

# OBSERVATION/SUBMISSION TO PLANNING APPLICATION

Case Reference: 323761

Laura Kelly

Tigreenaun

Barnaderg

Tuam

Galway

To: An Coimisiún Pleanála

64 Marlborough Street

Dublin 1

D01 V902

Date: 07 November 2025

**Re: Observation/Submission to proposed wind energy development at Cooloo Wind Farm**

Location: Cloondahamper, Cloonascragh, Elmhill, Cooloo, Lecarrow, Dangan Eighter, Lissavally, Slievegorm  
- Co. Galway

Applicant: Neoen Renewables Ireland Limited

Dear Sir/Madam,

I have lived in Tigreenaun all my life and my family have farmed the land here for generations. I am extremely concerned about the health implications this proposed development will have. In particular the impacts of shadow flicker and infrasound are deeply troubling. My home is located 1.3 km from proposed turbine 6 and we will be impacted by any health effects the turbines have when operational. My children are aged 7 and 9 and I worry for their future in this area. I believe there has not been enough engagement with the local community on these matters and I urge An Coimisiún Pleanála to reject the proposed development for the following reasons.

## **Community Consultation and Engagement**

The basis that the consultation was undertaken by Neoen and MKO for the Cooloo Wind Farm has failed to meet the basic expectations of transparent and inclusive community engagement. It falls short of national guidelines and the intent of An Bord Pleanála's Strategic Infrastructure Development process.

Statutory notices were published in the Irish Examiner instead of the Tuam Herald, which most local

households rely on for news.

Despite claims of consultation with local groups, key organisations such as Killarney Community Council and Killarney GAA, were not engaged in any meaningful way.

No public event was held in Moylough, even though seven of nine turbines are proposed there, excluding many directly affected residents.

The developer's report cites "door-to-door engagement" with only 55 homes and ten written responses is evidence of a process that reached few and failed to inform many.

The developer's continued reliance on online materials to provide information disadvantaged rural residents with poor internet access and a large number of older residents without a technical knowledge.

These shortcomings show that the consultation was administrative rather than genuine, and did not provide the community with a fair chance to participate. An Bord Pleanála should recognise these significant deficiencies when assessing the project's compliance with public engagement standards.

### **Planning Framework and Guidelines**

The application depends upon the 2006 Wind Energy Development Guidelines (WEDG), which are nearly twenty years old. These guidelines were written when onshore turbines rarely exceeded 100 metres in height. The proposed turbines, however, are approximately 180 metres tall, almost double that scale, yet the same 500-metre setback is applied. This outdated standard fails to reflect advances in turbine design, the increased magnitude of visual, noise and shadow impacts, or current scientific understanding of low-frequency sound and health. Comparable European jurisdictions apply height-based setbacks (for example, 10 times turbine height or a minimum of 1–2 km). Proceeding under static 2006 standards is inconsistent with international best practice and contrary to the precautionary principle enshrined in Article 191 of the Treaty on the Functioning of the European Union (TFEU). By relying on obsolete national guidance, the proposal fails to satisfy the Galway County Development Plan 2022–2028 (GCDP) objectives to preserve landscape character and protect residential amenity (Policies LCM 1 and LCM 2).

### **Barnaderry Gortbeg Group Water Scheme**

I use the water from Barnaderry Gortbeg Group Water Scheme as my main source of drinking water for my household. The water is of excellent quality and I am very concerned that pollution of various types such as silt, sediment and other contaminants will enter the water source, causing me and my family harm. With the location of two Turbines within the Source Protection Area (SPA) I believe the Cooloo Windfarm should not be granted permission whatsoever, especially in such a highly karstified and hydrologically sensitive area.

### **Right to Peaceful Enjoyment of Property**

Article 1, Protocol 1 of the European Convention on Human Rights (ECHR) safeguards every individual's right to the peaceful enjoyment of their possessions. It provides that: "Every natural or legal person is entitled to the peaceful enjoyment of his possessions. No one shall be deprived of his possessions except in the public interest and subject to the conditions provided for by law and by the general principles of international law."

