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14th June 2026

To: An Coimisiún Pleanála

64 Marlborough Street
Dublin 1, D01 V902

Case Number: PAX16.324258

Re: Observation / Objection to the Proposed Tirawley Wind Farm Strategic Infrastructure Development (Case No. PAX16.324258)

Re: Planning permission for the construction of Tirawley Windfarm consisting of 16 no. wind turbines, a permanent 110kV substation, 110kV underground cable and grid connection, and ancillary development in the townlands of Ballymurphy, Ballynaleck, Barnhill Lower & Upper, Barroe, Billoos, Carn, Carrickanass, Carrowmore, Castlelacken Demesne, and other townlands in County Mayo.

We hereby waive receipt of postal correspondence and request that all communications be conducted electronically only.

Dear Sir/Madam,

Executive Summary

We respectfully object to the proposed Tirawley Wind Farm development on the basis that the proposed turbine layout would result in significant and insufficiently mitigated impacts on the residential amenity, environmental quality and living conditions associated with our home that is described by the applicant as Receptor H4.

Our property H4 is an authorised dwelling house located approximately 555 metres from proposed Turbine AT05 and approximately 558 metres from proposed Turbine AT06. In addition to these turbines, a further five turbines are located within approximately 2 kilometres of the dwelling. Our home is therefore not affected by an isolated turbine but instead occupies a position within a concentrated cluster of large-scale wind energy infrastructure.

Of particular concern are the close proximity of multiple 135-metre turbines to our home, the cumulative visual and acoustic influence of the wider turbine field, the potential for shadow flicker effects, the adequacy of the Environmental Impact Assessment Report, and the applicant's reliance upon mitigation measures to achieve compliance with operational noise limits.

The Environmental Impact Assessment fails to properly assess the proposed development as a single integrated project, instead relying on disaggregated assessments of interdependent operational components, thereby undermining the robustness of the overall conclusions.

The applicant's own Noise Impact Assessment demonstrates that predicted night-time noise levels at H4 (our home) exceed the applicable limit prior to mitigation. Compliance can only be achieved through a combination of turbine directivity adjustments and operational curtailment of Turbine AT06. Even after these measures are applied, the predicted night-time noise level remains only 0.1 dB(A) below the applicable limit.

Given the proximity of the proposed turbines, the cumulative nature of the development, the uncertainties identified within the submitted assessments and the sensitivity of the receiving environment, it is submitted that the applicant has failed to demonstrate that significant adverse effects on residential amenity can be avoided.

Accordingly, An Coimisiún Pleanála is respectfully requested to refuse planning permission for the proposed development.

1. Status of our home referred to as “Receptor H4” in the Applicant’s Documents

Our home is an authorised residential dwelling which retains its full planning status and residential sensitivity.

While the property experienced a period of temporary non-occupation following inheritance by a previous owner, it remained habitable, maintained, capable of lawful occupation and was never abandoned or extinguished as a residential unit. The temporary absence of a permanent occupant arose solely because the inheriting owner resided elsewhere and did not require the dwelling as a principal residence.

The property has since been acquired by us and is currently benefiting from a programme of improvement and modernisation works. These upgrades are being undertaken to enhance the

dwelling's condition, comfort, energy efficiency and long-term residential use. The property has remained habitable throughout and continues to function as a residential dwelling.

The dwelling remains fully capable of lawful residential occupation and retains its status as a residential receptor.

Under established planning principles, the planning status and residential sensitivity of an authorised dwelling are not diminished by temporary non-occupation where the dwelling remains capable of lawful residential use. Our home must therefore be assessed as a full residential receptor and Noise Sensitive Location for the purposes of the EIAR and all associated environmental assessments.

Any assessment based upon reduced occupancy assumptions or diminished residential sensitivity would materially undermine the reliability of the conclusions reached regarding noise, shadow flicker and residential amenity.

2. Residential Amenity, Setback Distance and Visual Impact

The proposed development would introduce two turbines with a blade tip height of approximately 135 metres at distances of approximately 555 metres and 558 metres from our home – H4.

While these distances marginally exceed the minimum setback distance adopted by the applicant, the margin is negligible, amounting to approximately 15 to 18 metres beyond the threshold. More importantly, our home is not influenced by a single turbine but by a wider concentration of turbines distributed throughout the surrounding landscape.

