) (Amendment) Regulations, 2018. S.I. No. 355 of 2018. • European Communities (Quality of Salmonid Waters) Regulations, 1988. S.I. No. 293/1988.
Date:	31 st of January 2025
Prepared by:	Dr. Pamela Bartley B.Eng, M.Sc., Ph.D.

Bartley Hydrogeology Limited, T/A Hydro-G, is a company with limited liability registered in Galway, Ireland.

Company Registration No: 497572.

VAT No: IE9654990T

1.0	Introduction	1
2.0	Lacunae in the Application Details	2
2.1	Construction Sites	2
2.2	Transboundary Impacts	3
2.3	Omitted Potential Impact Components	3
2.4	Cumulative Impact	3
2.5	The European Union Nature Restoration Law	3
2.6	The National Biodiversity Plan	3
2.7	Inappropriate Baseline	4
3.0	Water	5
3.1	Inaccessible Assessment Reporting	5
3.2	Aquatic Baseline Report Survey (Appendix 6-3)	5
3.3	WFD Assessment	7
3.4	The Site and Public Water Supply, Drinking Water Regulations (2023)	7
3.5	Incorrectly concluded Flood Risk	9
4.0	Lands, Soils and Geology	12
5.0	Precedent for Impact, Despite EIA Reporting No Potential for Impact	12
6.0	Construction and Environmental Plan (EIA Appendix 4-2)	13
7.0	Surface Water management & Section 4 Licensing	14
8.0	Reasons Supporting Refusal	15
	References & Bibliography	16
	Appendix A	19
	Reasons for Concern for Incorrectly Concluded Impact Assessments and Lack of Impartiality in Wind Farm EIARs. Letter delivered, by hand, to the Taoiseach, Mr. Simon Harris, October 2024.	
	Appendix B	20
	Clare County Council's October 2024 Determination for Refusal PL 24-60411.	
	Appendix C	28
	Best Practice Example Paper for the Irish Assessment of Geological Environments Applied in Ireland for Study of Spatial Areas.	

Statement of Expertise Pamela Bartley B.Eng., MSc., Ph.D

Dr. Pamela Bartley is a water focussed civil engineer and is considered an Expert Service Provider (ESP) in service to engineering consultants, planning authorities, the legal profession, Environment Sections of County Councils, Úisce Éireann, The National Federation of Group Water Schemes and nationally important limestone quarries. She is now regularly called upon by community groups to provide expert, reasoned and justified independent assessment of renewable energy Environmental Impact Assessments conducted in their habitats that seem to be lacking true representation of the local understanding of water systems and associated water dependent ecosystems in existence in the vicinity of proposed construction sites. She has almost 30 years of experience in field-based practice working on construction sites, supervising borehole drilling, completing impact assessments, groundwater monitoring, modelling and abstraction point management. She is considered a specialist in karst hydrogeology and Public Water Supply; her Ph.D was a field based karst limestone environment study and in the years after she completed CPD training with the GSI at their karst specialist course in the Burren. Pamela is qualified and IOSH certified to act as PSDP (Project Supervisor Design Phase) & PSCS (Project Supervisor Construction Stage) as defined by the Health and Safety at Work (Construction) Regulations. Pamela's limited company is a registered Úisce Éireann Supplier (no. 1855) and Pamela Bartley is HSEQ approved within Úisce Éireann as one of their Hydrogeologist Framework service providers. She has advised some projects advancing Úisce Éireann's advancement of the NWRP's resultant Supply Demand Programme. Upon completion of a Diploma in Water and Wastewater Technology at Sligo RTC she completed a degree in Civil Engineering at Queens University, Belfast and then completed a Master of Science in Environmental Engineering, which was followed by a hydrogeologically focussed Ph.D. on Groundwater Impact: both postgraduate degrees were completed within the school of Civil Engineering at Trinity College, Dublin.

Her key work areas are the assessment of potential impact to groundwater and surface water arising from large scale rock extraction and groundwater use for PWS. She specialises in the engineering of groundwater and large-scale water supply boreholes for PWS, GWS, Motorway Service Stations & Hotels. Part of her work requires the assessment of Zones of Contribution to Groundwater and Spring Abstraction Points. Other work areas include evaluation of discharges to groundwater and surface waters for compliance with Irish Regulations and the hydrological and hydrogeological assessments required for EIA. She has a skillset in the assessment of groundwater quality for water treatment process parameters and working in collaboration with water treatment plant designers. She is responsible for the successful, legally compliant, attainment of large-scale Section 4 Discharge Licences.

Pamela has successfully completed post doctorate formal course training in the areas of:

- PSDP & PSCS (IOSH certified, 2016)
- Karst Hydrogeology (GSI, 2013)
- Planning & Development Act (IE, 2010) & Expert Witness (IE, 2011)
- On Site Wastewater & Water Services Amendment Act 2012 (IE, 2012 & Dublin 2012)
- Zero Discharge Willow Wastewater Systems Design Courses (Denmark 2008 & 2011 & Ireland 2012)
- Surface Water Regulations 2009 (DOE, 2010 & 2011)
- Sustainable Drainage (Wallingford/CIRIA, 2005 & 2008)
- Source Protection Zone Delineation (IGI/GSI, 2007)
- Groundwater & Contaminant Microbiology (IGI/GSI, 2006)
- Site Suitability Assessment (FETAC, 2002) & Applied Groundwater Modelling (ESI, UK, 2000)

As a result of work in evaluating planning appeals, Pamela has become specialist in planning evaluations in the context of enacted Irish Regulation and EU Directives concerning the water environment such as the Groundwater Regulations (S.I. No. 9 of 2010 & Amendment Regulations S.I. No. 366/2016), Surface Water Regulations (S.I. No. 272 of 2009 & Amendment Regulations S.I. No. 386 of 2015), Water Framework and Habitats' Directives. She has been an invited guest speaker at An Bord Pleanála, The Irish Concrete Federation, The Health Service Executive, Environmental Health Officers National Conference, The Irish Planning Institute's National Conference, The International Association of Hydrogeologists' National Conference (Irish Branch) and has delivered hydrogeological lectures to the public during Science Week. In the past, she has held full time lecturing positions in third level institutions (WIT & CIT, 1996 – 1999), delivered practical laboratory instruction in the assessment of subsols for the FETAC Site Assessor programme and also demonstrated hydraulics laboratory and practical field survey tutorial modules at Trinity College Dublin (1996). Pamela is a qualified and certified 'Site Assessor' and has been an interviewer of examination candidates in respect of eligibility for the Site Suitability FETAC Qualification.

Pamela's water supply borehole expertise has been gained in the field with contributions to Gowran RWSS, Co. Kilkenny, East Galway NFGWS Group Water Schemes, many PWS groundwater well sources for Galway County Council, Kilkenny County Council and later for Irish Water in Counties from Donegal to Galway, Limerick, Roscommon, Meath, Laois. She has developed a competency in camera survey review of boreholes in need of rehabilitation and design of subsequent programmes to improve sources. Her private enterprise boreholes include a Whiskey Distillery in Louth, Kilronan Castle, Lakeland Dairies, The Killeslin Hotel, The Loughrea Hotel, The Charleville Park Hotel, Motorway Service Stations Obama Plaza and Galway Plaza. Pamela Bartley's company is Bartley Hydrogeology Ltd., registered to trade as Hydro-G. The company holds the industry requisite professional indemnity insurance and employers, public and products liability insurances.

Executive Summary

This report presents expert support for the objection by KBT Responsible Energy in relation to planning application lodged to Kilkenny County Council (Planning Reference Z560003) for a proposed set of turbines and the associated enabling works across 35 townlands in Kilkenny. This report has been prepared by Dr. Pamela Bartley, a water and supporting habitat expert. This report supports the objections of the community and highlights significant omissions and issues in the detail of the Environmental Impact Assessment Report (EiAR) prepared by MKO for their clients, who are the proposed developers (applicant). Kilkenny County Council now has the opportunity to examine this case and complete their own independent EIA, using information presented in the applicant's EiAR and ALSO information presented by the people who know their landscape better and those experts for the people. The Planning Authority's independent EIA is required by the Directive and its associated Irish Regulations, as required and proven by Case Law.

Dr. Pamela Bartley is a specialist in hydrology, hydrogeology, public water supply, large scale construction and excavation impacts and Assessments (EIAs). She has provided expert opinions on various large-scale projects involving hard rock excavations (quarries) in proximity to Special Areas of Conservation. She is an expert hydrogeological service provider to Uisce Éireann and other agencies.

The agents for the developer provide Kilkenny County Council's Planning and Environment Sections with the opportunity to make their planning determination on the basis of the fact that Ireland's Wind Energy Strategy is technically and logistically infeasible. In response to Mr. John McGuinness' PQ 103 question in the Oireachtas on the 5th of November 2024, Mr. Eamon Ryan admitted that Ireland's onshore Wind Targets were not tested using geospatial techniques (<https://www.rte.ie/news/business/2025/0110/1489988-wind-power-ireland/>) is the limit of what is feasible on the basis of land use and Conservation Objective Natura 2000 sites. Kilkenny is asked to have the courage to make their planning determination using a combination of geospatial and risk-based factors, which the Government has failed to do. nor Human Health implications considered in the selection of the onshore wind targets. It would seem that the RTE reported current 5,000MW attainment in wind energy provision (<https://www.rte.ie/news/business/2025/0110/1489988-wind-power-ireland/>) is the limit of what is feasible on the basis of land use and Conservation Objective Natura 2000 sites. Kilkenny is asked to have the courage to make their planning determination using a combination of geospatial and risk-based factors, which the Government has failed to do.

Ireland's terrestrial wind targets are in direct contravention with the European Union's Nature Restoration Law in which Biodiversity must be restored. Biodiversity is as much a water related issue as it is ecology: the two are interconnected. The European Union's Nature Restoration Law supports Ireland's 4th National Biodiversity Action Plan (NBAP), which sets the national biodiversity agenda for the period 2023-2030 and aims to deliver the transformative changes required to the ways in which we value and protect nature.

Some agents of wind energy lobbying groups, and their associated media outlets, appear to be extolling the recent ruling of Mr. Justice Humphrey in the High Court as a 'win' for the Wind Industry. However, they are mistaken – the environment and planning laws will ultimately win over business lobbyists. The recent determination of Mr. Justice Humphrey in the Coolglass case related to Visual Impact, the Inspector's sole reliance on the County Development Plan and PROCEDURAL matters in the way the case had been evaluated. Mr. Justice Humphrey ruled on the 10th January 2025, in the High Court Hearing on the Board's refusal of the Coolglass Windfarm (<https://www.pleanala.ie/en-ie/case/317809>), that the importance of renewable energy as a climate action measure must be taken seriously and has precedent over visual impact and/or other seemingly aesthetic concerns. However, as a water professional I would like to draw Kilkenny County Council's focus to Mr. Justice Holland's April 2024 ruling, again in the High Court, where it was determined that the urgent need for action in climate and the provision of renewable energy sites does not preclude the legislative requirements of the established environmental legislation. Notwithstanding the need for climate action and renewable energy, no need can preclude us from the implementation of the Birds and Habitats Regulations and the Objectives of the Water Framework Directive's Irish Statutory and legal instruments: the Surface Water Regulations (2009, as amended), the Groundwater Regulations (2010, as amended), the Water Abstractions and Impoundments Act and ensuant Regulations (2024). Mr. Justice Holland is reported by the Irish Times (11th April 2024) as ruling that "the integrity of the planning and environmental law systems weighs heaviest". He did not see that the "undoubted public interest in wind energy" weighs "much at all" in favour of exercising his discretion against making his order. We applaud and welcome the Board's Press Release (15th January 2025 <https://www.pleanala.ie/getmedia/Renewables-decisions-statement-15-01-25-1>) following Mr. Justice Humphrey's ruling. The Board quite rightly came out strong in countering the misinformation of presented by WEI and one of their primary consultants and agents Mr. Brian Keville of MKO. In addition, the Board would be well supported by all involved in environmental law and biodiversity if they appealed Mr. Justice Humphrey's ruling. Again Mr. Justice Holland is supported by in December 2024 by Ms. Justice Butler in the Court of Appeal when she essentially ruled that renewable energy targets or not, developer insolvency risks or not, the laws of planning and environmental protection must take precedent.

The planning application (Planning Reference 2560003) involves a proposal to add 7 turbines to an area that provides baseflow to aquifers which the Geological Survey of Ireland states, in their scoping response to the applicant, supplies water for public groundwater drinking water abstractions with zones of contribution/source protection areas close to or within the proposed site boundary of the proposed Renewable Energy Development:

- Callan Public Water Supply Scheme (PWSS)
- Tullaroan Group Water Scheme
- BallyCallan Shale Region Group Water Scheme
- BallyCallan Limestone Region Group Water Scheme.

In addition, the proposed development area is within the Source Protection Area for the River Nore Public Water Supply surface water system for Kilkenny City. Uisce Éireann report completion of a National investment of €33million in the upgrade of components of the Kilkenny Regional Water Supply Scheme (RWSS) <https://www.water.ie/projects/local-projects/kilkenny-regional-water-supply-scheme>. However, the only impact consideration given by the agents for the developer was whether their own trenches could intersect the trenches for the water distribution mains of Uisce Éireann. There is no consideration given to the consequences of catchment alterations and surface water runoff in this source protection zone arising from the proposal for road construction, "borrow pit", use of explosives, rock breaking, crane hardstanding etc., foundations for turbines, or any other component of the proposed development.

A Risk Based catchment assessment is required of the European Union Drinking Water Regulations 2023 (SI 99 of 2023). Without detail presented by the applicant to populate a catchment-based Drinking Water Regulation (2023) Risk Assessment for impact on groundwater as a source of public supply, a legally defensible Grant of Permission is not possible. Hydro-G hereby advises Kilkenny County Council that the details presented in the EIAR for the proposed Briskalagh Ltd. Turbine development fail to properly consider the requirements of the Drinking Water Regulations 2023 and the requisite Risk Assessments specified in the said Regulations. The nuances of how the wind farm agents present their English language is important. It is presented that Uisce Éireann responded with results of 'infrastructure' interception scans. However, the aquifer itself is a piece of natural infrastructure and therefore there is an overlay and the Developer's agents should have pursued the Risk Assessments required by the Drinking Water Regulations 2023. Further, the bias in the EIAR presented for the development precludes any acknowledgement of risk, monitoring or mitigations should the aquifer's recharge characteristic be affected by landscape alteration across the 35 townlands. It is noted that the hub of each of the proposed 7 Turbines will contain gas and oil switchgear components of the turbine and that the blades will be coated in persistent chemicals that are known to leach with rainfall. Detail for the chemical constituents within the Turbines is missing from the impact Assessment sections of the Biodiversity, Lands Soils, Geology and Water Chapters of the EIAR for Briskalagh Ltd's Turbine agglomeration proposed in PL 2560003. The applicant's agent for Water (Chapter 9) has founded their perception of risk incorrectly. Kilkenny County Council are advised to use their own expertise on hydrogeology, or their own commissioned independent expert, to interrogate the statements in Chapter 9's Section '9.3.15 Receptor Sensitivity' in which it is incorrectly stated, as follows:

"Due to the nature of wind farm developments (and associated grid connections), being near surface construction activities, impacts on groundwater are generally negligible and surface water is generally the main sensitive receptor assessed during impact assessments. The primary risks to groundwater at the site would be from cementitious materials, hydrocarbon spillage and leakages, and potential piling works. Some of these (cementitious materials, hydrocarbon spillage and leakages, suspended sediment entrainment) are common potential impacts on all construction sites (such as road works and industrial sites). All potential contamination sources are to be carefully managed at the site during the construction, operational and decommissioning phases of the Proposed Project and mitigation measures are proposed below to deal with these potential effects".