Approval of this proposed wind farm would constitute a clear interference with this right. If the development proceeds, I will be deprived of the peaceful enjoyment of my home and property. The construction and operation phases would bring significant and continuous disturbance — including persistent noise pollution, low-frequency noise (LFN), shadow flicker, and heavy vehicle movements. The tranquillity and visual amenity of my surroundings, which form an intrinsic part of my home environment and well-being, would be irreversibly diminished.

During construction, the constant flow of heavy machinery and associated noise would cause ongoing disruption and stress, further impacting daily life. Once operational, the presence of industrial-scale turbines dominating the landscape would permanently alter the character of the area, stripping residents of the quiet enjoyment of their homes and lands. This level of intrusion cannot be considered proportionate or justified in the public interest, and therefore conflicts with the protections afforded under Article 1, Protocol 1 of the ECHR.

### **Property Devaluation**

A study from the University of Galway and international research indicates that homes within 1 km of wind turbines experience adverse effects on property value, with reductions of up to 14.7%. My home falls within this range, and I am deeply concerned about the financial and emotional impact this will have on my family and our future prospects. The planning application does not appear to address or mitigate this issue.

<https://www.universityofgalway.ie/media/researchsites/ceris/files/WP-2023-01.pdf>

### **Noise**

The proposed Cooloo Wind Farm should be refused planning permission, citing the Irish High Court case *Byrne & Moorhead v ABO Energy* [2025] IEHC 330, in which wind turbine noise was legally recognized as a private nuisance, leading to the permanent shutdown of turbines in County Wexford. The objection highlights that the Cooloo proposal fails to address proven low-frequency and amplitude-modulated noise impacts similar to those measured in the Wexford case, where sound levels far exceeded safe limits and caused serious disturbance to residents living over a kilometre away. The Cooloo project's reliance on outdated ETSU-style noise standards, which disregard low-frequency and tonal effects, is therefore deemed inadequate to protect public health and residential amenity.

The proposed turbines at Cooloo—significantly larger than those involved in the Wexford case—are likely to generate even stronger low-frequency noise that travels farther and fluctuates more intensely under local atmospheric conditions. This increases the risk of nuisance and potential legal liability for both developers and planning authorities. Ireland's 2006 wind energy guidelines are outdated and fail to reflect modern scientific understanding of turbine acoustics. Until revised national standards are adopted, approving large-scale wind farms under obsolete criteria would be unsafe and contrary to the public interest. Planning permission should therefore be refused due to the clear and foreseeable risk of harm to residential amenities, the inadequacy of current noise controls, and the legal precedent confirming wind turbine noise as a substantial nuisance.

### **Shadow Flicker**

The EIAR's treatment of shadow flicker fails to meet statutory and international standards for the assessment and mitigation of human health and residential amenity impacts. It relies on outdated guidelines, applies over-simplified modelling assumptions, and does not provide adequate protection to the large number of dwellings and receptors affected.

The EIAR confirms that:

- 218 residential receptors are located within 1.62 km of proposed turbines,
- 171 of these are predicted to experience shadow flicker, and
- 43 receptors are within 1 km of a turbine.

These figures demonstrate that the project is situated in a densely inhabited rural area, yet the assessment dismisses the significance of impact based solely on a theoretical model rather than verified site conditions.

By any reasonable measure, 171 dwellings affected by a rotating shadow intrusion constitutes a major

residential amenity and public health concern, not a negligible effect.

The EIAR applies the 2006 DoEHLG Wind Energy Development Guidelines, which allow up to 30 minutes per day or 30 hours per year of shadow flicker at any dwelling.

However:

- The 2019 Draft Wind Energy Development Guidelines (and reiterated in the 2025 Climate Action Plan Annex) require that no occupied dwelling or sensitive receptor experiences any shadow flicker through the use of automatic turbine control systems.