Our home is situated within a cluster of seven turbines extending from approximately 555 metres to 2 kilometres from the property. The cumulative arrangement of these turbines is a material planning consideration which cannot be adequately assessed by reference to the nearest turbine alone.

Importantly, H4 is not located at the periphery of the turbine layout but occupies a position within the turbine field itself. The dwelling is situated between turbine groups comprising AT05 and AT06 at approximately 555–558 metres, AT01 to the east and AT02–AT04 to the south. As a consequence, turbines will be experienced across multiple viewing directions rather than within a single sector of the horizon. This arrangement gives rise to a perception of partial encirclement and visual enclosure that is materially different from the experience of a dwelling located outside the wind farm layout. The cumulative visual influence of several 135-metre turbines surrounding the dwelling therefore represents a significant residential amenity consideration.

We will experience the turbines as a permanent and dominant feature of our daily environment. The scale of the structures, their rotational movement, their visibility across multiple viewing directions and their cumulative presence within the landscape will

fundamentally alter the character of the receiving environment presently associated with the dwelling.

Particular concern arises regarding visual dominance, sequential turbine exposure and the perception of partial encirclement, arising from the distribution of turbines around the property. The resulting impact extends beyond landscape character considerations and directly affects the reasonable enjoyment of the home and surrounding curtilage.

The Planning Authority is therefore requested to consider not only compliance with minimum setback distances but also the cumulative effect arising from the number, scale and spatial arrangement of turbines surrounding our home - H4.

3. Shadow Flicker and Residential Amenity

The applicant's shadow flicker assessment predicts limited levels of shadow flicker at H4. However, the assessment is based on standard modelling assumptions and represents a predictive exercise rather than direct measurement.

While the predicted effects are not presented as significant, the assessment necessarily relies on assumptions regarding turbine operation, local weather conditions, sunlight availability and screening effects. As with any modelled assessment, a degree of uncertainty remains regarding actual experienced conditions at the property.

The applicant's assessment is based upon theoretical modelling rather than observed operational conditions. Given the relatively limited separation distances involved and the proximity of multiple turbines to H4, a precautionary approach is warranted.

Given the proximity of the proposed development to H4 and the cumulative influence of multiple turbines within the surrounding landscape, the Board should be satisfied that the assessment has adequately considered the potential for shadow flicker effects at occupied residential properties and that appropriate mitigation measures can be implemented should unforeseen effects arise during operation.

4. Noise Impact, Sleep Disturbance and Residential Amenity

The issue of operational noise represents one of the most significant concerns arising from the proposed development, particularly in relation to Receptor H4.

Importantly, these concerns arise not merely from subjective apprehension regarding turbine noise but are directly grounded in the applicant's own Noise Impact Assessment, which identifies H4 as one of the most acoustically constrained residential receptors within the study area.

The applicant's assessment demonstrates that the proposed development, in its unmitigated form, does not comply with the applicable night-time noise criterion at H4. Compliance can only be achieved through a combination of turbine directivity adjustments and operational curtailment of Turbine AT06. Even after these measures are applied, the predicted night-time noise level remains only 0.1 dB(A) below the applicable limit.

This reliance on mitigation is a material planning consideration. Acceptable operational performance is not secured through the inherent design of the development but must instead be achieved through ongoing operational management. Compliance at H4 is therefore conditional and scenario-dependent rather than robust across the full operational envelope of the development.

Even with both directivity and curtailment measures applied, the predicted night-time noise level at H4 remains extremely close to the applicable limit. The resulting margin of compliance is minimal and lies well within the range of uncertainty normally associated with predictive acoustic modelling, including meteorological conditions, atmospheric stability, wind shear profiles, ground absorption, turbine operational variability and long-term performance characteristics.

Where predicted compliance depends upon such a narrow margin, there is insufficient certainty that compliance will be consistently maintained under real-world operating conditions throughout the lifetime of the development. The applicant's assessment is based upon predictive modelling rather than observed operational performance, and therefore necessarily involves a degree of uncertainty.

