Sinead White

From: Kristina Fahy <kristina.fahy7@gmail.com>
Sent: Thursday 8 January 2026 21:18
To: SIDS
Subject: Laurclavagh Community Submission for Proposed Laurclavagh Renewable Energy Development (PA07.319307)
Attachments: Community Submission Case Ref PA07.319307.pdf

Categories: Sinead White

To: An Coimisiún Pleanála
Re: Proposed Laurclavagh Renewable Energy Development (PA07.319307)

On behalf of the concerned residents of Laurclavagh area, we wish to make our second formal submission in relation to the above Strategic Infrastructure Development application following at Further Information Request fo the Laurclavagh wind-farm application.

Our first submission was in May 2024

This submission is informed by detailed expert evidence and outlines a number of significant concerns regarding the application's compliance with the Planning and Development Act 2000 (as amended), the EIA Directive, the Habitats Directive, the Water Framework Directive, and Ireland's constitutional and European human rights obligations.

We respectfully submit that the Environmental Impact Assessment Report and Natura Impact Statement do not adequately address these matters and, as presented, do not provide a sufficiently robust basis upon which consent could be considered. In particular, the proposed development gives rise to concerns in relation to potential impacts on groundwater and public drinking water supplies, the protection of habitats and species, residential amenity and public health, and the cultural and landscape setting of Knockma Hill.

These issues are supported by expert analysis and raise important legal and planning considerations which we submit require careful examination and clear, reasoned findings by the Board.

For the reasons set out in detail in the accompanying submission and appendices, we respectfully request that An Coimisiún Pleanála give full consideration to these matters and, in the interests of proper planning and sustainable development, refuse permission for the proposed development.

Please find attached the Community Submission in respect of Case Ref. PA07.319307. We would appreciate acknowledgment of receipt of this submission and accompanying documentation.

Yours faithfully,

Kristina Fahy, on behalf ot the concerned residents of the Laurclavagh area

Community Submission to An Coimisiún Pleanála

Re: Proposed Laurclavagh Renewable Energy Development (Case Ref: PA07.319307)

Executive Summary

This submission is made on behalf of local residents who strongly object to the proposed Laurclavagh Renewable Energy Development in County Galway. The project comprises eight industrial-scale wind turbines of approximately 185 metres tip height, located in a sensitive rural and karst limestone environment, within close proximity to family homes, water supplies, heritage landscapes, and valuable biodiversity.

The application is fundamentally deficient. The Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS) fail to adequately assess or mitigate risks to groundwater, protected habitats and species, public health, residential amenity, landscape character, cultural heritage, and established rural livelihoods including the equine sector. Significant omissions, unsupported assumptions, outdated standards, and procedural failures persist despite the submission of Further Information.

Taken cumulatively, the deficiencies identified mean the Board cannot lawfully conclude that the proposed development would not result in significant adverse environmental or human impacts. The proposal conflicts with Irish and EU environmental law, the Galway County Development Plan, constitutional rights, and established planning precedent. For these reasons, the development should be refused.

Contents

Introduction

We, the undersigned group of local residents, hereby lodge a formal and unequivocal objection to the proposed Laurclavagh Renewable Energy Development, comprising eight industrial wind turbines with an overall tip height of approximately 185 metres, to be located in County Galway.

This application, submitted as a Strategic Infrastructure Development (SID), represents a development of exceptional scale and intensity within a rural, environmentally sensitive, and residentially occupied area. If permitted, the proposal would result in severe, widespread, and irreversible adverse impacts on the local environment, water resources, landscape character, residential amenity, and human health. Accordingly, we respectfully but firmly urge An Coimisiún Pleanála to refuse planning permission.

Basis of Objection

Our objection is founded on multiple substantive deficiencies within the application documentation, including but not limited to:

- Significant factual inaccuracies and omissions;
- Inadequate environmental assessment;
- Failure to properly assess and mitigate risks to sensitive receiving environments;
- Material conflicts with national, regional, and local planning policy; and
- Disregard for the rights and reasonable expectations of local residents.

Notwithstanding the submission of Additional Information by the developer in 2025, the application remains fundamentally flawed. The deficiencies identified are not minor or technical in nature; rather, they go to the core of whether the development can be properly assessed, justified, or deemed acceptable in planning, environmental, or legal terms.