Hydro-G advises Kilkenny County Council that the above extract presents information that fails to consider the alteration of recharge to groundwater on a quantitative basis. One CANNOT complete a correctly informed Impact Assessment when one fails to acknowledge that for the scale of construction pads, their compression and alteration with rock surface imports, presents impact potential on the basis of how water gets into the aquifer and consequently how groundwater supply is sustained for the purposes of both water supply and habitat and species support during baseflow conditions. I refer the reviewer to Plates F and G of this document and ask for a critical appraisal of whether there is no potential for recharge to groundwater quantitative impacts arising from the scales required of construction vehicles, cranes, cement pumping trucks, HGVs delivery steel, the enabling roads for delivery of products. Of course, there is impact potential for significant changes in recharge and runoff (quantitative) impacts and yet the agents for the developers attempt to distract the Competent Authorities from consideration of these impacts.

The development proposal is a large infrastructural project involving road construction, trench excavation, alteration to surface water system's catchments and proposes construction activities that could impact water-dependent habitats and species of the River Barrow And River Nore SAC (Site Code 002162) and River Nore SPA (Site Code 004233). Both of these Conservation Objective Sites are considered 'Water Dependent'. Hence, Dr. Pamela Bartley provides independent expert opinion on the lacunae in information submitted by MKO and HES for their applicant. The Grid connection proposed connects the development site to Ballyragget and there is a mention of a "Power Reserve Project at Ballyragget" in the final paragraphs of the Lands, Soils & Geology Chapter. Hydro-G hereby advises Kilkenny County Council that the applicant's agent to construct adjacent to the River Nore upgradient and downgradient of Ballyragget has not been correctly considered with respect to the Salmonid Regulations (1988) nor the Pearl Mussel Regulations (2009, as amended 2018).

Environmental Impact Assessment Omissions:

This report identifies significant gaps and downplayed information in the EIA, particularly regarding the impact on water and water dependent habitats and species. Specific chapters of the EIA, such as those on lands, soils, geology, water, and biodiversity, are scrutinised for missing critical data and analyses. I request that Kilkenny County Council refer to the text of a letter delivered to the Taoiseach in a meeting about the bias in Wind Farm EIARs and the concern of experts in this field (Appendix A to this report). The exact same observations for other wind farm proposals by MKO can be applied to this application before Kilkenny County Council.

At no point in the application details are the public afforded reference to the river that they understand and know as their local river. The river that drains the valley in which the developer proposes hill slope landscape alterations is named on OSI mapping as the "Oldtown River". Similarly, the Kilkenny County Groundwater Protection Report (Kilkenny County Council & The GSI, 2002) repeatedly refer to the river as the Kilkenny River. Locally, the river running through the village of Kilkenny is known as the Kilkenny or Tullaroan River. If there were community engagement between the applicant and the community then the applicant's agents could have understood that if they wished for their Impact Assessments to be understandable to the people living in the landscape then they should not use EPA WFD reporting notation and reference to a 'stream' because the locals do not understand where there is a stream in this valley: they only know the Oldtown, Kilkenny, Tullaroan River that floods along its valley run and over their GAA pitch and at the bridge onto the road that they use to travel to work and schools and shops.

Incorrect Application of Flood Risk Assessment Methodologies:

The nuances of how the Wind Farm consultants present their information is something that Kilkenny County Council must be wary of. There are a number of illegalities and omissions in the information presented to Kilkenny County Council that would preclude defence of a decision to Grant permission. The Flood Risk Assessment states "Therefore, there will be no increase in flood risk associated with climate change at the Proposed Wind Farm site." Kilkenny County Council are requested to interrogate carefully the specifics of the language used. Specifically, the final six words: "at the wind farm site". The issue in Flood Risk Assessment is not the potential risk to the developer's site but the risk to downstream receptors. The downstream settlements are known to experience floods of extents that present human health and safety risks. Hydro-G hereby advises Kilkenny County Council that the landscape alterations in recharge and runoff characteristics proposed by the agents for the developer will indeed alter the response of the landscape to storm events and do indeed have the potential to increase and exacerbate flood risk to the downstream communities living in the vicinity of the downstream Kilkenny settlement. The Planning Authority is precluded from granting permission to a site in hydrological connection with downstream receptors already experiencing flooding.

Legal and Regulatory Compliance:

The application is evaluated for compliance with relevant Irish and EU environmental regulations, including EU Directives and their associated Irish Statutory instruments on water policy, habitats, and birds (because habitats and birds, like humans, have water dependency). The report emphasises the need for a legally defensible and justified impact assessment, which the development proposal failed to provide. Hence, Kilkenny County Council are advised to refuse it. Whilst others might offer that the European Nature Restoration Law does not yet have Statute basis in the Irish Regulatory system, The Wildlife (Amendment) Act 2023 introduced a new public sector duty on biodiversity. The legislation provides that every public body, as listed in the Act, is obliged to have regard to the objectives and targets in the National Biodiversity Action Plan (<https://www.npws.ie/legislation/national-biodiversity-action-plan>). Conclusion: There is ample legislative backing, and a clear biodiversity crisis, that will support Kilkenny County Council's refusal of the development application presented by "Briskeagh Ltd.". The development proposal is not justified.

Invalidity of the Application:

The proposed development and its enabling works have not been correctly assessed from a Cumulative Impact perspective. Kilkenny County Council is advised to refer to the full text of a recent determination by their Planning and Environmental Colleagues in Clare County Council in PL 24-60411: Clare County Council have published a strong statement on MKO's lack of correct application of Cumulative Impact as required by the EIA Directive and its associated EIA Regulations. I refer Kilkenny County Council to Appendix B of this Submission. Hydro-G advises Kilkenny County Council that the exact text of Clare County Council's refusal on PL 24-60411 could similarly be applied to the Cumulative Assessment approach presented in the Land, Soils and Geology Chapter 8 and the Water Chapter 9 of the Briskalagh Ltd. Turbine proposal's EIA.

Requisite components of the Impact Assessment have not been correctly informed and in some cases potential impacts have been omitted entirely from consideration by the applicants' agents. There is no consideration of the impact potential of the persistent chemical coatings on the turbine blades, which are known to leach in rainfall, and neither is there impact potential consideration for the gas and gear oil contained in the hubs of the turbines. The significance of these omissions is not small in the matter of the lacunae in the baseline data presented for Kilkenny County Council's own independent EIA, NIS and AA.

1.0 Introduction

This report presents information for Kilkenny County Council's consideration in relation to a Planning Reference 2560003 for a proposed set of seven turbines and all enabling roads and construction pads in the vicinity of Kilmagh, Co. Kilkenny. Construction works are proposed across 35 Townlands of Kilkenny and 1000's of hectares of land will be converted from natural condition to compressed hardcore work areas. The development description provided in the documents uploaded to Kilkenny County Council's Planning Portal for PL Ref 2560003, includes a Development Description as follows:

"for a period of 10 years for a development at this site situated in the townlands of Acragar, Ballyconra, Ballycuddilly, Ballyroe (Grace), Ballyroe (Maher), Baunanska, Boherkyle, Briskalagh, Brittas, Clone, Coolnapiasha, Curraghduff, Freshford, Freshford Lots, Graigueswood, Grange, Huntstown, Kilmagh, Knockenglass, Knockown, Moatpark, Monabrika, Monavadaroe, Moneenau, Oldtown, Oldtownhill, Parksgrove, Picketstown, Rathaly, Sart, Sweethill, Tobernapeasta, Tullaroan, Upperwood Demesne, Co. Kilkenny. The development will consist of the provision of the following:

i. 7 no. wind turbines with an overall turbine tip height of 185 metres; a rotor blade diameter of 163 metres; and hub height of 103.5 metres, and associated foundations and hard-standing areas; ii. A permanent 38kV substation compound (control building with welfare facilities, all associated electrical plant and apparatus, security fencing, underground cabling, storage containers, wastewater holding tank, site drainage and all ancillary works); iii. Permanent underground electrical (38kV) and communications cabling to the existing Ballyragget 110kV substation in the townland of Moatpark (including joint bays, communication and earth sheath link chambers and all ancillary works along the route). This cabling route is primarily located within the public road corridor which includes a Protected Structure (Kilkenny RPS Ref. C886); iv. Underground electrical (33kV) and communications cabling connecting the wind turbines and meteorological mast to the on-site substation; v. 3 no. temporary construction compounds (including site offices and welfare facilities); A meteorological mast with a height of 30 metres, security fencing and associated foundation and hard standing area; vi. A new temporary site entrance on the L1009; vii. A new gated site entrance on the L5024; ix. Upgrade of existing site tracks/ roads and provision of new site access roads, junctions and hardstand areas; x. A borrow pit; xi. Spoil Management; xii. Tree felling and hedgerow removal; xiii. Biodiversity Management and Enhancement Plan measures (including establishment of a riparian buffer and hedgerow enhancement); xiv. Site Drainage; xv. Operational Stage signage; and xvi. All ancillary works and apparatus. A thirty-five-year operational life from the date of full commissioning of the wind turbines and subsequent decommissioning of the wind turbines is being sought. An Environmental Impact Assessment Report and Natura Impact Statement has been prepared in respect of the proposed development and accompany this application.

This observation report has been commissioned by KBT Responsible Energy, where the KBT stands for Kilmagh, Ballycallyan, Tullaroan.

The author of this report, Dr. Pamela Bartley, is a surface water and groundwater specialist with expertise in Environmental Impact Assessment and the associated resultant Environmental Impact Assessment Report (EIA), catchment evaluations, quarrying, public water supply and water dependent species and habitats. Dr. Pamela Bartley is known in her own specialist arena, both public water supply and bedrock quarries, to have a skill in legally defensible and justified impact assessment driven by the rules of EU EIA Directive, EPA (2022) Guidelines on EIARs and both Irish Regulations and their parent EU Directives. Pamela's skillset has always founded itself on the interaction between water and Conservation Sites and their species and habitats.

The applicant is "Briskalagh Limited". The managers of the Environmental Impact Assessment and the associated Environmental Impact Assessment Report are MKO, a consultancy that specialises in the support of Wind Farm development across Ireland.

Kilkenny County Council are legally obliged under the EIA Directive to use the information in the EIA to carry out an independent assessment by reference to the criteria set out in substantive environmental law rather than simply checking the contents and/or reciting the conclusions of the EIAR. If there is an absence of baseline information which is required to be produced by a competent authority or others, the competent authority cannot carry out such an independent evaluation. (AG Kokott, Case C-727/22, Friends of the Irish Environment (Projet Irlanda 2040), EU:C:2024:266, paragraph 57).

Dr. Pamela Bartley's 'Project Brief' was to evaluate the application details in the context of whether there are significant pieces of information that have been downplayed or omitted in the details of the application presented to Kilkenny County Council. In legal terms the issue relates to unacceptable 'lacunae' with respect to the ability of the applicant's agents to have thoroughly populated a legally defensible or justified 'Impact Potential'. The elements of the applicant's EIA that specifically relate to Hydro-G's area of expertise include, as follows:

- i. Appendix 6-3 Aquatic Baseline Report by MKO.
- ii. Appendix 9-3 Water Framework Directive Report (HES).
- iii. Chapter 8 Lands, Soils & Geology and the associated Appendices.
- iv. Chapter 9 Water and the associated Appendices.
- v. Appendix 9-1 Flood Risk Assessment.
- vi. NIS Details for Water Dependent Species and the Biodiversity Chapter 6's presentation of species and water-dependent habitats and species of the River Barrow And River Nore SAC (Site Code 002162) and River Nore SPA (Site Code 004233).
- vii. CEMP (Construction and Environmental Management Plan) Appendix 4-2 to the EIA
- viii. The 'Interaction of the Foregoing' and resultant total 'Cumulative Impact' aspects of the development.

Prior to Dr. Pamela Bartley's offerings on the lacunae with respect to Water, Land, Soils and Geology and the Construction Management Plan, of the proposed development before Kilkenny County Council, there are some general overall issues with the applicant's application details and EIA's context that must be highlighted, as outlined in Section 2.

2.0 Lacunae in the Application Details

2.1 Construction Sites

The overall issue is that one cannot 'construction site' oneself out of an energy crisis. A construction site is a permanent removal of a natural asset in the landscape. To propose to install tall masts of steel with rotating blades in the landscape of west Kilkenny, in which there are nationally and internationally important species and habitats, is an indefensible proposal that the legal framework does not support. There is ample legislative backing, and a clear biodiversity crisis, that will further support refusal by Kilkenny County Council because the current government Climate Action policy is at odds with recent changes in the European legislative framework. Refer to Appendix A of this report.

2.2 Transboundary Impacts.

There are significant lacunae in the applicant's agent's presentation of **Transboundary Impacts**. The EIA Directive 2014-52-EU invokes the Espoo Convention on Environmental Impact Assessment in a Transboundary Context, 1991, and applies its definition of transboundary impacts. The applicant/appellant and their agent's fail to assess impacts comprehensively in that they fail to demonstrate that the proposal is mathematically defensible in carbon generation from the point of mining the metals and manufacture of source material for the masts, blades, hubs, batteries, concrete for foundation footings, structural steel reinforcement in each turbine's foundation base and the emissions resulting from the transport train through multiple countries and across seas. The diesel that is expended in the movement of trucks and earth is not accounted for. Instead, there is a notional "inter alia" 'green energy' support for the Climate Action Plan and compliance with the Low Carbon Development Act 2015. There is no information in the EIA that would enable their defence that the true mathematical accounting of all carbon impact aspects of the development have been presented. Overall, there is no information presented by the applicant by their agents with respect to ACTUAL compliance and instead there is an 'opinion' presented that there is compliance with the Climate Action Act (2015).

2.3 Omitted Potential Impact Components

Requisite components of the Impact Assessment have not been correctly informed and in some cases potential impacts have been omitted entirely from consideration by the applicants' agents. There is no consideration of the impact potential of the persistent chemical coatings on the turbine blades, which are known to leach in rainfall, and neither is there impact potential consideration for the gas and gear oil contained in the hubs of the turbines. The significance of these omissions is not small in the matter of the lacunae in the baseline data presented for Kilkenny County Council's own independent EIA. There are other items missing. They are a matter for Kilkenny County Council's determination.

2.4 Cumulative Impact

Hydro-G offers that for a long time and across many counties in Ireland we have attempted to support communities in their bafflement at information presented in 'renewable energy' EIAs for the lands surrounding their homes, farms, recreational areas and hiking trails. As EIA and EIA professionals we were continuously baffled as to the cumulative assessment approaches presented for agents for 'renewable energy' business proposals presented to the Planning Departments of Competent Authorities. Hence, we penned the Note that is contained in Appendix A. In 2024, Clare County Council's Planners Clare County Council have published a strong statement on MKO's lack of correct application of Cumulative Impact as required by the EIA Directive and its associated EIA Regulations. I refer Kilkenny County Council to Appendix B of this Submission. Hydro-G advises Kilkenny County Council that the exact text of Clare County Council's refusal on P1 24-60411 could similarly be applied to the Cumulative Assessment approach presented in the Land, Soils and Geology Chapter 8 and the Water Chapter 9 of the Briskalagh Ltd. Turbine proposal's EIA.

2.5 The European Union Nature Restoration Law

It is now a legal requirement to make decisions on the basis of the European Union's Nature Restoration law. The application fails to acknowledge the changed legislative landscape. The European Union (2024) REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on nature restoration and amending Regulation (EU) 2022/869. There are clear targets for the year 2030, i.e. less than 7 years' time. Kilkenny County Council's Reasons for Refusal could specify an unacceptable potential impact on biodiversity and water. Refer to Appendix B of this report for a copy of Clare County Council's recent use of this legal mechanism. This is a defensible and justified position. There is no contrary opinion that Kilkenny County Council could defend if they were minded to grant permission on this site. Readers are referred to the full text of the EU (2024) statements on what is now required of us all. <https://data.consilium.europa.eu/doc/document/PE-74-2023-INIT/en/pdf>.

2.6 The National Biodiversity Plan

NPWS have published that "Ireland's 4th National Biodiversity Action Plan (NBAP) sets the national biodiversity agenda for the period 2023-2030 and aims to deliver the transformative changes required to the ways in which we value and protect nature. The 4th NBAP has been developed with the support, advice and input of the interdepartmental Biodiversity Working Group and the independent Biodiversity Forum. Ireland's 2nd National Biodiversity Conference was held to gather insights and recommendations for the development of the NBAP and a public consultation process was held to provide further opportunities to engage with the Plan.