A further concern arises from the reliance on curtailment of a single turbine (AT06) under defined wind speed and directional conditions. This introduces conditional compliance that is highly sensitive to variations in actual meteorological conditions. Small deviations in wind direction, wind speed or atmospheric stability may materially alter predicted noise outcomes.

Amplitude Modulation and the Character of Turbine Noise

In addition to quantitative noise levels, turbine noise cannot be adequately characterised by LAeq averaging metrics alone. In quiet rural environments such as that surrounding Receptor H4, the rhythmic character of turbine noise, particularly blade-pass frequencies and amplitude modulation, may significantly increase perceptibility and annoyance even where average noise levels remain within numerical limits.

Amplitude Modulation manifests as periodic fluctuations in noise level, often described as a repetitive "swish" or intrusive "thump". Research distinguishes between normal amplitude modulation and more pronounced forms of modulation, sometimes referred to as Other Amplitude Modulation (OAM) or Excess Amplitude Modulation, which may occur under particular atmospheric and operational conditions.

In low-background-noise rural environments, such characteristics can contribute disproportionately to sleep disturbance and reduced residential amenity compared with what might be inferred from average noise levels alone.

In *Webster & Anor v Meenacloghspar (Wind) Limited* [2024] IEHC 136, the High Court recognised that the assessment of wind turbine noise impacts is not limited to compliance with quantitative thresholds alone. The character, quality, persistence and intrusive nature of the sound are also material considerations in evaluating impacts on residential amenity.

The applicant's Noise Impact Assessment does not appear to have specifically assessed the potential for Other Amplitude Modulation at Receptor H4, nor does it identify any dedicated mitigation measures should such effects arise. Given the proximity of multiple large turbines and the quiet receiving environment, this represents a material uncertainty within the assessment.

Accordingly, compliance with a numerical noise limit should not be interpreted as definitive evidence that residential amenity will be adequately protected. Particular regard should be had to relevant Irish case law, including *Webster & Anor v Meenacloghspar (Wind) Limited* [2024] IEHC 136 and *Balz v An Bord Pleanála* [2019] IESC 90, which confirm that planning authorities must critically assess the adequacy of environmental assessments and are not bound to accept modelled compliance at face value where credible concerns arise regarding the real-world character and effects of turbine noise.

Applying these principles to the present case, H4 represents a highly sensitive residential receptor located approximately 555–558 metres from multiple large-scale turbines. The applicant's own assessment demonstrates that compliance with the applicable night-time criterion is not inherent to the project design but depends upon mitigation measures and a margin of only 0.1 dB(A). In these circumstances, the submitted evidence does not provide a sufficient degree of certainty that significant adverse effects on residential amenity, including sleep disturbance, will be avoided throughout the operational lifetime of the development.

5. Absence of a Clear Combined Operational Noise Assessment

A further and fundamental deficiency in the EIAR is the absence of a clear, integrated operational noise assessment addressing the combined effects of the proposed wind turbines, the Battery Energy Storage System (BESS), associated transformers, inverters, cooling systems, the 110kV substation and ancillary electrical infrastructure operating together as a single integrated development.

The Noise Impact Assessment focuses primarily on turbine noise in isolation. While Table 11.18 separately predicts a BESS operational noise level of 17.8 dB(A) at H4, the EIAR does not transparently demonstrate or report the combined operational noise environment that will

actually be experienced at Receptor H4 when all components of the development operate simultaneously.

The EIAR instead relies upon separate assessments of interdependent operational components. This fragmented approach fails to assess the proposed development as a single integrated project and therefore limits the Board's ability to fully evaluate the cumulative operational effects that may arise at sensitive residential receptors.

This omission is particularly significant in the case of H4, which the applicant's own assessment identifies as one of the most acoustically constrained residential receptors within the study area. The applicant's assessment demonstrates that compliance with the night-time noise criterion at H4 can only be achieved through turbine directivity adjustments and operational curtailment of Turbine AT06, leaving a margin of only 0.1 dB(A) below the applicable limit.

While the BESS contribution is reported separately and may be comparatively modest in isolation, the EIAR does not clearly demonstrate the combined operational noise environment arising from all project components operating concurrently. Any additional contribution from ancillary infrastructure inevitably reduces the already extremely limited margin upon which compliance at H4 depends.