Grounds for Refusal

Set out below are twelve (12) substantive grounds for refusal, each supported by documentary evidence, expert analysis, established planning principles, and relevant legal and policy precedent. Collectively and individually, these grounds demonstrate that the proposed development fails to meet the requirements of proper planning and sustainable development.

Summary and Conclusion

In summary, the Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS) are inadequate, incomplete, and unreliable. The proposed development poses a real and unacceptable risk of significant and irreversible harm to:

- Surface and groundwater resources;
- Sensitive ecological receptors and designated sites;
- The character and integrity of the receiving landscape;
- Residential amenity and quality of life; and
- Public health and safety.

Furthermore, the proposal conflicts with established planning policy objectives and infringes upon the rights of residents to the peaceful enjoyment of their homes and environment.

As the national planning authority, An Coimisiún Pleanála has a statutory duty to uphold the principles of proper planning and sustainable development. For the reasons set out in this submission, we respectfully submit that this duty can only be discharged by refusing permission for the proposed Laurclavagh Renewable Energy Development.

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1 Inadequate Environmental Impact Assessment (EIA):

Groundwater, Karst Geology, Turloughs and Blasting Deficiencies

We submit that the Environmental Impact Assessment Report (EIAR) fails to provide a comprehensive, robust, or scientifically reliable assessment of the likely significant environmental effects of the proposed development. As such, it does not meet the requirements of the EIA Directive or the standards necessary to enable An Coimisiún Pleanála to reach a reasoned and lawful decision.

In particular, the EIAR is fundamentally deficient in its assessment of hydrogeology, karst groundwater behaviour, drainage and flooding risks, and the potential requirement for rock blasting.

1.1 Failure to Adequately Assess Hydrogeological Risk

The EIAR fails to convincingly demonstrate that the proposed wind farm would not adversely affect the complex and highly vulnerable karst groundwater system underlying the site. The development is located on a Regionally Important Karst Aquifer, characterised by fissured limestone, underground conduits, swallow holes, and a network of hydraulically connected wetlands and seasonal lakes (turloughs).

Under the EU Water Framework Directive (2000/60/EC), any project must ensure that there is *no deterioration* in the status of groundwater bodies. However, the applicant's hydrogeological assessment is critically lacking in several respects:

- The developer failed to consult Uisce Éireann in relation to the proximity of the site to the Lough Corrib public water supply, which serves in excess of 250,000 people in Galway City and County.
- The proposed development lies within the zone of contribution of Lough Corrib, yet the EIAR provides no targeted impact assessment of this critical receptor.
- Groundwater flow paths in karst limestone are known to extend up to 9 km, yet the EIAR did not assess impacts on the Lough Corrib water intake at Luimnagh, located approximately 5 km from the site.
- This receptor is omitted entirely from EIAR mapping and analysis, representing a serious and unjustifiable gap in the assessment.

In a karst environment, any contamination event—such as sediment mobilisation, concrete leachate, or fuel and oil spills during construction—can migrate rapidly and unpredictably through subsurface conduits, posing an immediate risk to sensitive ecosystems, group water schemes, private wells, and public drinking water supplies.

In the absence of a rigorous evaluation of these pathways and receptors, the Board cannot be satisfied that statutory obligations to protect groundwater and drinking water have been met. This deficiency is compounded by the requirements of Council Directive 98/83/EC (Drinking Water Directive) and the Drinking Water Regulations (Ireland, 2023), which mandate strict protection of water catchments. The applicant has failed to provide sufficient information to enable such an assessment.

See Photo I, which identifies group water schemes and private wells at risk from potential contamination.