The 4th NBAP strives for a "whole of government, whole of society" approach to the governance and conservation of biodiversity. The aim is to ensure that every citizen, community, business, local authority, semi-

state and state agency has an awareness of biodiversity and its importance, and of the implications of its loss, while also understanding how they can act to address the biodiversity emergency as part of a renewed national effort to "act for nature".

This National Biodiversity Action Plan 2023-2030 builds upon the achievements of the previous Plan. It will continue to implement actions within the framework of five strategic objectives, while addressing new and emerging issues:

- Objective 1 - Adopt a Whole of Government, Whole of Society Approach to Biodiversity
- Objective 2 - Meet Urgent Conservation and Restoration Needs
- Objective 3 - Secure Nature's Contribution to People
- Objective 4 - Enhance the Evidence Base for Action on Biodiversity
- Objective 5 - Strengthen Ireland's Contribution to International Biodiversity Initiatives"

Source: <https://www.npws.ie/legislation/national-biodiversity-action-plan>

2.7 Inappropriate Baseline

It is widely publicised that the current biodiversity baseline is very poor. So very poor. Considering the information presented by the European Union in the formal text of the Nature Restoration Regulation (2024), no baseline survey should be founded on any surveys completed in recent years. Surely the baseline was 100 years ago before the current biodiversity crisis was acknowledged. A report for National Parks and Wildlife in December 2023 stated as follows:

- "The global trends of biodiversity loss are reflected in the status of biodiversity in Ireland.
- Ireland's 2019 conservation status assessments for protected habitats and (non-bird) species required under Article 17 of the EU Habitats Directive, reported that 46% of EU protected habitats and 15% of EU protected species demonstrated ongoing declines over a 12-year period.
- Of those threatened species, the NBAP reported that half of all bee species have undergone substantial decline in population and 63% of bird species in Ireland are declining at alarming rates.
- The decline of these species can be a result of many factors, mainly the deterioration of their natural habitats.
- Ireland's 2019 Article 12 report for the Birds Directive showed that almost 20% of Ireland's breeding bird species are considered to be in long-term decline, where data availability allows such analysis. Some species and/or groups, such as breeding waders, and in particular the Curlew, along with the hen harrier and the Freshwater Pearl Mussel, are under threat, and measures are needed to halt their decline".

Source (Arup, 2023) for National Parks and Wildlife.

Again Hydro-G offers that Kilkenny County Council's reasons for refusal will be defensible and justified and it would be contrary to proper planning to permit turbines in the landscape of west Kilkenny. A poor current baseline will not be improved in any way by more construction activity of the large scale required to create the roads and construction pads that would be required to foot turbine masts into landscapes hydrologically connected to Water Supplies and Conservation Objective species' habitats.

3.0 Water

3.1 Inaccessible Assessment Reporting

EPA (2022) Guidelines for EIARs and the associated EU Advice Document (2017) are both available to all on the internet. EPA (2022) is available at https://www.epa.ie/publications/monitoring-assessment/assessment/EIAR_Guidelines_2022_Web.pdf and EU (2017) is available at <https://op.europa.eu/en/publication-detail/-/publication/2b399830-cb4b-11e7-a5d5-01aa75ed71a1>. One strong tenet of writing an EIAR is that the language and references must be accessible to all EU citizens and that there must be transparency to enable public understanding of the baseline environment and consequent impacts of the developer's proposals for their proposed, in this case, business endeavours. The applicant's agents persistently use professional references to the surface water system and whilst there is nothing technically incorrect about the persistent use of the EPA's WFD names for the rivers, it has an isolating effect for the community and planners. For example, the applicant's agents persistently refer to the river of the valley draining their proposed development area as the "Tullaroan Stream". This is an EPA WFD name. The correct name is actually the Tullaroan Stream_030, which signifies a Third Order River that has grown since its origin point in the elevated landscape, in which it would be named with a "01" label at its origin. The applicant's agents should not use the EPA name unless they are assigning its size also: the label requires a numerical indicator of size. In order to enable the legal and rightful public participation or understanding, it is Best Practice for hydrologists to call out the true OSI name of the river in the introductory stages of the Hydrology Chapter (9 of this EIAR) and the Flood Risk Assessments (Appendix 9-1). At no point in the application details are the public afforded reference to the river that they understand and know as their local river. The river that drains the valley in which the developer proposes hill slope landscape alterations is named on OSI mapping as the "Oldtown River". Similarly, the Kilkenny County Groundwater Protection Report (Kilkenny County Council & The GSI, 2002) repeatedly refer to the river as the Kilkenny River. Locally, the river running through the village of Kilkenny is known as the Kilkenny or Tullaroan River. If there were community engagement between the applicant and the community then the applicant's agents could have understood that if they wished for their Impact Assessments to be understandable to the people living in the landscape then they should not use EPA WFD reporting notation and reference to a 'stream' because the locals do not understand where there is a stream in this valley: they only know the Oldtown, Kilkenny, Tullaroan River that floods along its valley run and over their GAA pitch and at the bridge onto the road that they use to travel to work and schools and shops.

3.2 Aquatic Baseline Report Survey (Appendix 6-3)

With reference to the detail of the Aquatic Baseline Report (Appendix 6-3), Page 6 Conclusions state, as follows:

"At present, watercourses within the proposed wind farm study area are not satisfying the objectives of the Water Framework Directive (WFD) which is to achieve at least Q4 Good Status by 2027."

&

"Seven of the watercourses sampled received Q3-4 Moderate and Q3 Poor and at present, these watercourses along the proposed grid route are not satisfying the objectives of the Water Framework Directive (WFD) which is to achieve at least Q4 Good Status by 2027."

The fact of the damaged hydrological system is provided in photographs in the MKO Aquatic Baseline Report, as their numbered Plates 4.2 and 4.5, as reproduced here as Plates A and B of the Hydro-G submission with the original text from MKO also included within the box delineation of the direct extract from the MKO Baseline Aquatic Assessment for Briskalagh Ltd's project. There is a grave lack of joined up thinking in that graduates are sent out to evaluate a hydrological system and they report back that it is damaged and in poor ecological condition and yet an EIAR is submitted to defend proposals for large scale construction in the same damaged habitat. This is not what was intended by the EIA Directive nor its Irish Statutory Instrument's EIA Regulations.

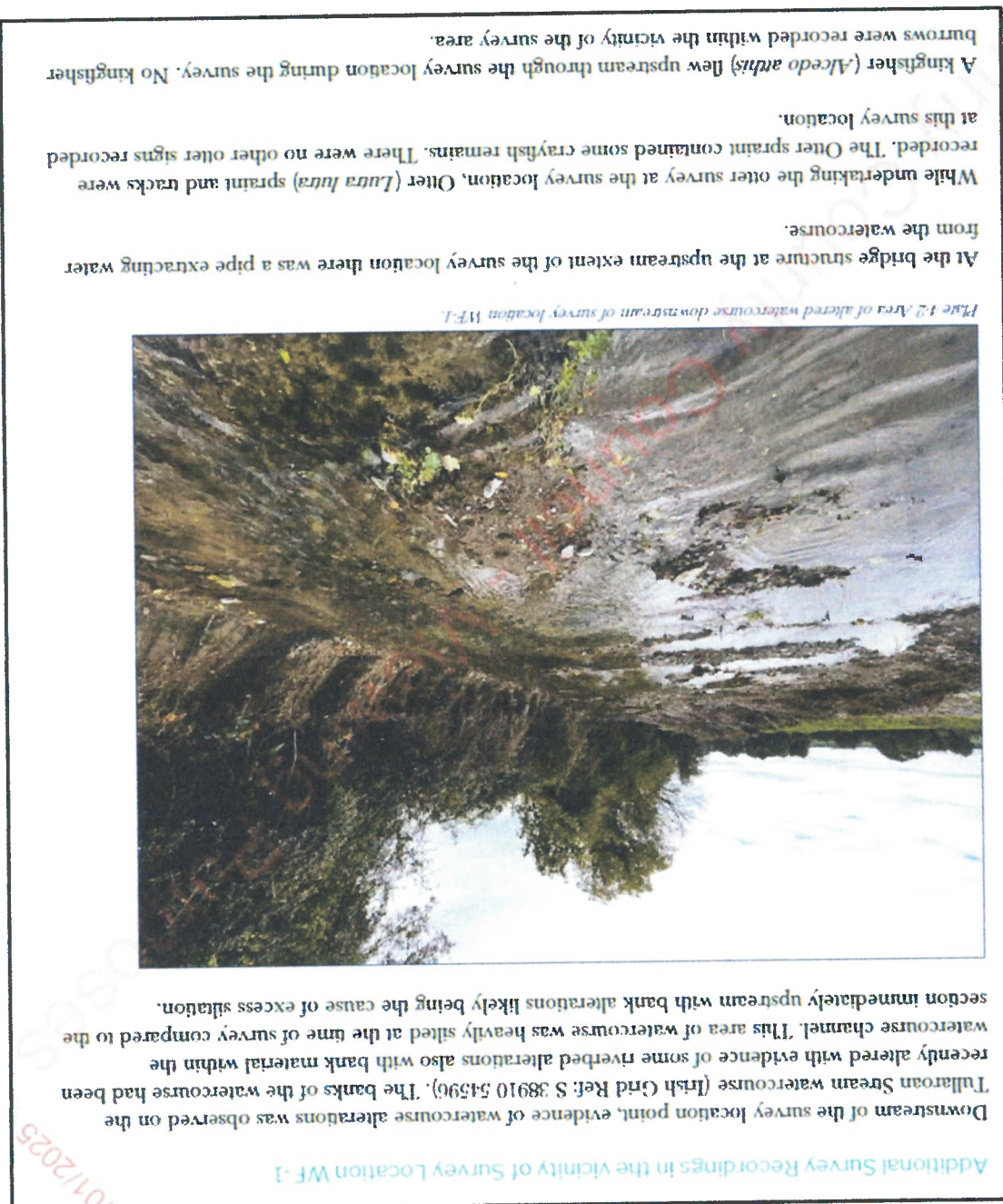


Plate A MKO's Plate 4-2 of the Aquatic Baseline Report (Appendix 6-3, Briskalagh EIA) and their own text describing evidence of Otters and kingfisher protected species.

Hydro-G requests that Kilkenny County Council's Planning Department directly consults with their own Environmental Section and ecologist as to whether the MKO reported kingfisher flying over the surveyors might have been that that kingfisher was trying to communicate a plea for help following the hydrological terrorism that may have recently devastated its burrow home? The legal significance of the information presented by the applicant is that there is a protected species but no habitat and there is evidence that the habitat requires restoration, as specified by the European Union (2024) REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on nature restoration and amending Regulation (EU) 2022/869. Clearly sets out targets for the year 2030, i.e. less than 7 years' time. Kilkenny County Council's Reasons for Refusal could specify an unacceptable potential impact on biodiversity and water. Refer to Appendix B and Clare County Council's recent use of this legal mechanism.

The first part of the paper discusses the importance of the study of the history of the English language. It is noted that the English language has a long and rich history, and that the study of its development is essential for a full understanding of the language. The paper then goes on to discuss the various factors that have influenced the development of the English language, including the influence of other languages, the influence of social and cultural changes, and the influence of technological advances. The paper concludes by noting that the study of the history of the English language is a fascinating and important field of research.

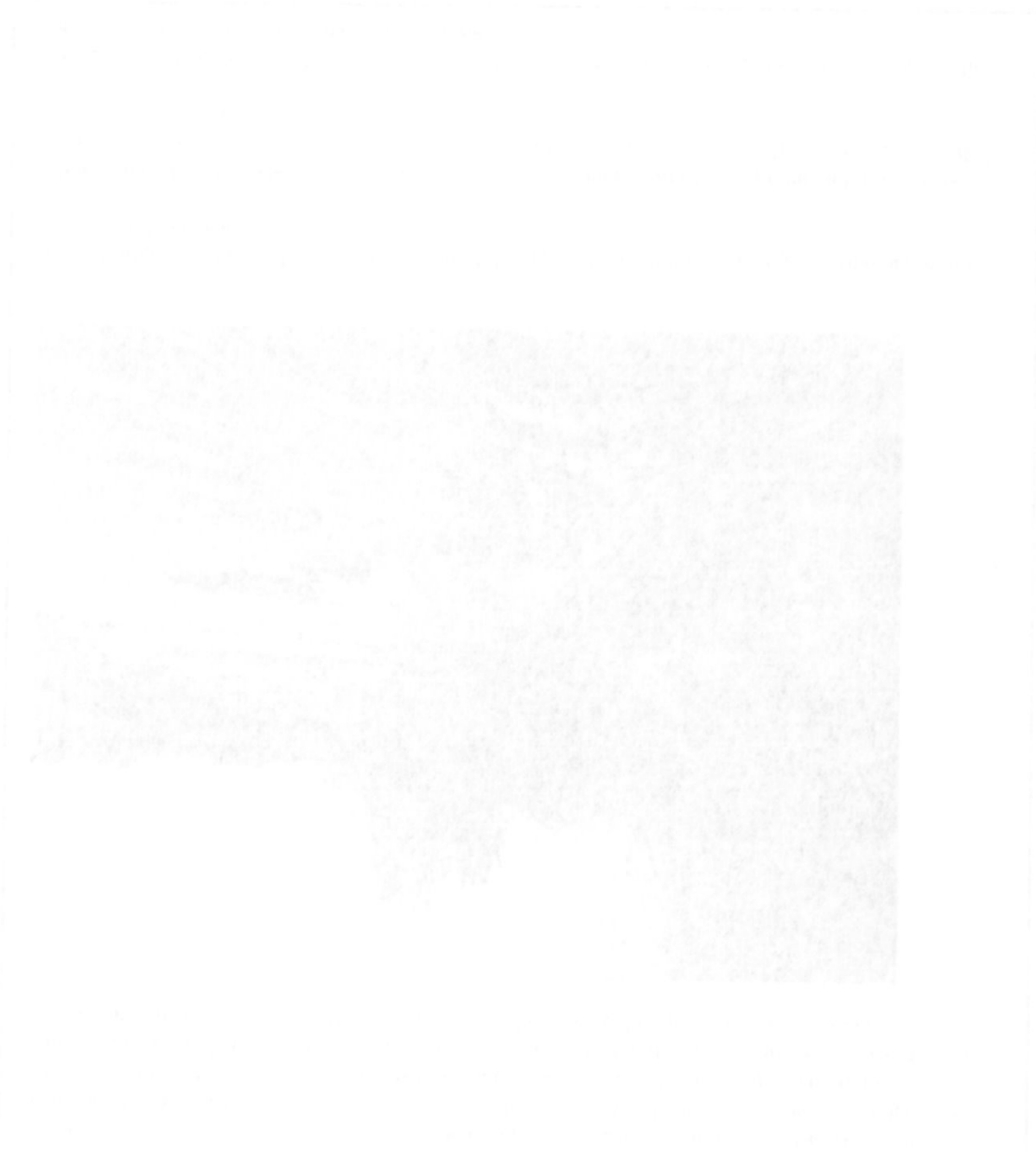




Plate B MKO's Plate 4-5 of the Aquatic Baseline Report (Appendix 6-3, Briskalagh EIA) showing one of the many Poor Status Stretches of a river system within the proposed wind farm development site.

7

3.3 WFD Assessment

The WFD Assessment (Appendix 9-3) is a Desk Study that fails to acknowledge or reference the site-specific field results presented in the Aquatic Baseline Report (Appendix 6-3) of the same EIA. This is contrary to the tenets of the Water Framework Directive and its associated Irish Statutory Instrument named the Surface Water Regulations (2009, as amended).

The proposal is in direct contravention of Ireland's River Basin Management Plan 2022 – 2027 (<https://www.gov.ie/en/policy-information/8da54-river-basin-management-plan-2022-2027/>) and the Programmes of Measures for the River Action Plan 2024. Upland rivers and hill side source areas are a CRITICAL component of the attainment of Good Status in catchments.

3.4 The Site and Public Water Supply, Drinking Water Regulations (2023)

The issue of the applicant's agent's omission of the Risk Assessment obligations of the European Union Drinking Water Regulations 2023 (SI 99 of 2023) is no small matter.