- The EIAR itself acknowledges that turbine software could achieve this standard but chooses to assess impacts under the obsolete 2006 thresholds.

This approach is contrary to current best practice and fails to future-proof the development in line with national policy on renewable energy development and community protection. Although the EIAR cites various international studies (some over a decade old) claiming no proven medical link between shadow flicker and disease, it fails to address contemporary health guidance:

- The World Health Organisation (2018) recognises annoyance and sleep disturbance as legitimate health effects of environmental light and noise intrusions.

- The HSE's own scoping response (2023) requested an assessment of all likely significant impacts on sensitive receptors, including shadow flicker, along with proposed mitigation.

- The EIAR's discussion focuses on whether shadow flicker can cause seizures (which is rare), but ignores chronic stress, fatigue, and loss of amenity due to regular flicker events within residential interiors.

The result is a narrow and outdated view of human health inconsistent with EPA (2022) guidance, which defines health as "a state of complete physical, mental and social well-being."

The shadow flicker assessment in the Cooloo Wind Farm EIAR is deficient, outdated, and incomplete. It underestimates the true scale of residential intrusion and fails to apply the precautionary principle required under both EU and Irish environmental law.

Given:

- 171 dwellings predicted to experience flicker
- Outdated 2006 guideline thresholds
- Absence of enforceable mitigation and cumulative analysis

this development cannot be deemed to have no likely significant effect on human health or amenity.

### **Impact of Wind Turbines on the Neurodiverse within the Community**

Numerous studies and planning inspectors with An Coimisiún Pleanála have acknowledged that wind turbines can have negative effects on neurodiverse individuals. Research by Howell (2015) found that people with autism are more sensitive to environmental noise, experiencing higher rates of sleep disturbance, cognitive difficulties, and stress due to low-frequency noise (LFN). The neurodiverse community often struggles to filter background sounds, and constant turbine noise and vibration could cause pain, anxiety, and loss of concentration, reducing quality of life.

These impacts extend to education. Local schools and preschools, including Brierfield National School which has a special class for children with autism, would be particularly affected. Senior planning inspectors have previously noted that facilities for children with additional educational needs may become unviable near large-scale wind farms due to such disturbances.

Shadow flicker poses further risks, as studies (Becchio et al., 2010) show that individuals on the autistic spectrum may fixate on spinning movements, heightening distress. Those with epilepsy or neurological conditions may also be affected.

Ireland's obligations under the UN Convention on the Rights of Persons with Disabilities require protection from harm and equal enjoyment of rights. Allowing this development would contradict those principles.

While more research is needed, there is no definitive evidence proving that wind farms are safe for, and do not significantly impact, the neurodiverse community—and the absence of evidence is not evidence of absence.

#### References:

- An Bord Pleanála. (2016). PA0041 – Assisting report to Senior Inspector [PDF]. <https://www.pleanala.ie/anbordpleanala/media/abp/cases/reports/pa0/rpa0041a.pdf>
- An Bord Pleanála. (2015). Inspector's report: ABP-PA0038 [PDF]. <https://www.pleanala.ie/anbordpleanala/media/abp/cases/reports/pa0/rpa0038.pdf>
- Howell, G. (2015). Autism and the effect of introducing a new noise source into quiet rural communities: risk factor from industrial wind power generation
- Becchio C, Mari M, Castiello U (2010) Perception of Shadows in Children with Autism Spectrum Disorders. PLoS ONE 5(5): e10582. <https://doi.org/10.1371/journal.pone.0010582>

#### **Barnaderg National School**

Barnaderg National School is located approximately 2.49 km from Turbine No 1.

The turbines being this close to the school will no doubt have an impact on the education of the children in Barnaderg NS. The school will suffer from noise pollution and infrasound. In addition to this, during the construction phase and while laying cabling the roads to and from the school will be impacted by road closures, traffic, additional noise and dust. Again, all of this will impact on the children of the school.