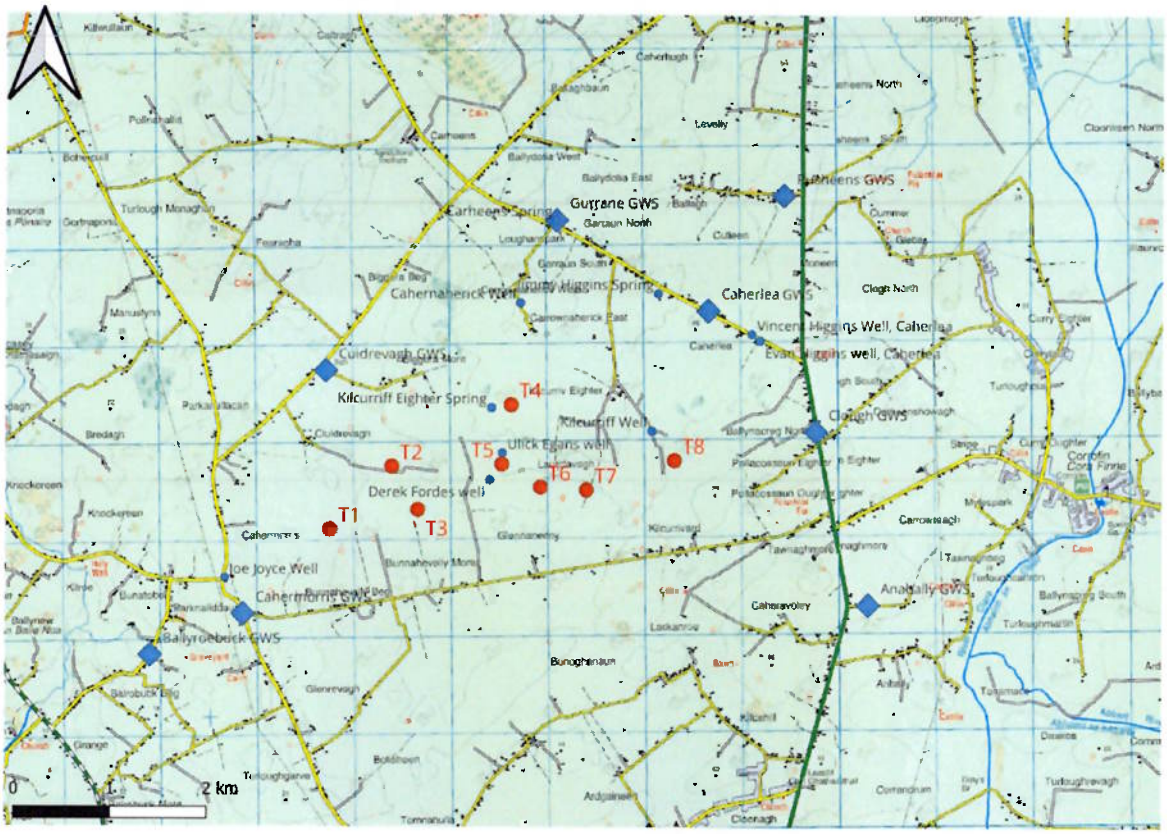

Photo I: *Map of the site clearly shows the numerous Water Schemes (Blue), open Springs and private wells in the area. It also shows the close proximity of the site to the Clare River some 2.5km from the site. I would also point out nearby Turloughs which are unique to this area, Belclare 3km, Corofin Callows 3km and Manusflynn 2km*

1.2 Turloughs, Drainage and Flooding Impacts

While the nearest mapped turlough is approximately 2 km from the proposed development, the karst nature of the area means that surface water and groundwater systems are intrinsically and hydraulically linked. Seasonal flooding has been observed within and adjacent to the site, indicating a high water table and active drainage to underlying karst voids.

The EIAR does not provide convincing evidence that the construction of turbine foundations, access roads, and cable trenches will not disrupt natural groundwater flow regimes. Local residents have documented persistent pooling and flooding following rainfall events in the vicinity of the proposed Turbines 1 and 2.

- See *Photo A & B.*

***Photo A** – Flooding near Turbine 2. Taken 15-Nov-2025*

***Photo B** – Flooding near Turbine 1. Taken 15-Nov-2025*

These conditions raise serious concerns that ground compaction, infilling, and drainage diversion could:

- Exacerbate flooding elsewhere;
- Alter groundwater flow paths;

- Dry out or damage sensitive wetlands and karst-dependent habitats.

Such outcomes would directly conflict with the objectives of the Water Framework Directive and the European Communities Environmental Objectives (Water) Regulations.

Although the EIAR proposes generic mitigation measures such as silt traps and drainage channels, these measures are not fail-safe in a porous karst environment. They are not supported by a site-specific karst hydrogeological risk assessment or a robust groundwater monitoring programme. Indeed, the community's independent hydrogeological advisor concluded that the application exhibits *"likely inadequacies in its hydrological impact assessment."*

Under the precautionary principle, which is embedded in EU environmental law, where there is scientific uncertainty regarding the risk of serious or irreversible harm, consent should not be granted. In this case, uncertainty regarding groundwater and turlough impacts is substantial and unresolved.