"Regionally, the Proposed Wind Farm site is located in the River Nore surface water catchment within Hydrometric Area 15 of the South Eastern River Basin District. More locally, the Proposed Wind Farm is located within 2 no. WFD river sub-catchments. The vast majority of the Proposed Wind Farm is located in the Munster River sub-catchment (Munster_SC_010) whilst a small area in the northeast is mapped in the Nore_SC_090 sub-catchment." (Source HES WFD Report Appendix 9-3).

The proposed development area is within the Source Protection Area for the River Nore Public Water Supply surface water system for Kilkenny City. Uisce Éireann report's completion of a National Investment of €33million in the upgrade of components of the Kilkenny Regional Water Supply. However, the only impact consideration given by the agents for the developer was whether their own construction trenches could intersect the trenches for the water distribution mains of Uisce Éireann. This is not adequate.

in the sole consideration as to whether the applicant's proposed construction trenches for cables could intersect and surface water runoff in this source protection zone arising from the proposal for the enabling road's construction, borrow pit, crane hardstanding etc., foundations for turbines, permanent concrete bases, reinforcing steel, permanent hardstandings, or any other component of the proposed development.

A Risk Based catchment assessment is required of the European Union Drinking Water Regulations 2023 (SI 99 of 2023). Without detail presented by the applicant to populate a catchment-based Drinking Water Regulation (2023) Risk Assessment for impact on groundwater as a source of public supply, a legally defensible Grant of Permission is not possible.

With respect to the fact that the applicant received a 'No Objection in Principle' letter from Uisce Éireann is inconsequential. Interrogation of the detail of the 'No Objection in Principle' letter from Uisce Éireann enables a conclusion that Uisce Éireann considered only the development proposals road alterations and building sites in the context of intersection with water distribution assets and wastewater mains networks. There are no catchment assessments, water accounting or resource evaluations in the applicant's original detail. The National Water Resource Plan (NWRP) has identified areas in which the abstractions from surface waters must be reduced due to likely reductions in rainfall recharge or because of current over abstractions. There is no reference in the applicant's original detail to the NWRP's intentions for the development area under proposal.

No detail for the required specific Risk Assessment has been presented by the applicant with respect to the European Union Drinking Water Regulations 2023 (SI 99 of 2023) despite the fact that the proposed Briskalagh Ltd. Wind Farm development is mapped by the EPA in their publically available ENVISION mapping system (<https://gis.epa.ie/EPA/Maps/Water/>) as "Mapped Protected Area Drinking Water – Groundwater" Drinking Water – Groundwater for the Drinking Water [IE_SE_G_083, EU_NAME Kilmagh Gravel, Type GWB, EU_PA_Code IEPA1_SE_G_083, EU_PA_Type Article 7 Abstraction for Drinking Water] and [IE_SE_G_009, NAME Baillingarry, Type GWB, EU_PA_Code IEPA1_SE_G_009, EU_PA_Type Article 7 Abstraction for Drinking Water]. Kilkenny County Council are advised that the construction pads of hardcore, trenches and earth movement have not been appropriately assessed with respect to the underlying mapped Protected Drinking Water - Groundwater.

In addition, there is no evidence of meaningful consultation with any private domestic well owners or local GWS. On the day of official lodgment of the completed EIA to the planning portal of Kilkenny County Council, the consultants and Community Liaison Officer visited the GWS sources. This is not the correct application of the principles of EIA in the EIA Directive.

The applicant's agent for Water (Chapter 9) has founded their perception of risk incorrectly. Kilkenny County Council is advised to use their own expertise on hydrogeology, or their own commissioned independent expert, to interrogate the statements in Chapter 9's Section '9.3.15 Receptor Sensitivity' in which it is incorrectly stated that

"Due to the nature of wind farm developments (and associated grid connections), being near surface construction activities, impacts on groundwater are generally negligible and surface water is generally the main sensitive receptor assessed during impact assessments. The primary risks to groundwater at the Site would be from cementitious materials, hydrocarbon spillage and leakages, and potential piling works. Some of these (cementitious materials, hydrocarbon spillage and leakages, suspended sediment entrainment) are common potential impacts on all construction sites (such as road works and industrial sites). All potential contamination sources are to be carefully managed at the Site during the construction, operational and decommissioning phases of the Proposed Project and mitigation measures are proposed below to deal with these potential effects".

Hydro-G advises Kilkenny County Council that the above extract presents information that fails to consider the alteration of recharge to groundwater on a quantitative basis. One CANNOT complete a correctly informed impact Assessment when one fails to acknowledge that for the scale of construction pads, their compression and alteration with rock surface imports, presents impact potential on the basis of how water gets into the aquifer and consequently how groundwater supply is sustained for the purposes of both water supply and habitat and species support during baseflow conditions.

In the context of the above, the applicant has failed to consider correctly the potential impact on Ballycallan Muintir Group Water Scheme, Co Kilkenny, whose source is in the village of Kilmannagh and close to the Oldtown / Kilmannagh / Tullaroan River, which the applicant's agents call the Tullaroan Stream because this is what their Desk based computer studies calls it when they use EPA WFD focussed mapping systems. However, the Kilkenny County Council and GSI (2002) County Kilkenny Groundwater Protection Scheme Report names the river draining the valley, and flowing through Kilmannagh, as the Kilmannagh River.

The Conceptual Understanding of the GWS's catchments and zones of contribution are presented in the Zone of Contribution Report (GSI, 2018). The planning application (Planning Reference 2560003) involves a proposal to add 7 turbines to an area that provides baseflow to an aquifer in which the Geological Survey of Ireland states, in their scoping response to the applicant, supplies water for public groundwater drinking water abstractions with zones of contribution/source protection areas close to the Renewable Energy Development site boundary:

- Callan Public Water Supply Scheme (PWSS)
- Tullaroan Group Water Scheme
- Ballycallan Shale Region Group Water Scheme
- Ballycallan Limestone Region Group Water Scheme.

None of those listed schemes have been correctly assessed in the EIA detail presented to Kilkenny County Council. At no point in the EIA is the potential impact presented or assessed in relation to the 1000's of litres of gear oils and gases in the hub at the top of each of the turbine masts and the chemical coatings on the blades of the turbines. These gases, oils, chemical coatings are a potential impact that is missing from the EIA.

3.5 Incorrectly concluded Flood Risk

The windfarm development proposed involves the construction of works within a delineated flood zone associated with the Kilmannagh/Tullaroan River watercourse. In particular, details presented for the applicant include a proposal to construct a new access roadway across the Kilmannagh/Tullaroan River and its associated flood zone between the location of proposed turbine T7 and turbine T6.

The potential hydrological and hydraulic impact of the proposal to construct this proposed new access roadway has not been assessed or quantified in any meaningful way in the submitted Site Specific Flood Risk Assessment. There are serious concerns that this proposal will result in an adverse impact to the existing hydrological regime of the area and increase flood risk elsewhere.

The Flood Risk Assessment states "Therefore, there will be no increase in flood risk associated with climate change at the Proposed Wind Farm site." Kilkenny County Council are requested to interrogate carefully the specifics of the language used. Specifically, the final six words: "at the wind farm site". The issue in Flood Risk Assessment is not the potential risk to the developer's site but the risk to downstream receptors. The downstream settlements are known to experience floods of extents that present human health and safety risks. Hydro-G hereby advises Kilkenny County Council that the landscape alterations in recharge and runoff characteristics proposed by the agents for the developer will indeed alter the response of the landscape to storm events and do indeed have the potential to increase and worsen flood risk to the downstream communities living in the vicinity of Kilmannagh. Significant instances of flooding have been experienced immediately downstream of Kilmannagh Village in recent years. The catchment area of the Oldtown/Kilmannagh/Tullaroan River immediately upstream of Kilmannagh Bridge, and within the area of the proposed 7 No. wind turbines, is significantly elevated beyond the left and right overbanks of the stream channel. This results in a 'flashy' catchment at this location and a relative quick time to peak of any flood event. Refer to Plates C, D and E for the evidence of the current flooding downstream of the proposed development area.

In order to fully assess and quantify the potential hydrological and hydraulic impact of this proposal a detailed hydrological assessment should have been undertaken in order to determine 1% AEP (1 in 100 year) and 0.1% AEP (1 in 1000 year) flood volumes in the Oldtown/Kilmanagh/Tullaroan River watercourse at this location. In addition, a detailed 1D-2D hydraulic flood modelling exercise should have been undertaken. Any hydraulic flood modelling exercise would have provided a suitable comparative analysis between the existing undeveloped baseline scenario and proposed development scenario and would have quantified the potential for this proposal to result in an adverse impact elsewhere – this has not been undertaken as part of the submitted Site Specific Flood Risk Assessment.



Plate C

EIAR DOES NOT ACKNOWLEDGE the flood experience at the pitches playing in the village downgradient of the proposed Briskalagh wind farm.



Plate D EIA DOES NOT ACKNOWLEDGE the flood experience in the village downgradient of the proposed Briskalagh wind farm.



Plate D EIAR DOES NOT ACKNOWLEDGE flood experience in the village downstream of the proposed Briskalagh wind farm.

With regard to the applicant's agents and Community Liaison Officers (CLO) actual liaison with the community, the evidence of the community with regard to flooding seems to have wither been missed or ignored.

The windfarm development proposes several significantly large spoil management areas and one significantly large "Borrow Pit" (meaning quarry) within the catchment area of the Oldtown/Kilmanagh/Tullaroan River immediately upstream of Kilmanagh Bridge. These significant spoil management and "Borrow Pit" (quarry) areas have the potential to alter existing overland and flow conveyance paths and have the potential to displace waters elsewhere and to result in an adverse impact to the existing hydrological regime of the area, especially in consideration of the 'flashy' nature of the catchment at this location.

The potential impact of these spoil management and "Borrow Pit" areas on the existing hydrological regime of the area has not been assessed or quantified in any way as part of the Site Specific Flood Risk Assessment. In this regard a detailed 2D pluvial modelling should have been undertaken.

As evidenced in the photographs of the Baseline Aquatic Survey (Appendix 6-3), significant unauthorised in-channel and embankment excavation and re-alignment works have been undertaken along the Oldtown/Kilmanagh/Tullaroan River watercourse in the vicinity of Oldtown Bridge and upstream of the proposed wind farm development. The potential impact of these works on the existing hydrological regime of the area has not been assessed or discussed as part of the submitted Site Specific Flood Risk Assessment. These works have the potential to adversely impact the existing hydrological regime and potential to increase flood risk elsewhere.

The first part of the report deals with the general situation of the country and the position of the various groups. It is a very interesting and well-written account of the country and its people. The author has done a great deal of research and has written a very interesting and well-written account of the country and its people. The author has done a great deal of research and has written a very interesting and well-written account of the country and its people.

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4.0 Lands, Soils and Geology

The applicant's reliance on point methods (trial pits and 2 boreholes) is outdated and has led to many failures at past wind turbine construction sites in Ireland and there is precedent that should preclude a competent Planning Authority's acceptance of those methods of Site Investigation. It is stated in the Lands Soils and Geology chapter of the Briskilagh EIA that "comprehensive site investigation indicate good ground conditions". The investigation was FAR FROM COMPREHENSIVE. Two Boreholes for a site that is acknowledged as within the Source Protection Zones of Group Water Schemes is NOT Comprehensive. Trial Pits are an outdated and cheap mechanism to investigate an area. The Particle Size Distribution results are presented as CLAYs, yet there are > 50% SAND contents in some.

Kilkenny County Council are advised to refer to the detail presented as Appendix C in which the current Best practice of Site Investigations is presented. Best Practice involves using methods that are not points (neither Probes nor Trial Pits). The Geotechnical Assessment Industry has moved on. However, those engaged by the Renewable Energy business sector have not.

There are no Site Investigation Boreholes to the ACTUAL depths below the proposed invert elevations for the foundations. This is lacunae that would support Kilkenny County Council's reasons for refusal.

A recent refusal by the Board (ABP- 309770-21, Coole Wind Farm) provides precedent that Competent Authorities are reviewing the actual situations during construction and realising that no amount of ink on paper in an EIA, or in a Response to Further Information or in an Appeal submission in support of the client, should be taken as 'truth' with respect to risks, as follows:

The Board considered that there is significant uncertainty relating to the effect on soils, water and ecology which precludes assessment of the full environmental effects in accordance with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU. The proposed development is, therefore, premature.

5.0 Precedent for Impact, Despite EIA Reporting No Potential for Impact

An EIA's conclusion of "No Potential for Impact" can be proven incorrect with devastating consequences for the environment. Despite an EIA conclusion of "No Potential for Impact" at Meenbog, Co. Donegal, the land did slide in November 2020 and there was both water impact and habitat destruction requiring Donegal County Council to secure an order prohibiting further works at Meenbog wind farm (Irish Times, April 2024; Donegal Daily, 12th April, 2024).

With specific reference the assessments completed and reported by MKO and HES for that Meenbog Wind Farm are available for review at <https://www.pleanala.ie/en-ie/case/300460> and can be compared with the real life evidence about how wrong an EIA can be. In 2018 the Board accepted a conclusion by Meenbog Wind Farm's EIA authors in a Lands, Soils and Geology Chapter that "No significant impacts on the soil and geology of the site of proposed development will occur." HES (2017) and qualifications that "A peat stability assessment undertaken for the site shows that the risk of peat failure is designated trivial and tolerable and that the site has an acceptable margin of safety.". Yet, there was a failure and it was neither trivial nor tolerable. In the Board's 'Reasons and Considerations' supporting a Grant of Permission for Meenbog Windfarm the opening statement is that "Having regard to: (a) the national targets for renewable energy contribution of 40% gross electricity consumption by 2020....".

Mr. Justice Holland is reported by the Irish Times (11th April, 2024) as ruling that "the integrity of the planning and environmental law systems weighs heavily" in this case of all the factors in play and favour granting the injunction. He did not see that the "undoubted public interest in wind energy" "weighs much at all" in favour of exercising his discretion against making the order. [Hydro-G provides clarification that Mr. Justice Holland has restrained the developers from finishing their "largely complete" 19-turbine project.] Mr Justice Holland said the developers submitted a report of a civil and environmental engineering expert to the EPA estimating that in the November 2020 incident about 86,240m³ of peat slid, of which about 65,740m³ entered a river and ended up on nearby European-protected sites, "causing significant environmental damage".

6.0 Construction and Environmental Plan (EiAR Appendix 4-2):

Hydro-G offers that the proposed on-site quarry is reported in the EiAR's Construction and Environmental Plan (EiAR Appendix 4-2, page 11, Section 2.3.3.6 Borrow Pit), as follows:

"The proposed onsite borrow pit is located approximately 270m north of T1 and measures approximately 15,272m² with an estimated volume of 70,000m³. The figures presented are the anticipated maximum volumes; however, the actual volumes to be removed from the borrow pit will be confirmed at the time of construction and following detailed pre-construction site investigation works".

Hydro-G offers that Kilkenny County Council should not accept the detail presented for the applicant as having any justified reasoning, for reasons as follows:

(a) An impact assessment cannot be completed at this planning stage if the applicant proposes to confirm details at the time of construction: "confirmed at the time of construction and following detailed pre-construction site investigation works". I am pretty sure that there is plenty of Irish case law precluding that proposal.

(b) It seems contrary to the tenets of proper planning to allow a random, unplanned for, 15ha area quarry scar on an elevated landscape, with a c.5m deep bench depth, when there are significant planning efforts afforded established quarries in each County:

- The use of the term Borrow Pit is disingenuous. The applicant proposes a quarry over the Source Protection Zone of GWS sources, Callan's PWS Source and the catchment that is the Source Protection Zone for Kilkenny's surface water source for the RWSS.

- The quarry proposed is reported by the applicant's agents as "15,272m² with an estimated volume of 70,000m³", i.e. 1,272 m² = 15hectares and if the resource estimation is 70,000 m³ then there is at least 5m depth of quarrying proposed when losses are accounted for.