I am also concerned that if t planning permission is granted less people will be moving to or building in the area of Barnaderg. This will lead to fewer children in the community and may lead to the school losing teachers, and ultimately the school closure.

#### **Farming**

I am deeply concerned about the impact this proposed windfarm will have on the farmers in Barnaderg, Cooloo, and the surrounding areas. Many of these are full-time and part-time dairy and dry-stock farmers, with holdings of varying sizes, and their livelihoods depend directly on the health and productivity of their animals. Farming in this area is not just a way to make a living—it is a way of life, a source of pride and satisfaction. Farmers rely heavily on the local roads for moving cattle and accessing their land every day. These essential activities could be disrupted by construction traffic, turbine maintenance, or other project-related impacts, further jeopardizing livelihoods. Also the presence of shadow flicker, excessive noise, and visual intrusion from turbines would seriously disrupt this, affecting both our work and our well-being.

#### **Biodiversity impact**

I object to the proposed development on the grounds of its significant and permanent impact on biodiversity, including legally protected habitats and species.

The project's Environmental Impact Assessment Report (EIAR) acknowledges a residual adverse effect on Degraded Raised Bog (habitat 7120), a habitat of County Importance with capacity for natural regeneration (EIAR Ch. 6, p. 142). Construction of the proposed floating access road between turbines T7 and T9 will directly remove approximately 0.18 ha of this sensitive peatland and disrupt its hydrological balance (EIAR Ch. 6, Sec. 6.5.2.1.1). This is contrary to the conservation obligations set out under the EU Habitats Directive (92/43/EEC).

The site supports cutover bogs (PB4) and Marsh Fritillary (*Euphydryas aurinia*), an Annex II species protected under European law. Breeding webs were recorded near turbine T5 within metres of proposed construction works (EIAR Ch. 6, Sec. 6.4.3.3). The disturbance, dust, and drainage changes associated with turbine and road construction threaten the species' survival locally, directly conflicting with Ireland's duty to maintain favourable conservation status for Annex II species.

The EIAR highlights potential effects on hydrology and connected wetland systems that could degrade otter (*Lutra lutra*) habitat and aquatic fauna (EIAR Ch. 6, Sec. 6.5.2.1.1 and 6.2.2). Otters are also protected under Annex II of the Habitats Directive, and any degradation of their habitat represents a breach of Ireland's legal obligations.

These outcomes are inconsistent with the objectives of the National Biodiversity Action Plan 2023–2030, which seeks to prevent net biodiversity loss. Allowing this development to proceed would contradict national policy commitments and international conservation obligations.

Given the acknowledged residual adverse effects on protected habitats and species, I respectfully request that An Coimisiún Pleanála refuse permission for this development. The permanent loss and degradation of biodiversity cannot be justified, particularly where protected species and habitats are involved.

#### References:

- EU Habitats Directive (92/43/EEC)
- National Biodiversity Action Plan 2023–2030
- EIAR Chapter 6 (Biodiversity)
- An Coimisiún Pleanála Case 323761

#### **Lack of detailed traffic management plan**

This submission objects to the proposed development due to insufficient traffic management and risk assessment in Appendix 15-2 (Traffic Management Plan). The plan omits essential quantitative data—such as expected abnormal load numbers, peak-phase traffic volumes, and route-specific scheduling—required to evaluate construction impacts. Narrow rural roads near Barnaderg and Cooloo lack the capacity for large turbine transport without pre-works strengthening or verge reinforcement. No detailed programme for road condition monitoring or reinstatement is provided. The TMP also fails to model cumulative or worst-case haulage scenarios, nor does it include enforceable mitigation measures for school transport, farm access or local business continuity. In the absence of these specifics, the project's potential impacts on road safety, infrastructure integrity and rural amenity remain unacceptably high. The application states that locals will be kept informed about traffic construction. Judging by how poorly locals were informed about the windfarm initially, I would be very sceptical as to whether we would be kept informed once construction was to commence. The Board should refuse permission or impose strict, verifiable traffic and haulage conditions.