1.3 Karst Instability and the Failure to Assess Blasting Impacts

The EIAR also fails to adequately address the potential requirement for rock blasting. The development involves large-scale excavation for turbine foundations and access roads in a geologically complex limestone environment.

Initially, blasting was addressed only in a cursory and speculative manner, before the applicant asserted that *"no blasting is envisaged"* and, on that basis, declined to carry out any further assessment. This assertion is not supported by detailed geotechnical evidence and appears to be an assumption rather than a binding commitment.

In the Further Information submission, the EIAR was merely "updated" to restate that blasting will not occur. This approach does not constitute an assessment and is not an acceptable substitute for evaluating a reasonably foreseeable worst-case scenario.

If blasting were to become necessary due to unforeseen rock conditions, the potential impacts could include:

- Ground vibration and shock transmission through karst conduits;
- Destabilisation of subterranean voids;
- Alteration of groundwater flow;
- Damage to nearby dwellings, wells, and infrastructure;
- Noise, dust, and fly-rock impacts.

A legally compliant EIA must assess such scenarios and propose specific mitigation and monitoring measures. The failure to do so represents a clear breach of the EIA Directive. Simply stating that blasting is "not envisaged" is neither precautionary nor sufficient.

1.4 Failure to Demonstrate Compliance with the Water Framework Directive

In summary, the EIAR fails to demonstrate, beyond reasonable scientific doubt, that water pollution and hydrogeological impacts have been ruled out.

Article 4 of the Water Framework Directive obliges Ireland to protect groundwater bodies and to refrain from authorising developments that risk deterioration or compromise the achievement of "good status." Parts of the Clare River catchment are already classified as being at *Poor* status and at

risk of failing to meet 2027 objectives. Any additional sediment loading or hydrological alteration arising from this project could materially worsen those conditions.

Furthermore, under the European Communities (Birds and Natural Habitats) Regulations 2011, developments affecting karst wetlands require the highest level of scrutiny. Turloughs constitute an Annex I priority habitat where associated with SACs. The EIAR's conclusion of *"no significant hydrological impact"* is unsupported by rigorous analysis and is contradicted by the omissions outlined above.

As noted by Professor Mike Gormally, in his expert submission:

"The EIAR is fundamentally flawed and is not fit for purpose in allowing a full and robust assessment of the likely significant effects."

He further concluded that the Board *"cannot permit this development on the basis of an inadequate adherence to the EIA Directive and therefore must refuse."*

We fully agree with this expert opinion.

1.5 Conclusion on Ground 1

To grant consent for this development in the face of an incomplete, inadequate, and scientifically deficient EIA would constitute a failure by the Board to discharge its obligations under Irish and EU law. EIA projects must be assessed thoroughly in respect of their direct, indirect, and cumulative effects *before* consent is granted.

Accordingly, we respectfully submit that planning permission must be refused on the grounds of an inadequate Environmental Impact Assessment.

2 Biodiversity Loss:

Significant Adverse Impacts on Habitats, Flora and Fauna

We submit that the proposed Laurclavagh Renewable Energy Development would result in unacceptable and irreversible biodiversity loss, contrary to the objectives of the EU Habitats and Birds Directives, the EIA Directive, national biodiversity policy, and the Galway County Development Plan 2022–2028. The EIAR and NIS substantially understate both the ecological value of the receiving environment and the scale of likely impacts.

2.1 Destruction of Ancient Hedgerows and Hazel Groves

The EIAR acknowledges that the development will result in the removal of approximately 1,800 square metres of hedgerow habitat, equating to over 1.8 km of mature hedgerows, predominantly composed of Hazel (Corylus avellana) interwoven with Willow, Blackthorn and Whitethorn.

See Photo C.

Photo C – Biodiversity of Flora

These hedgerows are not recent agricultural features. Many are centuries old, with local evidence suggesting some may exceed 400 years in age, forming part of an ancient limestone pavement mosaic unique to this locality.

See Photo D.