Hydro-G offers that Kilkenny County Council should give close consideration to the proposal to use explosives in the rocks of the aquifer. The CEMP provides only small mention of this aspect of potential impact.

Hydro-G offers that the scale of construction that will be required and the size of the trucks are out of context with the existing drainage network and their water crossings. With reference to the scale of construction works that are required for hardstandings and foundations required for turbines, Kilkenny County Council would be justified in refusal to reference Clare County Council's reasons for refusals for the Ballykett Wind Farm, as follows:

It is considered that the proposed development would pose a serious danger to the environment, potentially causing extensive pollution of waterbodies within and in the vicinity of the site. The Planning Authority is not satisfied therefore that all necessary environmental impacts have been considered and assessed in the EiAR, and therefore the proposed mitigation measures in respect of same would not be considered adequate to ensure the protection of the environment. Therefore, it is considered that the proposed development would present a significant risk of adverse environmental impact on the sensitive natural habitats of the site and of the wider area and would seriously injure the amenities of property in the vicinity. The proposed development would, therefore, be contrary to the proper planning and sustainable development of the area.

As a civil engineering and water professional with over 25 years of experience in water based assessments and the excavation of rock and soils, I agree in full with the overall conclusion presented by Clare County Council in the refusal on the site (P23/60219, dated 11th August 2023). Overall, Clare County Council correctly determined that it is contrary to proper development to grant permission to large scale construction sites for turbines without the Competent Authority having sight of Design Specifications from structural engineers regarding detail for the foundations, transport of steel reinforcement, piling Site Investigation rigs and so much more that is fundamental to the successful and risk free execution of the erection of such turbine masts and their associated rotating blades.

The Competent Authority is referred to Plate F for an example of the scale of construction sites associated with turbine delivery and erection. That image is a stock image from the internet. Interestingly, MKO have presented an image in an August 2024 CEMP to Clare County Council for Knockshanvo Wind Farm (An Bord Pleanála SID case file reference PA03.320705, Knockshanvo FutureEnergy Applicant) but they have not presented the same for Kilkenny County Council. A similarly laid out EIA and Appendix Series is available to all at <https://www.pleanala.ie/publicaccess/EIA-R-NIS/320705>. Hydro-G presents, for ease of reference, as Plate G, the scale of the foundation footings presented in the CEMP by MKO in August 2024 for Knockshanvo.



Plate F Scale of turbine base construction pads (4 no. proposed). Note the scale of each of the three BLADES relative to the construction workers.



Plate 2-1 Turbine 'Anchor Cais' and finished turbine base

Plate G Scale of turbine base construction pads (7 no. proposed). Source: CEMP August 2024 MKO for Knockshanvo An Bord Pleanála SID case file reference PA03.320705, FutureEnergy Applicant. Available to all at <https://www.pleanala.ie/publicaccess/EIA-R-NIS/320705>.

7.0 Surface Water management & Section 4 Licensing

Chapter 9 EIA Water management presents a number of statements at odds with the law regarding water and methods to manage construction water arisings. The agents for the applicants seem to feign ignorance that all businesses involved in moving earth and rock ("Borrow Pit"/Quarry) are required to prove that the receiving environment has the baseflow and assimilative capacity to support grant of a Section 4 Discharge Licence. Construction waters arisings are deemed to be subject to the classification of Trade Effluent in the Local Government (Water Pollution)

Acts 1977 & 1990. Is the "Borrow Pit" (quarry) exempt from the same considerations applied to all quarries in County Kilkenny? There is not a single quarry that would get through planning on the basis of 'grant us permission and if we need a Section 4 Discharge Licence we will get it later'.

The applicant's agents, in the opening sentence of Section 9.4.2 of Chapter 9 of the EIA, it is stated that "in relation to hydrological constraints, a self-imposed buffer zone of 50m has been put in place for on-site streams and rivers, Manmade forestry and agricultural drains at the Proposed Wind Farm site are not considered a hydrological constraint and therefore no buffering of these drains has been undertaken. How interesting. There are at least 3 issues with the applicant's agents opening of Section 9.4.2, as follows:

(i) Their "self-imposed buffer zone of 50m has been put in place for on-site streams and rivers" has no scientific basis. Land slope is as significant a component of runoff risk as distance in relation to buffer zones between earthmoving construction areas and a stream or river.

(ii) The Groundwater Protection Scheme Report (GWPSR) for Kilkenny (Kilkenny County Council & GSI, 2002) states, on page 62, that "the thickness of the unsaturated zone will increase moving away from the Kilmagh River, and the zone of extreme vulnerability is not thought to extend more than 100m on either side of the River". Kilkenny County Council are referred to their own GWPSR specifically written for protection of resources in their own county in which extreme vulnerability is reported to extend in the order of 100m with the side of the Kilmagh River (referred to as the Tullaroan Stream by the applicant's agents). Therefore, the "self-imposed 50m buffer" proposed by the applicant seems only to suit their needs rather than protection of infiltrating water to the groundwater system. Whilst they may attempt to submit information at a later stage that all the proposed construction areas referred to are not mapped by the GSI as having 'Extreme Vulnerability', they will be 'Extreme Vulnerability' by the time the excavations proposed were completed.

(iii) Kilkenny County Council is advised that there is neither scientific nor technical protection of the environment or downstream rivers in the statement that **Manmade forestry and agricultural drains at the Proposed Wind Farm site are not considered a hydrological constraint**. The applicant may consider that the drains may not constrain their construction activities. They would be incorrect because Eileen McCarthy's PhD research, presented at the Irish Branch IAH Annual Conference (2023), as presented in Appendix C, reporting failure investigations at Irish Wind Farm sites concluded that the forestry drainage network and stockpiles were the causes of failure.

8.0 Reasons Supporting Refusal

Kilkenny County Council is requested to refuse Development Proposal (application) on many legally defensible and justified grounds. With specific reference to Flood Risk, Public Water Supply, WFD Objectives and Lands, Soils & Geology. Justified reasons for refusal include, as follows

8.1 Refusal is warranted on the basis that there is too much understatement of Risk with respect to the impact Assessment and that previous understatement of Risk by wind farm developers have very recently resulted in real environmental damage: namely at Meenbog Windfarm, Co. Donegal. Acknowledgement of accountability and learning from experience must be properly carried forward. The site investigation methodology presented for Briskalagh is far from the agent's reported "comprehensive" and is so basic as to preclude any defensible conclusions on Risk: point source (probe) methods of Site Investigation are completed to depths that do not even encounter the depths to which foundations will be constructed. Herein presents failure potential. As a professional hydrogeologist I suggest that the proposal is indefensible and that Kilkenny County Council has grounds for refusal.

8.2 Refusal is warranted on the grounds that the development proposal is directly connected to the aquifer and catchments that support important sources of Public Water Supply: both Group Water Schemes, Callan PWS and Kilkenny's RWSS upgraded scheme. There are unacceptable uncertainties with respect to the alteration of catchment recharge rates, residual risks, gases and oils contained within the turbine hubs and persistent chemicals used to coat the turbine blades. The lacunae with respect to the Drinking Waters Regulations (2023) obligations and the lack of catchment-based Risk and Impact assessment is unacceptable when the proposed cluster of turbine's development area is mapped by the EPA's publically available Envision Mapping system as a "Mapped Protected Area Drinking Water – Groundwater".

8.3 The applicant presents photographic evidence and ecological field survey information presenting POOR STATUS water bodies (Aquatic Survey Appendix 6-3 of the EIA). The obligations placed on local and National Planning Authorities by virtue of the Water Framework Directive and the associated Surface Water Regulations (2009, as amended) cannot be ignored. The legal obligation is to achieve 'At Least Good Status' in the coming years. The river systems in proximity to the development are reported by the applicant's agents as not Good Status. The Competent Authority cannot ignore the Obligations of the Water Framework Directive. The proposal is in direct contravention of Ireland's River Basin Management Plan 2022 – 2027 (<https://www.gov.ie/en/policy-information/8da54-river-basin-management-plan-2022-2027/>) and the Programmes of Measures for the River Action Plan 2024. Upland rivers and hill side source areas are a CRITICAL component of the attainment of Good Status in catchments.

8.4 The proposal is contrary to the European Union's (2024) Nature Restoration Law and Ireland's 4th National Biodiversity Action Plan (NBAP), which sets the national biodiversity agenda for the period 2023-2030 and aims to deliver the transformative changes required to the ways in which we value and protect nature. The Wildlife (Amendment) Act 2023 introduced a new public sector duty on biodiversity. The legislation provides that every public body, as listed in the Act, is obliged to have regard to the objectives and targets in the National Biodiversity Action Plan (<https://www.npws.ie/legislation/national-biodiversity-action-plan>). EIA's depending on a baseline describing existing habitats and species are missing the point and do not understand that we are in a 'shifted baseline', a degraded baseline'. The aim is to Restore. To grant permission to the development would be contrary to national, European and UN Objectives for Restoration.

8.5 Flooding is already an issue for the landscape downstream of the proposed development area. There are nuances in the Flood Risk text that are neither scientifically nor technically justified. There are sound grounds for refusal on the basis that the agent for the applicant's assertion that there would be no flooding at the wind farm site is missing the point. The issue is downstream receptors and they are already experiencing flood events. It is beyond scientific doubt that the landscape alterations proposed for the Briskalagh applicant would exacerbate the current flood experience.

8.6 To propose a 15ha quarry on an elevated site, where not even 1 bench of rock excavation is proposed, is surely contrary to proper land use planning. The agents for the applicant's attempt to revert to the archaic reference language of "Borrow Pits", when they are really referring to quarrying. This is contrary to EPA (2022) Guidelines on accessibility of EIA to the public. In addition, the lack of Impact Assessment for the proposed quarry is contrary to the EIA Directive and EIA Regulations.

In closing, whilst the ruling of Mr. Justice Humphreys in the High Court is recent and it is carried forward that Climate Action must be taken seriously, the rulings of Mr. Justice Holland and Ms. Justice Butler carry more substance and legal weight than an opinion: the planning and environmental laws must take precedence. Flooding is a water issue and a public health issue and Flood Guidelines for Planning Authorities are clear and established. The applicant has only assessed the potential for flooding at their own development site. The risk to downstream receptors is real. There is already significant flooding downstream of the development. Similarly, biodiversity is a water issue and the environment proposed for development is one in which others and kingfisher have been displaced already and the rivers are in poor WFD Status. Those are the environmentally legal facts of the case. Kilkenny County Council's planning department are asked to directly consult with their colleagues in environment, ecology and WATER regarding the risks and willingness to accept unassessed risks to both RURAL WATER GWSS and PUBLIC Water in Kilkenny catchments.

Dr. Pamela Bartley BEng, MSc, PhD, MIEI

Signed:

Date:

31/1/25

Pamela Bartley

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Appendix A

Reasons for Concern for Incorrectly Concluded Impact Assessments

and

Lack of Impartiality in Wind Farm EIARs

Letter delivered, by hand, to the Taoiseach, Mr. Simon Harris, October 2024

To: An Taoiseach Mr. Simon Harris.

Date: 12th October 2024.

From: Professor Paul Johnston, Trinity College Dublin; Professor Mike Gormally, University of Galway; Dr Pamela Bartley, Hydro-G.

Purpose of Note: Windfarm applications in Ireland: Effect of the Inadequacy of Environmental Impact Assessments - concerns of experts.

Dear Simon

We, the undersigned, have all acted as advisors to competent authorities and understand the intricacies of the Statutory Instruments enacted in Ireland and their parent Directives issued from Europe. We are writing this note to share with you our strong concerns relating to the implementation of Ireland's EIA Regulations and its parent Directive in relation to windfarm proposals and planning applications in Ireland.

As experts in our fields, we would ask you to consider that Ireland's Wind Energy Strategy, as the European Union's Nature Restoration Law, in which biodiversity must be restored. The European Union Regulation (EU) 2024/1991 of the European Parliament and of the Council of 24 June 2024 on nature restoration and amending Regulation (EU) 2022/869 clearly sets out targets for the year 2030, i.e. less than 7 years' time. Much other existing environmental legislation is in conflict with our national requirements for siting increasing numbers of windfarms.

We ask that you give serious consideration to this letter. With the recent changes in EU legislation we, as a nation, now have the required supports to get this right. We also have the scientific evidence to ensure that we do not repeat the mistakes of our forebears when much of our nature was destroyed by intensive agriculture, commercial forestry and peat extraction practices. While our forebears could argue that they did not realise the full extent of the environmental degradation caused by their actions, our generation does not have that excuse and the next generation will judge us on that basis.

We are writing this note as Nationally Recognised Subject Matter Experts with experience, as follows, with biographic notes below:

- Paul Johnston's 50 years of academic and state advisory positions in Hydrogeology & Peatlands.
- Mike Gormally's 30 years of academic and research experience in Applied Ecology, Biodiversity and Wetlands.
- Pamela Bartley's 30 years of Site Investigation, Construction, Research, Planning, the Law and Impact Assessment.

In our expert subject matters, we have reviewed many Environmental Impact Assessment Reports (EIARs) relating to windfarms in Ireland in the last number of years and are familiar with the details of wind turbine construction.

Here, we state categorically that there are significant problems with the EIA process for wind power. The EIAs for wind power submitted to either County Councils or An Bord Pleanála as Strategic Infrastructure Development (SID) are rarely correctly informed, are most often incorrectly concluded and they are, more often than not, indefensible in the context of the legislation enacted in Ireland to protect water as a resource (The Water Framework Directive

and associated Irish Statutory Regulations), water as a Source of Public Water Supply (The Drinking Water Regulations, 2023) and our valued birds, species and habitats (The Birds and Habitats Regulations and associated Directive). It is of great concern to us to read in windfarm EIARs, statements such as "No impact" or "Mitigatable impact" regarding drinking water, peatlands, birds, bats etc., without sufficient robust data to support these statements. The repeated evidence of poor investigation practices and inadequate survey methods leads to a situation that does not align with either Ireland's Statutory Instrument or the EU Directive for Environmental Impact Assessment. This is borne out by An Bord Pleanála's continued planning decision refusals on points of environmental law, and explains the frequent referrals for judicial review.

Many of the EIAR chapters we have reviewed do not adhere to EPA Guidelines on the information to be contained in Environmental Impact Assessment Reports (2022). On a regular basis, we observe EIAR contents that provide significant potential risks to landscape, water, environment, birds, bats etc for reasons including, but not limited to, the following:

- Inappropriate site and landscape selection.
- Inadequate baseline data.
- Outdated bird survey methodologies.
- Impact predictions being presented without satisfactory supporting evidence.
- Mitigation measures lacking sufficient detail and understanding, with the result that the success of proposed mitigation measures cannot be guaranteed, as demonstrated by the Meenbog Windfarm bog slide in Co. Donegal.
- Poor consultation with community groups; and a general lack of clarity, to say the least.

"*Maintaining objectivity*" is one the fundamental principles of best practice in Environmental Impact Assessment (EPA, 2020) yet the tone of the majority of the windfarm EIARs we have reviewed to date has been to present the proposed wind farm in the best possible light so that the development has the best chance of succeeding in the planning process. The negative impacts of built, or partially built, Irish windfarms that have made the national/international news is testament to the outcome of such practices: some Public Water Supply Sources have been severely damaged with THM issues due to landslides, and salmonid rivers have been inundated with peat slides. In addition, there are unassessed potential persistent chemical risks posed to waters used to supply the public.

A quick snapshot is provided here to give you some brief examples of **poor practice** we have documented in windfarm EIARs in recent years.

1. Targeting peatlands and bog wetlands as potential windfarm sites:

Beyond all scientific doubt, building turbines in peat will negatively affect biodiversity and increase carbon loss from this habitat through the required drainage, foundations and infrastructure. Damage arising from construction releases more carbon from the peatland. The long-term sustainable approach is the restoration of bog wetlands. A strategy of restoration, rather than any construction whatsoever, will provide a reduction in carbon emissions from the peatland in perpetuity. The societal benefits will be better water quality, reduction in flood events, a reversal of biodiversity loss and more opportunities for people to connect with nature resulting in better physical/mental health outcomes, as recognized in the Climate Action Plan, a derivative of the Paris Agreement. Moreover, since 1987, Ireland has been a signatory of the international Ramsar convention which provides for the protection and promotion of wetlands including peatlands. The case that windfarms in

peatlands are incompatible with these requirements is rarely even considered appropriately in EIARs.