A compliance margin of approximately 0.1 dB(A) lies well within the normal range of uncertainty associated with predictive acoustic modelling, including meteorological conditions, atmospheric stability, wind shear, ground absorption characteristics, operational variability and long-term equipment performance. Such a narrow margin cannot reasonably be regarded as robust evidence of long-term compliance under real-world operating conditions.

The discussion of cumulative effects within Chapter 11 appears primarily focused on other wind energy developments in the surrounding area. However, cumulative assessment should also address the combined operational contribution of all noise-generating elements within the proposed development itself, including turbines, BESS infrastructure, transformers, substations and associated equipment.

In the absence of a clearly presented integrated operational noise assessment for the development as a whole, the Board cannot be satisfied that the total noise environment likely to be experienced at Receptor H4 has been fully assessed, transparently reported, or demonstrated to comply with applicable noise limits under all reasonably foreseeable operating conditions.

It is therefore submitted that the applicant has failed to adequately demonstrate that the proposed development, considered as a single integrated project, will not give rise to significant adverse effects on residential amenity at this highly sensitive residential receptor.

6. Landscape Character, Cultural Heritage and Tourism

The proposed development lies within the Céide Coast area, part of the Wild Atlantic Way and directly adjacent to the Céide Fields — one of the world's oldest known Neolithic field systems, dating back approximately 6,000 years. The Céide Fields represent an archaeological landscape of exceptional significance and continue to be recognised as one of Ireland's most important cultural heritage assets.

The significance of the Céide Fields extends beyond archaeology alone. The site forms a cornerstone of the tourism offering of North Mayo and is a key component of the Wild Atlantic Way visitor experience. The wider Céide Coast landscape, including the dramatic coastal setting surrounding Céide Fields and Downpatrick Head, is recognised as one of the defining attractions of the region.

Recent tourism strategies and destination development initiatives for North Mayo identify the Céide Fields and the surrounding landscape as strategically important tourism assets and focal points for future sustainable tourism growth. The protection of the visual integrity, character and visitor experience associated with this landscape is therefore important not only from a heritage perspective but also from a tourism and economic development perspective.

Mayo County Council has unanimously opposed the proposed development, stating that it would adversely affect the tourism offering of North Mayo and undermine the scenic and cultural value of the Wild Atlantic Way, Céide Fields and the surrounding landscape. Mayo County Council, through both its planning department and elected members, has recommended refusal of the proposed Tirawley Wind Farm on the basis of significant adverse impacts on landscape character, residential amenity and incompatibility with established planning and tourism objectives.

From our property (H4), the cluster of 135-metre turbines would introduce a dominant industrial presence that would fundamentally alter the existing character of the landscape. The cumulative visual impact arising from multiple turbines distributed throughout the surrounding area would materially diminish the sense of openness, remoteness and natural character that presently defines this part of the Céide Coast.

The proposed development would not merely affect isolated views but would alter the wider landscape setting associated with the Céide Fields cultural landscape and the Wild Atlantic Way experience. The cumulative effect of multiple large-scale turbines within this sensitive coastal environment is therefore a matter of both local residential concern and wider public interest.

This cumulative landscape impact, when considered together with the significant effects on residential amenity identified elsewhere in this submission, constitutes a material planning reason for refusal.

The proposed development is therefore inconsistent with the landscape protection, heritage conservation and sustainable tourism objectives that apply to this internationally significant coastal and archaeological landscape.

Conclusion

For the reasons set out above, including the significant visual impacts on H4, the proximity of multiple turbines to an established residential property, the concerns regarding operational noise, the reliance on mitigation measures to achieve compliance, and the potential cumulative effects associated with the development, the applicant has failed to demonstrate that significant adverse effects on residential amenity can be avoided.

While compliance with applicable guidance and standards is asserted, compliance at H4 is entirely dependent upon precarious operational curtailment and is achieved with a mathematically negligible margin of less than 0.1 dB(A). In these circumstances, where the combined project operates at the absolute brink of statutory limits, the information submitted fails to provide the required certainty that the residential amenity of H4 will be adequately protected throughout the operational life of the development.

In these circumstances, it cannot be concluded with the required degree of certainty that the proposed development will operate without giving rise to significant adverse effects on residential amenity at H4 over its operational lifetime.