***Photo D** - The extensive mosaic of Hedgerow (green) and limestone pavement (brown) is evident in the Google map of the proposed Laurclavagh site. The limestone pavement is similar to areas of the Burren.*

The EIAR's proposal to later "replant with similar species" fails to acknowledge a fundamental ecological reality: ancient hedgerows and Hazel groves are irreplaceable within any meaningful planning timeframe. Their removal would permanently destroy a complex, interdependent ecological network that cannot be recreated through mitigation or offsetting.

These habitats support a wide range of protected and priority species, including:

- Mammals such as Irish hare, pine marten, badger, fox and rabbit;
- Rich invertebrate communities sustained by mosses and lichens creating moist micro-habitats;
- Pollinators including wild bees and butterfly larvae;
- Breeding and foraging habitat for numerous bird species including Willow Warbler, Bullfinch, and the Red-listed Yellowhammer.

Bat surveys recorded six bat species, with the highest activity levels associated with these hedgerows, which function as essential commuting, foraging and navigation corridors. Their removal would not only eliminate habitat but sever ecological connectivity, leading to habitat fragmentation — a key driver of biodiversity loss.

Hedgerows also perform critical ecosystem services, including flood attenuation and sediment filtration, benefits recognised by Teagasc and entirely overlooked in the applicant's assessment.

The wholesale clearance of these features would cause permanent ecological damage, directly contradicting national and regional policy objectives to protect green infrastructure and biodiversity networks.

2.2 National Biodiversity Context

The urgency of protecting remaining semi-natural habitats is underscored by national data. An RTÉ report of 11 December 2025 confirmed that 90% of Ireland's EU-protected habitats are in unfavourable condition, with 51% continuing to deteriorate, including habitats outside designated sites.

This context strengthens, rather than weakens, the obligation on the Board to prevent further loss of high-value habitats in the wider countryside. Industrial development that destroys intact habitats in such circumstances is contrary to the precautionary principle and national biodiversity commitments.

2.3 Rare and Protected Habitats: Annex I Limestone Pavement and Calcareous Grassland

The application site is underlain by limestone bedrock with exposed pavement and thin calcareous soils. Field surveys have confirmed the presence of:

- Calcareous grassland (Annex I habitat code 6210); and
- Limestone pavement (Annex I priority habitat code 8240)

These habitats are comparable to those of The Burren, and the area supports rare flora including Mountain Avens (Dryas octopetala), Irish Gentian (Gentiana verna) and Arctic Eyebright — all indicators of long-established, undisturbed limestone ecosystems.

In 1995, Dr. Cillian Roden surveyed this area and formally recommended to Galway County Council that it be designated as a Special Area of Conservation due to its exceptional ecological value. He revisited the site in 2023 and reaffirmed that it remains of high conservation importance and should be protected from industrial development.

Although these habitats are not currently within a Natura 2000 site, they are nonetheless protected under the Habitats Directive.

- Article 4 obliges Member States to maintain or restore Annex I habitats to favourable conservation status.
- Article 10 requires land-use planning to maintain landscape features essential for ecological coherence, including hedgerows, wetlands and small woods.

The Galway County Development Plan 2022–2028 explicitly transposes these obligations, requiring that development not adversely affect protected habitats or species.

The removal or degradation of Annex I limestone habitats at Laurclavagh would therefore constitute a breach of EU and national conservation objectives. Given the limited national extent of these habitats outside the Burren, even small losses may have disproportionate national significance.

See Photo E

***Photo E** - Calcareous grassland (EU Habitats Directive Annex I code 6210) and limestone pavement (Annex I priority habitat 8240)*

2.4 Impacts on Fauna: Birds, Bats and Habitat Fragmentation

The proposed turbine cluster poses clear and well-documented risks to wildlife. The EIAR identifies bird species of high conservation concern in or near the site, including Whooper Swan, Golden Plover, Lapwing, and Hen Harrier (Annex I of the Birds Directive).

The potential presence of Hen Harrier was acknowledged but not confirmed due to "poor light conditions". Under the precautionary principle, such uncertainty must be resolved in favour of protection. Where reasonable scientific doubt exists regarding impacts on Annex I species, consent cannot lawfully be granted.