- 2. Bird survey methodologies currently employed by consultancies in Ireland for wind farm EIARs:**
- Bird mortality due to collision with wind turbine blades is universally accepted. The daytime observational methods used in Irish EIARs are outdated and do not record bird movements during night-time hours. Thermal imaging and passive audio recording are now best practice technologies widely available for more than 10 years, yet, to date, we have not observed these methods in any of the windfarm EIARs we have reviewed. In addition, passerines (perching birds) are not generally considered in Irish EIARs despite recent scientific literature indicating that mortality rates are significantly underestimated due to the small size of these birds.

- 3. Failure to acknowledge the requirements of the Drinking Water Regulations (2023) in wind farm EIARs:**
- The Statutory Instrument detailing the protection of drinking water and health of citizens is clear and detailed in its legal requirements. In most EIARs for wind power, there is a complete lack of acknowledgement of the Drinking Water Regulation's required Risk Assessment.

- 4. Failure to correctly acknowledge the now short time frame for Ireland's compliance with the Objectives of the Water Framework Directive:**
- Ireland is fast approaching the 2027 deadline for WFD compliance, for which we have had 24 years to work towards. Time is now running out. Whilst previously County Councils and the Board may have had some justification in permitting development consent in catchments not currently meeting WFD Obligations, that time has now passed, and the nation now has 2 years to bring all rivers to 'at least' Good Status. The impact of windfarms is frequently incompatible with meeting this objective.

We bring to your attention to Ireland's 4th National Biodiversity Action Plan (2023-2030) which, using a "whole government, whole society" approach, "aims to deliver the transformative changes required to the ways in which we value and protect nature". The aim is to "ensure that every citizen, community, business, local authority, semi-state and state agency has an awareness of biodiversity and its importance, and of the implications of its loss, while also understanding how they can act to address the biodiversity emergency as part of a renewed national effort to "act for nature". In addition, The Wildlife (Amendment) Act 2023 introduced a new public sector duty on biodiversity. The legislation provides that every public body, as listed in the Act, is obliged to have regard to the objectives and targets in the National Biodiversity Action Plan. See <https://www.npws.ie/legislation> for further details.

We recognize the pressing need for the development of renewable energies which is resulting in considerable pressure on EIA consultancies to "deliver" for both the Government in its 'Climate Objectives' and for the developer, who is their client. Nevertheless, we have observed a significant absence of objectivity in parts of the required EIARs. There is real conflict between the requirements of historical as well as current environmental legislation and the equal need for development of windfarms as sources of renewable energy. A resolution for this conflict may lie in an integrated national landuse policy but meanwhile, there is an urgent need to have a genuine conversation about the above issues and we would be happy to be part of that conversation.

The existing and growing resistance to terrestrial windfarms due to their environmental impact is frequently justified and exacerbated by inadequate EIARs which result in extra delays and costs as well as in poor planning decisions. This conflict between the requirements of environmental legislation and the need for increased wind power is unsustainable.

When it comes to protecting our environment and its increasingly important ecosystem services on which the human race depends, an excerpt from the famous song "Big Yellow Taxi" by Joni Mitchell comes to mind.

"Don't it always seem to go

That you don't know what you got 'til it's gone?"

We thank you for your time and look forward to discussing the issues with you.



Professor Paul Johnston
Dept Civil & Environmental Eng.
Trinity College Dublin
pjohnston@tcd.ie



Professor Mike Gormally FRES
Director of Applied Ecology Unit
University of Galway
mike.gormally@universityofgalway.ie



Dr. Pamela Bartley
Hydro-G
Galway
pamela@hydro-g.com

BIOGRAPHICAL NOTES

PAUL JOHNSTON
Paul is a Professor at Trinity College Dublin's Department of Civil, Structural & Environmental Engineering, specialising in peatland hydrology, hydrogeology and ecology. He has acted as a specialist advisor to An Bord Pleanála, NPWS, multiple Government Departments, Teagasc, the EPA, the National Roads Authority (now TII). Paul has advised NPWS on ecology and he is the mentor for NPWS's first ever employed ecophysicist: Professor Shane Regan, who himself is a lecturer now in UCD.

MIKE GORMALLY
Mike is the Director of the Applied Ecology Unit (AEU) at the University of Galway, which has a strong track record in applied ecological research. His unit has undertaken applied ecological research on internationally famous ecosystems such as disappearing lakes (turloughs), peatlands, unregulated flood meadows and coastal grasslands (machairs) as well as terrestrial invertebrates as bioindicators of habitat quality. Mike, an active member of the County Galway Heritage Forum and Irish Ramsar Wetland Committee, also lectures in Environmental Impact Assessment (EIA) to both BSc and MSc students.

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PAMELA BARTLEY

Pamela is a civil engineering hydrogeologist and water supply engineer. She has had her own limited company for over 20 years. She is the only water supply engineering hydrogeologist in Ireland to be certified, accredited and experienced to act as a Construction Regulation compliant Project Supervisor Design Phase (PSDP) and Project Supervisor Construction Phase (PSCS). Her expertise includes the assessment of and interaction between the law, water and bedrock to enable functioning of Regionally Important quarries in Ireland, which are required to support the housing policies of Government. She therefore understands how construction can be completed within the legislative framework. She has adjudicated cases and Oral Hearings for An Bord Pleanála. Pamela is hydrogeological lead consultant, for all counties of the western coast and northern boundary, in the delivery of Uisce Éireann's Supply Demand Balance Programme that grew from the National Water Framework Plan. Pamela has written advice papers on Irish Statutory Instruments enacted for the Water Framework Directive (WFD) and presented to the National Planning conference and Environmental Health Officers of the HSE. Her PhD, completed 20 years ago, is still a hot topic: Nitrates, Groundwater & Dairy Agriculture.

Appendix B

Clare County Council's October 2024 Determination for Refusal PL 24-60411



COMHAIRLE CLARE
CONTAE AN CHLAIR
COUNTY COUNCIL

23rd October 2024

EDF Renewables Ireland Limited
c/o MKO Planning & Environmental Consultants
Tuam Road
Galway
H91 VW84

Ref No.: P24-60411
PERMISSION for development in the Townlands of Kilbane, Killeagy (Ryan), Shannaknock,
Killeagy (Stritch), Killeagy (Goonan), Ballymoloney, Magherareagh and Lackareagh Beg,
Co. Clare.

A Chara,

I refer to attached notification of the decision to refuse to grant permission for the above
development.
Please find attached Determination under Section 177(V) of the Planning and Development Act
2000 (as amended).

Mise, le meas

Anne O'Gorman

ANNE O'GORMAN
STAFF OFFICER
PLANNING DEPARTMENT
ECONOMIC DEVELOPMENT DIRECTORATE

An Roinn Pleanála
An Stiúrthóireacht Forbairt Gheilleagach
Aras Contae an Chláir, Bóthar Nua, Inis, Co. an Chláir, V95 DXP2

Planning Department
Economic Development Directorate
Aras Contae an Chláir, New Road, Ennis, Co. Clare, V95 DXP2





CLARE COUNTY COUNCIL
PLANNING AND DEVELOPMENT ACT 2000 (AS AMENDED)
NOTIFICATION OF DECISION TO REFUSE TO GRANT PERMISSION
UNDER SECTION 34 OF THE ACT.

Comhairle Contae an Chláir
Clare County Council

To: EDF Renewables Ireland Limited

c/o MKO Planning & Environmental Consultants

Tuam Road

Galway

H91 VW84

Planning Register Number: P24/60411

Valid Application Received: 29/08/2024

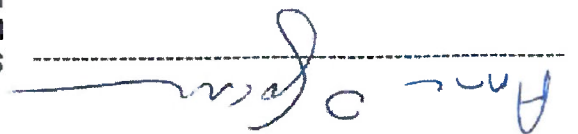
In pursuance of the powers conferred upon them by the above-mentioned Act, Clare County Council has by order dated 23rd October 2024 decided to refuse to grant permission for the following works:

(i) The construction of 7 no. wind turbines with the following parameters: a. Total tip height range of 179.5m – 180m, b. Rotor diameter range of 149m – 155m, c. Hub height range of 102.5m to 105m, (ii) Construction of associated foundations, hardstand and assembly areas; (iii) All associated wind farm underground electrical and communications cabling connecting the turbines and mast to the proposed electrical substation; (iv) Construction of 1 no. permanent 38kV electrical substation including a single-story control building with welfare facilities; all associated electrical plant and equipment; security fencing; entrance on to new access road; all associated internal underground cabling; drainage infrastructure; wastewater holding tank; retention separator tank; and all ancillary works; in the townland of Killeaghy (Goonan), Co. Clare; (v) A Battery Energy Storage System within the 38kV electrical substation compound; (vi) 1 no. permanent meteorological mast of c. 36.5m in height; associated foundation and hard-standing area in the townland of Shannaknock; (vii) The permanent upgrade of 1 no. existing site entrance off the L7080 ('The Gap Road') for the provision of construction and operational access; (viii) Provision of 3 no. new permanent site entrances off the L7080 for the provision of construction and operational access; (ix) Provision of 3 no. new temporary site entrances off the L7080, and the provision of new site access roads; 4 no. watercourse crossings, junctions and hardstand areas; (xi) 1 no. temporary construction compound with temporary offices and staff facilities in the townland of Killeaghy (Goonan); (xii) 1 no. temporary storage area in the townland of Killeaghy (Goonan); (xiii) 1 no. borrow pit in the townland of Killeaghy (Goonan); (xiv) Peat and Spoil Management; (xv) Tree Felling to accommodate the construction and operation of the proposed development; (xvi) Operational stage site and amenity signage; and (xvii) All ancillary apparatus and site development works above and below ground, including soft and hard landscaping and drainage infrastructure. A 10-year planning permission and 35-year operational life of the wind farm from the date of commissioning of the entire wind farm is sought. A Design Flexibility opinion issued by Clare County Council on 22nd April 2024 accompanies this application. The details unconfirmed in this application are the turbine tip height, rotor diameter and hub height, the range of parameters under which the turbine dimensions will fall are specified on this notice and in the design flexibility opinion that accompanies this application. An Environmental Impact Assessment Report (EIA) and Natura Impact Statement (NIS) have been prepared in respect of the proposed development and will be submitted to the Planning Authority with the application at in the Townlands of Kilbane, Killeaghy (Ryan), Shannaknock, Killeaghy (Strich), Killeaghy (Goonan), Ballymoloney, Magherareagh and Lackareagh Beg, Co. Clare.

Under Article 20 of the Planning and Development Regulations 2001 (as amended), the applicant shall remove the site notice following the notification of the Planning Authority's decision.

The Planning Authority in its decision has had regard to submissions/observations received (if any) in accordance with Planning and Development Regulations 2001 (as amended).

SIGNED on behalf of the said Council this 23rd day of October 2024.



STAFF OFFICER,
PLANNING DEPARTMENT
ECONOMIC DEVELOPMENT DIRECTORATE

SCHEDULE

1. The proposal site is located in the Slieve Bernagh Bog Landscape Character Area (LCA), in an area where windfarm developments are 'Open to Consideration'. In accordance with Objective WES10 of the Clare Wind Energy Strategy wind energy developments in these areas can be considered on a case-by-case basis subject to viable wind speeds, environmental resources and constraints and cumulative impacts.

Having regard to the location of the site in the more sensitive and scenic area of the LCA (Lackereagh and Glenvagallagh Mountains), the Planning Authority considers that the proposed turbine structures, by reason of their height (tip height up to 180m), scale and siting on this open, exposed and sensitive upland landscape would constitute a prominent feature on the landscape from both local and long range viewpoints, and would therefore seriously injure the visual amenities of the area. Furthermore, it is considered that the development would be highly visible from, and negatively impact upon, the R466 Regional Road which is a designated Scenic Route and would negatively alter the character of this rural landscape.

Having regard to the foregoing and noting also the significant potential for cumulative impacts arising when the proposed development is considered in-combination with permitted and proposed wind farm development in the surrounding area, it is considered that the proposed development, would contravene Objectives CDP14.2 and CDP14.7 of the Clare County Development Plan 2023-2029 and would be contrary to the proper planning and development of the area.

2. The Planning Authority notes that there is hydrological connectivity between the proposed development site and both the Lower River Shannon SAC, and the River Shannon and River Fergus Estuaries SPA. The majority of the habitats and species for which both European sites are designated are water-dependent habitats and species with requirements for high to pristine water quality.

Having regard to the particulars submitted with the planning application, with particular reference to the peat and spoil management proposals, surface water management plans, and the WFD Assessment contained in Appendix 9-3 of the submitted documents, the Planning Authority, as the competent authority in the appropriate assessment process, is unable to conclude, beyond reasonable scientific doubt, that the proposed development will not adversely affect the integrity of downstream European sites. The proposed development would be contrary to Objective CDP15.3 of the County Development Plan and contrary to the proper planning and sustainable development of the area.

3. It is an objective of Clare County Council, under Objective CDP15.12 of the Clare County Development Plan 2023-2023 to *inter alia* to promote the conservation of biodiversity through the protection of sites of biodiversity importance and wildlife corridors, both within and between the designated site and the wider plan area.

Having regard to the importance of the area for multiple bird species, as evidenced by the survey results submitted with the development proposal, it is considered that there is significant potential for cumulative effects through the in-combination effects of other proposed and permitted windfarm developments in the area, all of which contain significant numbers of birds of conservation concern and red-listed bird species.

In the absence of a strategic level cumulative assessment of the impact of the construction of a large number of turbines within one geographical area (66 turbine proposed or permitted), the Planning Authority cannot satisfactorily determine that the proposed development will not give rise to, or contribute to, significant or adverse effects on either the Special Conservation Interests of the Special Protection Areas in the zone of influence of the proposed development, Birds of Conservation Concern or on the Red List. Having regard to the foregoing, the Planning Authority considers that the proposed development would significantly diminish the biodiversity value of the area, would be contrary to Objective CDP15.12 of the Clare County Development Plan 2023-2029 and would be contrary to the proper planning and sustainable development of the area.

IMPORTANT NOTE: REGARDING APPEALS

An appeal against the decision of a Planning Authority (N.B. not the date on which the decision is sent or received) must be received by An Bord Pleanála within **four weeks** beginning on the date of the making of the decision by the Planning Authority. (N.B. not the date on which the decision is sent or received).

- (a) be made in writing and state the name and address of the appellant or person making the referral and of the person, if any, acting on his or her behalf.
- (b) state the subject matter of the appeal with details of the nature and site of the proposed development, the name of the Planning Authority, the planning register number and the applicant's name and address (if you are a third party).
- (c) state the full grounds of appeal and be accompanied by supporting material and arguments. The Board cannot take into consideration any grounds of appeal and it cannot consider non-planning issues so grounds of appeal should not, therefore, include such issues.
- (d) In the case of a third party appeal, be accompanied by the acknowledgement by the Planning Authority of receipt of the submission or observations made by the person to the Planning Authority at application stage. (A copy of the notification of the decision or similar is not accepted as an acknowledgement of receipt of the submission or observation)
- (e) be accompanied by the appropriate fee (see below for details). **An Appeal, submission or observation to An Bord will be invalid unless it is accompanied by the appropriate fee.**

A request An Bord Pleanála for an Oral Hearing shall be accompanied by the appropriate fee and such request must be made within the period for lodging the appeal, but where the developer is sent a copy of a third party appeal, he/she is allowed four weeks from this date.

All appeals, submissions, observations and other documents should be addressed to **The Secretary, An Bord Pleanála** 64, Marlborough Street, Dublin 1 or delivered by hand to an employee of An Bord Pleanála at their offices during office hours (9.15 a.m. to 5.30 p.m. on Monday to Friday, except public holidays and Good Friday): The telephone number of An Bord Pleanála is (01-8588100). Web: <http://www.pleanala.ie>. email: bord@pleanala.ie.