#### **Climate impact**

From a scientific standpoint, developing the Cooloo Wind Farm on peat and forested land will create significant carbon losses from disturbed soils and vegetation. The Environmental Protection Agency already reports over 7 Mt CO<sub>2</sub>e annually from the LULUCF sector. Any further increase breaches the intent of Ireland's carbon budgets and the EU LULUCF Regulation, which requires no net debit from land use. The Climate Action and Low Carbon Development Act 2021 obliges decision-makers to act consistently with these limits. Replacing intact carbon sinks with infrastructure and limited native replanting does not align with the national climate objective of net zero by 2050. This project should be refused unless it fully restores and reweaves the affected peatlands to avoid additional emissions.

#### **Battery storage and substation safety risks**

I object on the grounds of unacceptable risks to public health, fire safety, and water contamination posed by the proposed substation and Battery Energy Storage System (BESS).

The developer's own Appendix 12-3 Battery Storage Noise Assessment (Sept 2025) identifies fifteen CATL EnerC+ battery containers containing lithium-ion (LiFePO<sub>4</sub>) systems manufactured by CATL. Predicted operational noise levels reach up to 31 dB LAeq at nearby homes, representing an increase of +11 to +14 dB above background levels. The report itself classifies this as a "significant adverse impact" on residential amenity. Scientific research shows that chronic noise above 30 dB can raise risks of cardiovascular disease and sleep disturbance.

Lithium-ion Battery Energy Storage System (BESS) installations worldwide have experienced fires and explosions that release toxic gases such as hydrogen fluoride and hydrogen cyanide. Research shows that fire-water run-off from lithium-ion battery fires can contain hydrofluoric acid, dissolved metals, and fluorinated organic compounds, which may contaminate nearby soil and waterways if not properly contained.

This proposed Substation and BESS would have a major impact on The Lough Corrib Special Area of Conservation, as a nearby stream eventually flows into Lough Corrib, potentially harming aquatic life and drinking water sources.

Based on the absence of any Fire Safety Management Plan within Appendix 12-3, it appears that nearby fire services are not equipped or trained to respond effectively to large-scale lithium-ion battery fires.

In *Grace & Others v. An Bórd Pleanála* (2017), the Supreme Court ruled that a residence within one kilometer of a proposed development site had standing to argue against consent. This case emphasizes the significance of thoroughly evaluating related infrastructure such as the substation and BESS, which ought to be included in the same consenting procedure as the wind farm itself.

With homes, farmland, and livestock within a few hundred metres of the proposed site, this industrial-scale development poses an unacceptable risk to community health, safety, and environmental integrity. Until independent noise, fire-safety, and hydrological risk audits are completed and verified by competent authorities, I urge An Bord Pleanála to refuse this application in accordance with the Precautionary Principle.

References:

- National Fire Protection Association (NFPA) (2020) Hazard Assessment of Lithium-Ion Battery Energy Storage Systems
- TNEI Ireland (2025) Appendix 12-3 Battery Storage Noise Assessment
- World Health Organization (WHO) (2018) Environmental Noise Guidelines for the European Region
- Irish Legal News (2017) Supreme Court: Challenge to wind farm development referred to CJEU

### **Major accidents and natural disasters**

I object on the grounds that Chapter 16 of the Cooloo Wind Farm EIAR fails to provide a robust assessment of major accident and natural disaster risks.

The report's references to peat instability and raised-bog cutover are inadequate given the known susceptibility of peat landscapes to movement and sediment release during heavy rainfall or storm surge events. The EIAR's reliance on generic statements about low geological risk neglects the amplified high-wind, flood and peat-fire hazards forecast for County Galway under the local authority climate plan.

The lack of detailed modelling of flood-pathways or worst-case scenario storm events undermines the precautionary principle embedded in Irish planning law. This is a serious deficiency given the scale of the proposed development and the sensitivity of the peat landscape.

No explicit contingency or evacuation measures are detailed for the community along the grid-route corridor — a serious omission when tall turbines and infrastructure could present hazard in extreme events.