Professor Mike Gormally highlighted that:

- Even common passerines may experience significant collision mortality;
- Nearly 40% of Irish passerine species are of conservation concern;
- The EIAR relies on outdated 2017 guidance, ignoring updated 2023 survey standards, thereby risking under-recording of impacts.

Hedgerow removal during construction also risks disturbance of breeding birds during the March–August nesting season, potentially breaching the Wildlife Acts.

The EIAR fails to properly assess cumulative impacts, despite the project footprint exceeding 900 hectares, involving the combined loss of hedgerows, groves, wetlands and grasslands. This omission constitutes a further breach of the EIA Directive.

2.5 Inadequate Bat Impact Assessment

All Irish bat species are strictly protected under Annex IV of the Habitats Directive and Irish wildlife legislation. Surveys recorded six bat species, including Nathusius' Pipistrelle and Brown Long-eared Bat, with exceptionally high activity levels across the site.

Rather than treating this as evidence of high ecological sensitivity, the applicant's consultants lowered threshold values to normalise activity levels. This post-hoc adjustment is scientifically unsound and undermines the credibility of the EIAR.

Scientific literature — including material cited by the applicant — confirms that wind turbines cause bat mortality through collision and barotrauma, and may actively attract bats. Proposed mitigation measures such as blade feathering at low wind speeds are an implicit admission that bat fatalities are unavoidable, even if reduced.

Deliberate or foreseeable killing of bats, disturbance of roosts, or destruction of commuting routes is illegal. A development that concedes ongoing harm to protected species cannot lawfully be authorised.

See Appendix A: Expert Opinion by Dr. Peter Tyndall.

2.6 Expert Evidence and Planning Precedent

Both Dr. Roden and Professor Gormally — highly qualified and independent experts — have formally objected to this development. Their conclusions are unequivocal: the proposal would result in unacceptable biodiversity loss and fails to comply with EU environmental law.

The Board has previously refused wind energy developments on biodiversity grounds, including a 2024 refusal in County Clare due to risks to Hen Harrier, Golden Plover and Marsh Fritillary butterfly. Consistency with that decision strongly supports refusal in this case, where multiple protected habitats and species are at risk.

2.7 Conclusion on Biodiversity Impacts

The proposed development would result in permanent, irreversible, and non-mitigable damage to habitats and species of national and EU importance. The EIAR and NIS fail to provide a lawful basis for concluding that biodiversity impacts can be avoided or adequately mitigated.

To grant permission would be contrary to:

- The Habitats and Birds Directives;
- The EIA Directive;
- National biodiversity policy; and
- The Galway County Development Plan.

Accordingly, we respectfully submit that planning permission must be refused on biodiversity grounds.

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3 Threats to the Equine Industry and Horse Welfare

We submit that the proposed Laurclavagh Renewable Energy Development would result in **serious and unacceptable impacts on horse welfare, equine safety, established land uses, and a culturally and economically significant rural industry**. The EIAR fails to meaningfully assess these impacts and materially understates the sensitivity of the receiving environment.

3.1 Local Equine Population and Cultural Heritage

The applicant's documentation demonstrates a striking disregard for the scale, significance, and sensitivity of the local equine sector.

Laurclavagh and its surrounding townlands support a **dense and well-established equine population**, including breeders, trainers, leisure riders, and family-run operations specialising in **Connemara Ponies and Irish Draught horses of pedigree lineage**. Within approximately **1 km of the proposed turbine locations**, there are **in excess of 60 horses and a further 60+ Connemara ponies** actively grazing and being worked.

See Photo F.

***Photo F** – Location of Horse & Ponies (orange) in relation to proposed turbines (yellow).*

This reality stands in stark contrast to the EIAR's cursory reference to only *"one horse owner"* in the area. That mischaracterisation represents a fundamental failure to understand local land use and renders the equine assessment wholly unreliable.

The **Connemara Pony** is an iconic Irish breed that originated in this region and is uniquely adapted to the limestone grasslands and rugged terrain of North Galway. Local breeders have invested generations in maintaining these bloodlines. The ponies are not merely agricultural assets; they are a **living component of Ireland's cultural and genetic heritage**.

Introducing eight industrial turbines of approximately **185 metres tip height** into the heart of this equine landscape would fundamentally alter the environment in which these animals are bred, reared, and trained. To place that legacy at risk through incompatible industrial development is unjustifiable.