Accordingly, it is respectfully submitted that the applicant has not discharged the burden of demonstrating that the proposed development can operate without significant adverse effects on residential amenity, and that planning permission should therefore be refused.

Without prejudice to the foregoing, should the Board be minded to grant permission, it is submitted that a robust programme of post-construction noise monitoring and verification should be required, together with provision for additional mitigation measures where monitoring demonstrates exceedance of predicted levels or unacceptable impacts on residential amenity.

Given that the applicant relies entirely on predictive software modeling rather than real-world conditions, We respectfully request that—should permission be granted—the Board imposes explicit, legally binding planning conditions requiring a comprehensive post-construction acoustic verification programme. This programme must strictly adhere to the following criteria:

Independent Monitoring: All noise measurements must be conducted by an independent, certified acoustic consultant approved by the Planning Authority, with the full costs borne solely by the developer.

Real-World Verification at Receptor H4: Continuous noise monitoring must take place directly at our property (Receptor H4) during the first 12 months of operation, capturing a full range of wind speeds (including 7 m/s to 12 m/s) and wind directions (specifically

South-West and West vectors).

Live Data Transparency: The raw, unedited acoustic and meteorological data must be made fully accessible to the residents of H4 in real-time or via a transparent monthly reporting structure.

Enforceable Curtailment & Wind Farm Shutdown: If real-world measurements exceed the 43 dB(A) night-time limit, or if amplitude modulation (rhythmic thumping) causes a statutory nuisance, the developer must be legally mandated to immediately implement sector-management, increase curtailment across all contributing turbines, or shut down any or all parts of the wind farm infrastructure directly influencing Receptor H4 until permanent, verifiable compliance is demonstrated.

The statutory observation fee of €50 has been paid online.

Yours faithfully

Peter Heijnen and Catherina Lenssen

Table 11.16: Predicted Noise Levels as LA90 at Varying Wind Speeds from the Proposed Development

	ING	ING	4 m/s	5 m/s	6 m/s	7 m/s	8 m/s	9+ m/s
House ID	Easting	Northing	dBA	dBA	dBA	dBA	dBA	dBA
H1*	515110	837466	38.2	42.3	46.1	48.4	48.7	48.7
H2*	515526	833767	35.3	39.4	43.2	45.5	45.8	45.8
H3	516227	836339	34.4	38.5	42.3	44.6	44.9	44.9
H4	514628	834072	33.3	37.4	41.2	43.5	43.8	43.8
H5	516241	833804	30.4	34.5	38.3	40.6	40.9	40.9
H6	515489	833504	32.6	36.7	40.5	42.8	43.1	43.1

11.5.4.1 Vestas V117 – Candidate

Table 11.20: Proposed Impact of Directivity Assessment at receptors in exceedance (12m/s)

Wind Direction (Blowing Towards)	H3	H4	H6	H10	H11	H13
0	44.7	42.3	41.9	42.1	42.7	41.4
45	44.1	40.7	40.9	41.3	41.8	40.9
90	42.9	39.1	40.7	41.1	40.9	40.1
135	42	40.2	40.2	40.4	40.5	40.4
180	40.5	41.8	40.7	40.3	41.1	40.7
225	41.2	43.2	40.6	40.1	41.7	41.4
270	42.8	43	41.4	41.2	43	41.8
315	43.9	42.8	42.5	42.5	43.2	41.4

11.5.4.2 Curtailment – Vestas V117

Table 11.21: Impact of Curtailment Strategy at Receptors in exceedance of 43 dB(A)

Receptor	Wind Direction (Blowing Towards)	Predicted Noise Level from Directivity (dBA)	Predicted Noise Level from Curtailment Strategy (dBA)	Reduction (dBA)
H3	North-East	44.1	42.6	1.5
	East	44.7	42.9	1.8
	South-East	43.9	42.7	1.2
H4	South-West	43.2	42.9	0.3
H11	South-East	43.2	43	0.2

A noise contour map of the curtailment strategy of all turbines is presented with a maximum sound power output at a wind speed of 12m/s at 10m height in **Technical Appendix 11.4**.



Photograph - view from front of dwelling

Photograph - view from rear of dwelling