The assessment is incomplete and fails to satisfy the legislative requirements of an EIAR insofar as it must

identify, describe and assess direct and indirect effects of the development on the environment and human beings.

I call on An Coimisiún Pleanála to require an independent supplementary risk assessment, specific to peat-hazard, flood-modelling and major-accident scenarios, before any decision is made on this application.

References:

- Galway County Council (2024) Local Authority Climate Action Plan 2024-2029
- Environmental Protection Agency (EPA) (2022) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (EIAR)
- European Commission (2024) Environmental Impact Assessment: Overview of EU Rules

### **Bird collision risk**

I object to the proposed development on the grounds that the Collision Risk Assessment (Appendix 7-6, MKO 2025) is methodologically and scientifically inadequate to protect legally protected bird species.

The assessment relies on the theoretical Band Model, which assumes fixed avoidance rates and static behaviour, without validation using telemetry or local field data. Survey coverage is temporally and spatially limited, missing key migration and nocturnal flight periods. This approach fails to capture the real-world behaviour of birds in the area.

The use of a 99.5% avoidance rate for Whooper Swans, without local validation, significantly underestimates the risk of collision. Evidence from Irish Wetlands Bird Survey (I-WeBS) and BirdWatch Ireland indicates that Whooper Swans routinely commute between Horseleap Lough and surrounding feeding areas at low altitudes that overlap turbine rotor heights. The conclusion of 'negligible risk' is therefore unsupported and unreliable.

The report fails to consider cumulative impacts with other regional wind farms or infrastructure, contrary to EU Directive 2009/147/EC (Birds Directive) and Article 6(3) of the Habitats Directive. This is a serious omission given the presence of multiple wind energy developments in the region.

Mitigation measures are undefined and untested. Key figures such as flightline maps (e.g., Figure 7-6-1) are omitted, hindering independent review and transparency. Without clear, evidence-based mitigation strategies, there is no guarantee that collision risks can be managed effectively.

Under the Birds Directive (2009/147/EC) and the Habitats Directive, Ireland has a legal obligation to protect migratory and resident bird populations. The assessment as presented does not provide sufficient evidence that these obligations can be met.

I respectfully request that the planning authority reject or defer this application pending an independent, peer-reviewed reassessment. This should include:

- Full telemetry and radar data for local bird populations
- Expanded seasonal coverage including migration and nocturnal periods
- Transparent disclosure of all field survey data and model assumptions
- Cumulative impact assessment with regional wind farms
- Defined, evidence-based mitigation strategies

References:

- MKO (2025). Appendix 7-6 Collision Risk Assessment, Cooloo Wind Farm EIA
- Band, W., Madders, M. & Whitfield, D. (2007). Developing field and analytical methods to assess avian collision risk at wind farms
- Scottish Natural Heritage (2018). Avoidance Rates for the Onshore Wind Farm Collision Risk Model
- NatureScot (2021). Research Report 909: Using a collision risk model to assess bird collision risks onshore wind farms
- Rees, E. (2006). Whooper Swans: Biology and Conservation. T & AD Poyser

- Crowe, O. et al. (2019). Migration and Roosting of Whooper Swans. Irish Birds 43
- BirdWatch Ireland (2024). Whooper Swan Species Profile & Irish Wetlands Bird Survey (I-WeBS)
- European Commission (2021). Wind Energy and Natura 2000

### **Conclusion**

For all of the reasons set out in this submission, it is clear that this windfarm would cause more harm than benefit to our area. This windfarm would not bring progress, it would bring lasting damage. This community values its peace, safety, and way of life. The proposed development threatens the peace, safety, and character of the place we call home. I urge An Coimisiún Pleanála to stand with the local people and reject this development to protect our landscape, our homes, and the generations to come.

Yours Sincerely,

A handwritten signature in black ink, appearing to read 'L Kelly', written in a cursive style.

Name: Laura Kelly  
Date: 07 November 2025