3.2 Noise, Vibration and Shadow Flicker Impacts on Horses

Horses are **highly sensitive prey animals**, biologically predisposed to react to sudden noise, movement, and visual disturbance through a flight response. Maintaining calm, predictable surroundings is essential for their welfare and for the safety of handlers, riders, and the public.

The proposed turbines would introduce:

- Continuous operational noise, including **low-frequency sound and amplitude modulation**;
- Large-scale moving structures dominating the skyline;

- **Shadow flicker**, producing rapid alternations of light and shadow across adjoining fields;
- Potential ground-borne vibration, particularly given the **karst limestone geology**, which can conduct and amplify low-frequency sound.

While the EIAR focuses on human residential noise thresholds, it fails to consider the effects of **persistent turbine noise on horses kept outdoors in open pasture**, where there is no attenuation. Behavioural stress, disrupted grazing, heightened vigilance, and panic responses are foreseeable outcomes.

Shadow flicker presents a particular risk. The strobing effect of rotating blades at sunrise and sunset can extend well beyond turbine bases, across grazing land. Even brief or intermittent exposure may be sufficient to spook horses, leading to bolting, injury, or sustained anxiety. Horses bred for athletic performance — including Thoroughbreds and sport horses — often exhibit an exaggerated startle reflex and **do not readily habituate** to fear-inducing stimuli.

The **British Horse Society** has explicitly warned of these risks. In its 2015 guidance, the Society recommended minimum setbacks of **three times turbine height** from bridleways and equestrian routes. For turbines of 185 metres, this equates to a distance of approximately **555 metres**. In the present case, horses would be located **significantly closer** than this guideline distance.

The BHS further cautioned that *"it cannot be assumed that it is safe to introduce turbines near equestrian routes"*, due to the variability and unpredictability of horse responses. That warning is directly applicable here and has not been adequately addressed by the applicant.

3.3 Long-Established Riding, Hunting and Equestrian Routes

The lands surrounding Laurclavagh are criss-crossed by **informal riding routes, cross-country tracks, and rural roads** that have been used for decades for leisure riding and hunting.

Notably, the **Galway Blazers Hunt** has incorporated these lands into its hunting country for **over 50 years**. Several times each winter, **up to 100 mounted riders**, together with hounds and support staff, traverse these fields and routes.

This long-established sporting and cultural activity would become **unsafe and untenable** within a wind farm environment. The risk of horses being startled by turbine movement, noise, or shadow flicker makes it neither prudent nor responsible to continue bringing large numbers of mounted riders into such a setting. As a result, this historic land use would be permanently displaced.

Everyday equestrian activity would also be affected. Riders — particularly children, novices, and less experienced horses — would understandably avoid roads and tracks dominated by turbines. The loss of safe riding environments represents a **real and unacknowledged reduction in rural amenity and quality of life**.

See Photo G & H.

Photo G *– Hunting route through the area of proposed development. Highlighting that the area is richly biodiverse in flora and recreational value. Not a "barren grassland just used for farming" as claimed in the EIAR*

Photo H *– Hunting route through the area of proposed development. Highlighting the area is richly biodiverse in flora. Not a "barren grassland just used for farming" as claimed in the EIAR.*

3.4 Economic Impact and Loss of Viability

Ireland's equine industry is of **major national economic importance**, contributing hundreds of millions of euro annually and supporting rural employment. County Galway has a long-standing reputation for horse breeding, training, and leisure riding.

The proposed development threatens the viability of multiple **small-scale, family-run equestrian enterprises** in the Laurclavagh area. Potential impacts include:

- Stress-related health effects on broodmares and foals;
- Reduced fertility or miscarriage risk;
- Inability to safely graze or exercise horses near turbines;
- Forced relocation or dispersal of animals;
- Loss of investor confidence in local studs and breeders.

A 2014 joint statement by the **Irish Thoroughbred Breeders' Association**, **Irish Jockeys' Association**, **Racehorse Trainers Association**, and **Racehorse Owners** urged that wind energy planning explicitly recognise the **special sensitivity of equine operations**, noting that the sector warrants heightened protection.

While the Laurclavagh area may not host a single large commercial stud, it contains a **cluster of smaller operations** whose collective presence forms a critical mass. The gradual withdrawal of horse owners and breeders due to turbine impacts would hollow out both the local economy and cultural fabric.