Note: Under Section 251 of the Planning & Development Act 2000 (as amended) where calculating any period referred above, the period between the 24th December & 1st January both days inclusive shall be disregarded.

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COMHAIRLE CLARE
CONTAE AN CHLAIR
COUNTY COUNCIL

Determination under Section 177V of the Planning and Development Act 2000 (as amended) in relation to whether Planning Application P.24/60411 would adversely affect the integrity of a European site.

I refer to the refusal of permission for the development associated with P.24/60411. In accordance with Section 177V (3) this determination is a record of the planning authorities' conclusion in accordance with the Appropriate Assessment process which was carried out in line with Article 6 (3) of the Habitats Directive and Section 177V (1) of the Planning and Development Act (as amended).

Determination

Having regard to the content of the Planning Application as submitted, the Plans and Particulars of the Application including the Natura Impact Statement together with all internal reports and third-party submissions received, it has been determined that there is insufficient information in terms of the cumulative and in-combination effects of the Proposed Windfarm in conjunction with the proposed and/or permitted windfarms within approximately 25km of the application and the mitigation measures required to avoid, reduce, or remediate the potential for adverse effects, to conclude a finding of no adverse effects beyond scientific doubt as is required under Article 6 (3) of the Habitats Directive.

This determination is made considering the following;

- Having reviewed the Qualifying Interest Features of the Glenomra Wood SAC [001013] and the Lower River Shannon SAC [002165] together with the Special Conservation Interests of the Lough Derg (Shannon) SPA [004058] and River Shannon and River Fergus Estuaries SPA [004077].
- While there is an absence of a direct footprint associated with the works within a European Site, there is a potential for in-direct and adverse effects due primarily to the hydrological connectivity across the landscape to the receiving environment of the River Shannon catchment which has a dual designation as a European Site.
- The finding of no adverse effects on the European sites located downstream of the Proposed Windfarm is based on the findings of each of the individual windfarm applications and their application of mitigation measures. There is no consideration of the cumulative or in-combination impacts arising from each of these windfarms albeit at a lower level which cumulatively could lead to adverse effects downstream.
- There is no analysis, information, or scientific assessment to indicate how this conclusion has been reached. Specifically with respect to the 2 no. windfarms which have been included in the cumulative hydrological study area Clare County Council raised a number of issues with the Fahy Beg application both as part of the environmental assessment and as part of the refusal reasons in the Chief Executives Order. Issues pertaining to noise, the management of the excavated soils and materials on the proposal site, risk to the Qualifying Interests and Special Conservation Interests of the associated European Sites which were inadequately addressed in the NIS amongst others were raised but have not been assessed in the application to hand as part of the cumulative and in-combination effects.

The second part of the document provides a detailed overview of the company's financial performance over the past year. It includes a comparison of actual results against the budget and identifies areas where the company exceeded expectations. Key metrics such as revenue growth, profit margins, and cash flow are highlighted, along with an analysis of the factors contributing to these results.

The third part of the document outlines the company's strategic goals for the upcoming year. It focuses on expanding market reach, improving operational efficiency, and investing in research and development. A clear timeline and action plan are provided to guide the implementation of these strategies.

The final part of the document is a summary of the key findings and recommendations. It reiterates the importance of strong financial management and provides a call to action for all employees to contribute to the company's success. The document concludes with a statement of confidence in the company's future and a commitment to transparency and accountability.

The following table provides a breakdown of the company's revenue by product line and region. This data is essential for understanding the company's market position and identifying opportunities for growth. The table shows a steady increase in revenue across all categories, with a particularly strong performance in the North American market.

Product Line	Region	Q1 Revenue	Q2 Revenue	Q3 Revenue	Q4 Revenue
Electronics	North America	\$120,000	\$130,000	\$140,000	\$150,000
	Europe	\$80,000	\$85,000	\$90,000	\$95,000
	Asia	\$60,000	\$65,000	\$70,000	\$75,000
	Africa	\$40,000	\$45,000	\$50,000	\$55,000
Software	North America	\$90,000	\$95,000	\$100,000	\$105,000
	Europe	\$70,000	\$75,000	\$80,000	\$85,000
	Asia	\$50,000	\$55,000	\$60,000	\$65,000
	Africa	\$30,000	\$35,000	\$40,000	\$45,000
Services	North America	\$110,000	\$115,000	\$120,000	\$125,000
	Europe	\$85,000	\$90,000	\$95,000	\$100,000
	Asia	\$65,000	\$70,000	\$75,000	\$80,000
	Africa	\$45,000	\$50,000	\$55,000	\$60,000

The data indicates a consistent upward trend in revenue, with the company's total revenue for the year reaching a new high. This growth is attributed to a combination of factors, including increased sales volume, higher average order values, and successful marketing campaigns. The company's strong performance in the North American market is particularly noteworthy, as it represents a significant portion of the total revenue.

Page 10

- With respect to bird species, it is difficult to see how the cumulative impact of 66 turbines comprising those already permitted or proposed in conjunction with the current application for 7. No turbines within a 25km radius have been sufficiently assessed within the NIS. The NIS talks to each of the previous applications but dismisses the potential for adverse effects to arise individually based on the identification and application of mitigation measures. Significant doubt remains as to the cumulative impact of either the construction or operational phase impacts that may arise and lead to significant or adverse effects on the Special Conservation Interests of the associated SPAs.
- With respect to the cumulative assessment of the impacts from the project on water quality having considered the requirements of the Water Framework Directive in terms of achieving at least *Good Status* in all surface and Groundwater bodies by 2027 at the latest I am not satisfied that the project as proposed, can achieve this and therefore ensure the absence of adverse effects downstream on the associated European sites.
- This risk is predominantly associated with the identification of Doon Lough (which is an important NHA in Clare) as a *Hydraulic Buffer* which will provide a *dilution effect* to the River Shannon downstream.
- In conclusion, having regard to the Natura Impact Statement submitted as part of the planning application and following review of same I am not satisfied that there is no risk of adverse effects on the integrity of the associated European Sites (either directly or indirectly), alone or in-combination with other plans or projects. The application as submitted contains reasonable scientific doubt which in line with case law precludes the Competent Authority from concluding a finding of no adverse effects.

Signed 
Helen Quinn
Senior Planner
23-10-2024

Appendix C

Best Practice Example Paper for the Irish Assessment of Geological Environments

Applied in Ireland for Study of Spatial Areas

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF THE HISTORY OF ARTS AND ARCHITECTURE

LIBRARY

INTERNATIONAL ASSOCIATION OF
HYDROGEOLOGISTS - Irish Group
Proceedings of the 43rd Annual Groundwater
Conference
Tullamore Court Hotel, 18th and 19th April 2023



Groundwater & Planning



1. The first part of the paper is devoted to a general discussion of the problem of the existence of solutions of the system of equations (1) for arbitrary values of the parameters α and β . It is shown that the system has solutions for arbitrary values of the parameters α and β if and only if the condition $\alpha + \beta = 1$ is satisfied.



2. THE CASE OF ARBITRARY VALUES OF THE PARAMETERS α AND β

In this section we consider the case of arbitrary values of the parameters α and β . It is shown that the system has solutions for arbitrary values of the parameters α and β if and only if the condition $\alpha + \beta = 1$ is satisfied. The proof is given in the appendix.

PEAT STABILITY ON UPLAND SITES: THE ROLE OF HYDROGEOLOGY

Eileen McCarthy, University College Cork

IN SITU CHARACTERISATION OF PEATLANDS USING GEOPHYSICAL TECHNIQUES

Andy Trafford, iCRAAG & UCD, Dublin

INTRODUCTION

Engineering on peatlands has always given engineers certain specific problems to overcome, with access, ground stability, sampling, and site classification all posing distinctive challenges. These challenges have been brought further to the forefront due to the acknowledgement that these unique environments are hugely important from an ecological viewpoint with high habitat value, and extensive carbon and water storage properties. Along with the need to develop certain infrastructure projects, there is an increasing pressure to maintain, protect and restore peatlands with the assessment of their characteristic properties becoming much more relevant in order to reduce the risk in terms of peat slides.

In this paper we show how using light weight portable equipment developed specifically for peat soil assessment we can assess the in situ properties of peat for input into slope stability analysis.

INVESTIGATION METHODOLOGY

By combining the outputs from Ground Penetrating Radar and Vertical Shear Wave Profiling it is possible to determine both the electromagnetic and mechanical response of the peat soil providing the required input parameters for a comprehensive geotechnical assessment to be carried out.



Figure 1: 80MHz GPR antenna operated from GSSI SIR 3000 system. Liffey Head Bog

Ground Penetrating Radar (GPR) is accepted as being the most effective method for accurately and comprehensively assessing the peat thickness and distribution across a site. This method involves the transmission of high frequency radio waves into the subsurface and recording the reflected waveforms. The method involves the collection of data along survey transects to build up a 2D cross section through the peat (Figure 1). By linking the output from the GPR system to accurate elevation data it is possible to generate accurate sub peat elevation maps for use in slope stability assessments.

The shear strength of peat is one of the key parameters in engineering design when dealing with foundation and slope stability issues. Its determination has previously been particularly difficult due to factors such as the fibre content, degree of humification, drainage, water content, organic matter, and also from sample disturbance where laboratory methods are employed (Kazemian et al. 2011; O'Kelly 2017).

A Russian auger (Jowsey 1966) was used to obtain a 45 mm diameter "half core" of the peat over the full depth profile. The peat was logged on site using the extended version (Hobbs 1986) of the von Post and Granlund peat classification scheme (von Post and Granlund 1926). Samples of the peat were taken at 0.1 m intervals for water content measurements. These water content measurements would later be used in conjunction with the field shear wave velocity measurements which were taken at the same depth intervals and frequency and down the same borehole as that used for logging the peat.

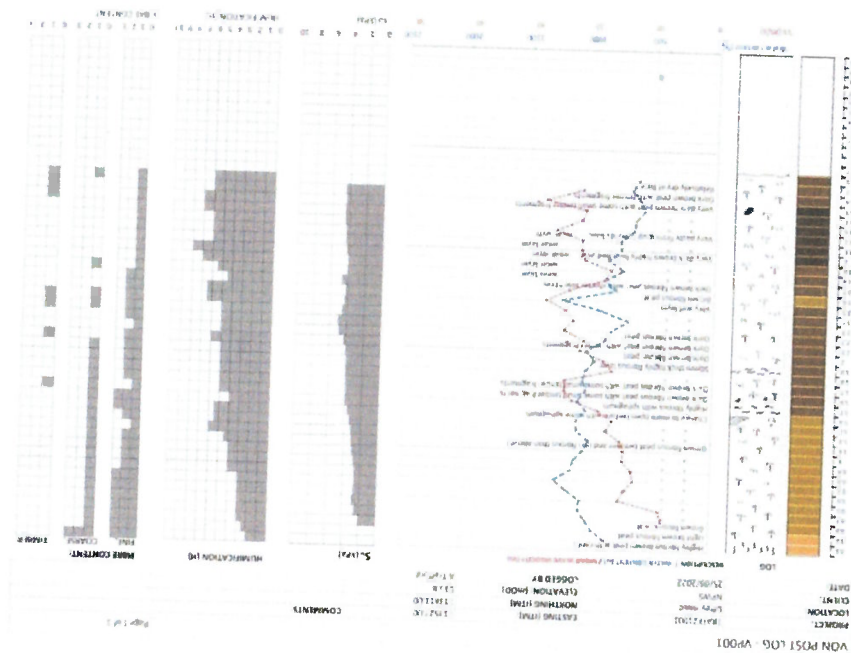


Figure 2: Typical output from VSWP and peat logging including undrained shear strength and Von Post classification.

By using Vertical Shear Wave Profiling (VSWP) along with water content analysis it is possible to determine the required undrained shear strength (s_u) parameter (Figure 2). By measuring V_s in situ it is possible to take into account the stress history and the current stress state of the peat (Figure 3).

4. The fourth part of the document discusses the implications of the findings. It highlights the potential applications of the research in various fields and the need for further investigation in this area.

5. The fifth part of the document concludes the study. It summarizes the key findings and provides a final statement on the significance of the research. The authors express their gratitude to the funding agency and the participants who made the study possible.

6. The sixth part of the document includes a list of references. It cites the works of other researchers in the field, providing a context for the current study. The references are listed in alphabetical order.

7. The seventh part of the document includes a list of appendices. It contains additional information that supports the main text, such as raw data, detailed calculations, and supplementary figures. The appendices are labeled with letters and numbers.

8. The eighth part of the document includes a list of footnotes. It provides additional information on specific points mentioned in the text, such as the sources of certain materials or the methods used for data collection. The footnotes are numbered and placed at the bottom of the page.

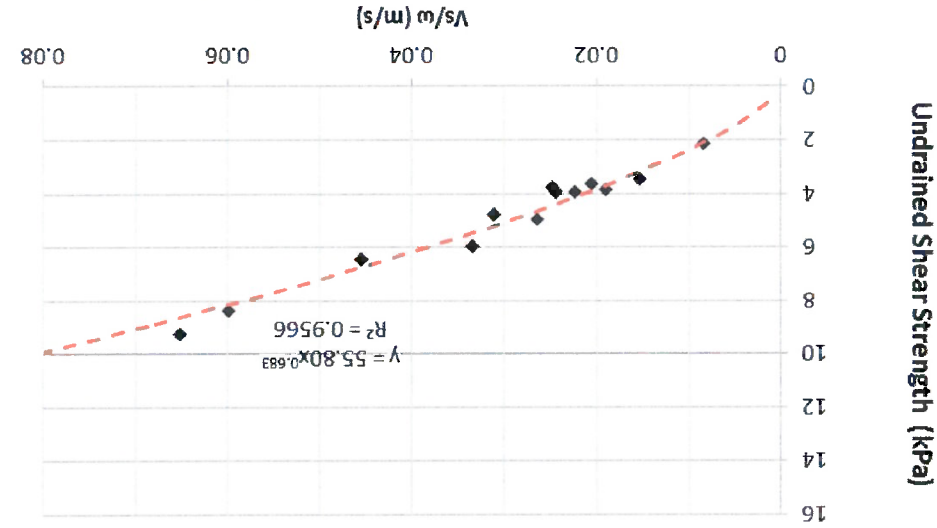
9. The ninth part of the document includes a list of acknowledgments. It expresses the authors' appreciation to the individuals and organizations that provided support and assistance during the course of the study. The acknowledgments are placed at the end of the document.

10. The tenth part of the document includes a list of abbreviations. It defines the symbols and acronyms used throughout the document, ensuring that the reader can understand the terminology. The abbreviations are listed in alphabetical order.

11. The eleventh part of the document includes a list of symbols. It defines the mathematical symbols and units used in the document, ensuring that the reader can understand the equations and formulas. The symbols are listed in alphabetical order.

12. The twelfth part of the document includes a list of figures. It provides a detailed description of each figure, including the data it represents and the conclusions that can be drawn from it. The figures are numbered and placed at the end of the document.

Figure 3: Relationship between s_u , V_s and w for saturated fibrous peat.



This relationship can be written as:

$$s_u = C \left(\frac{w}{V_s} \right)^n$$

where: C and n constants
(55.8 and 0.683 respectively, for saturated fibrous peat)

The remaining topographical parameters are determined by integration of the GPR data with either traditional survey data or more recently the use of lidar surface mapping (Figure 4).

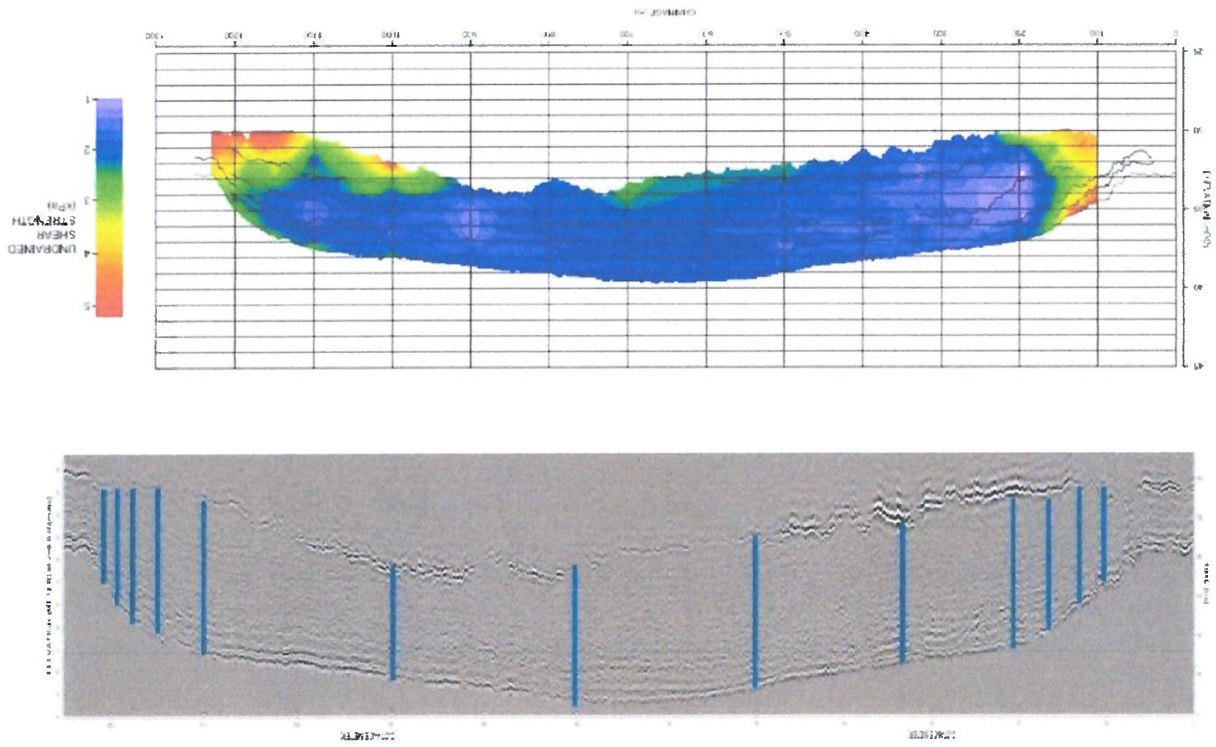


Figure 4: Topographically corrected GPR profile (a) with interpolated Undrained Shear Strength profile (b). Moanvenlagh Bog, Co. Kerry.

SLOPE STABILITY ASSESSMENTS

In order to carry out a quantitative assessment of the risk posed by peat stability an infinite slope analysis to calculate the factor of safety (FoS) is used. The inputs to this analysis include assessing the peat thickness, topography as well as the undrained shear strength of the peat across the site and using the formula:

$$FOS = \frac{c_{u,d}}{\gamma_{sat,d} h (\sin \beta) (\cos \beta)}$$

$c_{u,d}$ Undrained shear strength
 $\gamma_{sat,d}$ Saturated unit weight
 h peat depth
 β basal peat slope

The FoS gives an assessment of the instability of a peat slope with a FoS of < 1.0 indicating an unstable slope liable to fail. Typically a FoS of 1.3 is used to represent a stable slope with low risk of failure. Using this approach it is also possible to model the effect of loading of the peat by applying a surcharge to represent the effect of different construction practices. Figure 5 (d) shows a surcharge designed to represent the effect of loading of a typical c. 1.5psi ground bearing machine proposed to carry out the restoration works.

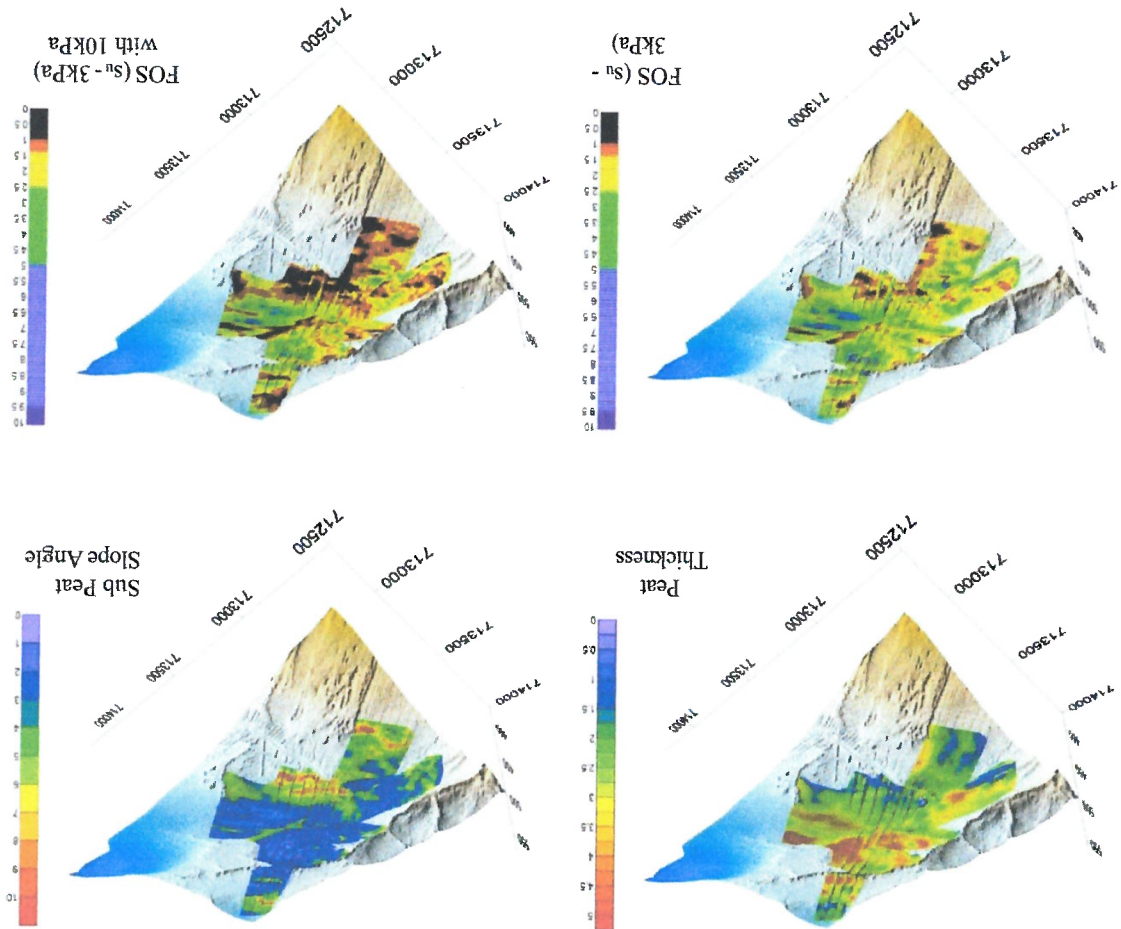


Figure 5: Topographically corrected plots showing sequence of slope stability analysis. (a) peat thickness, (b) sub peat slope angle, (c) FOS using determined s_u , (d) FOS using determined s_u and 10kPa surcharge.

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Appendix 3

MR ROGER GOODWILLIE
Review of First Part Appeal



Roger Goodwillie
Applications Ecologist

Lavistown House
Kilkenny
Ireland

tel/fax: 056 776 5145
mobile: 087 244 3024
email: rogerg@indigo.ie

Kilmanagh Ballycallan Tullaroan (KBT) Responsible Energy
Kilmanagh
Co Kilkenny

Attn: Ingelise

17th April 2025

Re: Comments on EIAR (Kilkenny PL 2560003) and First Party Appeal to ABP by

Brislagh/MKO

An Bord Pleanála Reference #: - PL 10.322154.

In relation to botanical detail in the EIAR I would maintain that the inclusion of orange foxtail *Alopecurus aequalis* rather than marsh foxtail *Alopecurus geniculatus* is not a typographical error as suggested by the First Party appeal document but a factual error, a mistaken identification that was repeated with two other species, as mentioned previously to Kilkenny County Council – creeping Jenny *Lysimachia nummularia* and hard shield-fern *Polystichum aculeatum*. No attempt has been made by MKO to discover if these species really occur on site and no reference to existing information introduced to justify them.

The lack of response from MKO only reduces confidence in the botanical/habitat identification if these noteworthy species remain without qualification.

Some hedgerow clearance is necessary for grid connections and haul routes and it is not clear if any of these hedge sections are of value. In such an intensively farmed area the hedges are often the only remaining refuges of plant species and invertebrates other than those associated with ryegrass. There is no data to show if they have any associated species of interest. To replace them with new planting is not a full mitigation as it will take many years for a hedge to accumulate biodiversity and a natural ecology if valuable sections are taken out and the seed sources removed. Hedge removal also has knock-on effects on bat behaviour and commuting routes. A newly-planted hedge will not become available to bats for several years so there may be temporary impacts on these organisms.

R. Goodwillie

Roger Goodwillie
(I am a full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM), having qualified in Botany as B.A. (Mod.), M.Sc. I have been a practising ecologist for 50 years and am BSBI County Recorder for Kilkenny).



Roger Goodwillie
Applications Ecologist

Lavistown House
Kilkenny
Ireland

tel/fax: 056 776 5145
mobile: 087 244 3024
email: rogerg@indigo.ie

Kilmanagh Ballycallan Tullaroan (KBT) Responsible Energy
Kilmanagh
Co Kilkenny

Attn: Ingelise

16th January 2025

**Re: Review of Briskalagh windfarm reports: Biodiversity, AA/NIS and appropriate
Appendices PL 2560003**

I have read the ecological surveys and appendices and find the botanical aspects particularly bad.

The knowledge of species shown is poor and the overall lack of awareness of botanical information is concerning. For example

- Creeping jenny *Lysimachia nummularium* is most unlikely to occur in ryegrass fields particularly in the proportion of 20% coverage as quoted. It is associated with river floodplains, wet woodland etc, places that experience annual flooding. If it was really present, it requires a comment as to the reason it was there.

- The mention of *Alopecurus aequalis* at the end of the list of species shows a similar lack of botanical knowledge. This species is very rare in the country and is in fact listed in the Flora Protection Order 2022. It grows in pools that dry out during summer and its nearest wild occurrence is in a reservoir in Waterford. Slipping it into a list of improved grassland species shows a lamentable lack of awareness and calls into question the whole basis of the botanical/habitat section. (cf. the conclusion in 6.6.3)

- In the same way a record of *Polystichum aculeatum* in the woodland section has been included without comment although the species has only been recorded in two sites in the County this century.

Three mistakes in a section, probably made by an over-reliance on Google for identification, make one wonder if the information that is given there or elsewhere can be trusted. A glance at Stroh, P.A. et al (2023) *Plant Atlas 2020*. BSB/Princeton, or access to the NBDG maps, would have alerted the writer or, later, the reviewer to these botanical errors.

In consultation there was also no contact made with the County Recorder of the BSB (Botanical Society of Britain & Ireland) who collates such plant records.

It is not clear that the mitigation measures of habitat augmentation, extra hedges and trees will work in the long term. Who is going to own the hedges and can they not be clipped down to nothingness once 5 years pass? Perhaps a farmer agreement of some sort is mentioned somewhere?

Roger Goodwillie

(I am a full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM), having qualified in Botany as B.A. (Mod.), M.Sc. I have been a practising ecologist for 50 years and am BSBI County Recorder for Kilkenny).

am BSBI County Recorder for Kilkeny).

Appendix 4

Enerco Energy/ MKO Briskalagh Biodiversity Poster

Briskealagh Biodiversity

Briskealagh Biodiversity

Briskealagh is situated within an agricultural grassland landscape encompassing hedgerows and tree-lined rivers, floodplains, and small areas of plantation forestry. This leaflet provides an overview of the main habitats and species recorded during ecological surveys of the area.

What is Biodiversity?

Biodiversity is a term used for the variety of life on earth. Biodiversity includes all species and habitats found within a given area known as an ecosystem. A wide variety of specialist ecological surveys are being undertaken at Briskealagh by MICO, with the project designed to avoid sensitive ecological receptors. These surveys have targeted a wide variety of species and habitats with the aim of determining their distribution in the area. Species recorded in the study area to date include rabbit, kingfisher, buzzard and a number of bat species. The site is also likely to support other mammal species such as badger and fox. This leaflet provides a brief overview of a variety of habitats and species of interest with potential to occur within the site as well as some interesting facts for the reader.

Habitats

Map 1 illustrates the biodiversity study area. The following habitat types, which may be of interest to the local community, are found within the study area.



Watercourses – A number of small watercourses and tributaries flow in a southeasterly direction within the Briskealagh site. The Tullaroan Stream and its tributaries flow southward throughout the site, while the hedgerows for the Bregagh stream flow eastward from the north-east part of the site. The Tullaroan stream is known to support Salmon, Brown Trout, Lamprey and Otter amongst other species. Aquatic invertebrates such as mayfly play an important role in the food chain for a wide array of faunal species, including the aforementioned fish species. Drainage ditches border the majority of the improved agricultural field within the study area. A variety of aquatic plants dominate river margins.

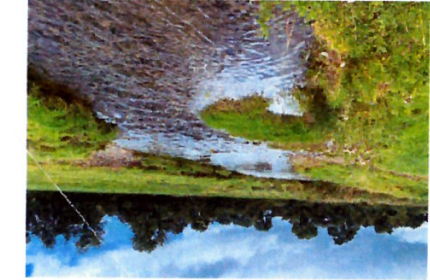


Plate 1-1: Tullaroan Stream



Plate 1-2: Waterlily in the Tullaroan Stream.



Plate 1-3: Improved grassland.



Plate 1-4: Hedgerow with mature tree and shrub species.

Conifer Forestry – In the southern part of the site there is a small area of conifer plantation forestry which is situated near the Tullaroan stream. This habitat is often related to low biodiversity value due to the density of trees planted and the monoculture nature of the species composition. Nevertheless, a variety of species can be found utilising its shelter, including pine marten, red squirrel and a variety of bird species.

Treeline and Hedgerows – The agricultural fields across the site are bounded by a network of treelines and hedgerows, often featuring impressive, mature trees of native Ash and Oak, and the non-native Beech, and Sycamore. Other species found within the site include the native Alder, Hawthorn, Blackthorn, Hazel, Elder and a variety of Willow species. These species provide vital sources of food for insects in spring and summer and berries in autumn for birds and mammals. These linear natural structures provide the feature of 'connectivity' between different habitats which is vital for linking the areas. Various habitats together and acts as shelter for mammals, particularly bats which depend on these features for commuting, foraging and roosting.



Plate 1-5: Wood Sorrel



Plate 1-6: Fern and moss assemblage on a Blackthorn branch.



Plate 1-7: Dense community of flora species within the mixed broadleaved woodland.

Mammals

A number of mammals including Badger, Irish Hare, Otter, Red Squirrel, Rabbit and Pine Marten have been recorded in the area. In the past, Badgers live in social groups with family members and can live within complex tunneling systems known as setts. Irish Hare is a subspecies of the Mountain Hare which is endemic to Ireland and is therefore a particular conservation interest. There are nine bat species in Ireland, and a number of these species have been recorded foraging within the study area, including Common Pipistrelle, Nathusius' Pipistrelle, Soprano Pipistrelle, Brown Long-eared Bat and Leisler's bat. Leisler's bat is the Soprano Pipistrelle which weighs as little as a €1 coin. Each bat can eat over 3000 midges in one night! Ireland's largest bat, Leisler's bat, has also been recorded.

Bird Species

A wide variety of common and widespread bird species typical of farmland habitats have been recorded in the study area. Of particular note are raptor species such as Buzzard, Kestrel, Peregrine Falcon, and Sparrowhawk. Species associated with aquatic habitats were also observed including Grey Heron, Moorhen, Cormorant, Curlew and Kingfisher. Important migratory and re-colonising species were also observed on site including Golden Plover, Greylag goose, Lapwings, Little Egret and even a Great Spotted Woodpecker was spotted once on site.

Buzzards are seen and heard soaring above fields. Kestrels are easily distinguished by their trademark hovering behaviour as they search the ground for prey. Grey Heron can be seen perched and slowly wading through watercourses within the study area. Kingfisher are observed foraging along the banks of the Tullaroan stream in the southern end of the site.