There is also a serious **insurance and liability dimension**. Several equine operators have indicated that employer's liability or public liability insurance may become unobtainable if a wind farm operates adjacent to stables, due to the heightened risk of injury from panicked horses. The loss of insurance cover would render some businesses unviable, resulting in job losses and further rural decline.

The EIAR fails entirely to address these socio-economic consequences.

3.5 Planning Judgment, Precedent and the Common Good

We urge the Board to give substantial weight to the **unique equine dimension** of this application. Industrial wind farms are fundamentally incompatible with landscapes where horse breeding, training, and riding are established land uses.

In other jurisdictions, enhanced setbacks or exclusion zones are applied near equestrian facilities precisely because of the welfare and safety issues outlined above. The absence of updated Irish Wind Energy Guidelines does not constrain the Board from exercising its **planning judgment**.

Under the Planning and Development Act, the Board may refuse permission where a development would:

- Undermine the **established character of an area**;
- Conflict with existing and sustainable land uses; or
- Fail to serve the **common good**.

Horse breeding, training, and equestrian recreation are well-established and legitimate land uses in Laurclavagh. They would be fundamentally compromised by this proposal. The developer's failure to properly engage with the equine sector — effectively dismissing local stables as negligible — demonstrates a lack of proper planning consideration.

The common good is not served by sacrificing a viable rural equine community, its livelihoods, and its cultural heritage for an industrial development that is poorly sited.

3.6 Conclusion on Equine Impacts

The risks posed by the proposed development to horse welfare, rider safety, established equestrian land uses, and the local equine economy are **serious, foreseeable, and inadequately assessed**. These impacts are not capable of effective mitigation on this site.

We respectfully submit that the threats to the equine sector alone constitute **sufficient grounds for refusal of planning permission**. At a minimum, they would necessitate substantial setbacks and redesign measures that are not realistically achievable within the confines of the proposed development.

For these reasons, the application should be refused.

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4 Residential Amenity Impacts

Noise, Vibration and Shadow Intrusion

We submit that the proposed Laurclavagh Renewable Energy Development would give rise to serious, persistent and unacceptable impacts on residential amenity, including noise nuisance, sleep disturbance risk, low-frequency and amplitude-modulated noise effects, potential vibration-related concern, and shadow flicker intrusion. These impacts would arise in a settled rural community, with numerous occupied dwellings located within close proximity of the proposed turbine array.

The EIAR approach is overly reliant on numerical compliance with outdated technical thresholds and fails to address the real-world, lived experience of turbine noise and shadow effects in a quiet rural setting. In our submission, the documentation does not provide a robust basis upon which the Board can be satisfied that residential amenity will be protected.

4.1 Noise Nuisance and Loss of Quiet Enjoyment

The proposed turbines (approximately 185m tip height) are of exceptional scale and will introduce an industrial noise source into an otherwise low-background rural soundscape. The turbines will emit a combination of aerodynamic "whoosh" and mechanical tonal components, which can carry over long distances and become especially intrusive at night when ambient noise levels are lowest.

There are dozens of family homes within 1.5 km of the turbine cluster, with some dwellings located approximately 750–800m from turbines. The applicant asserts that predicted noise will comply with the 2006 Wind Energy Guidelines (e.g., 43 dB LA90 at night). However, numerical compliance does

not equate to acceptability, nor does it guarantee protection against sleep disturbance, annoyance, or loss of amenity.

Key concerns include:

- Outdated threshold reliance: The EIAR relies on the older guideline framework rather than adopting the more protective health-based approach recommended internationally for wind turbine noise exposure. This creates a scenario where a development may "comply on paper" while still causing chronic disturbance for residents.
- Character of noise matters: The human impact is driven not only by average decibel values, but by the *quality* of noise—particularly low-frequency components and periodic amplitude modulation ("thumping/swooshing"), which can be especially disturbing at night.
- Night-time intrusiveness in rural areas: A pulsing or monotonous turbine noise in an otherwise still rural night can prevent residents from sleeping, interfere with the ability to open windows, and degrade the quiet enjoyment of homes and gardens.
- Site sensitivity: In a karst limestone environment, residents are reasonably concerned that sound propagation and vibration characteristics may differ from generic assumptions. The EIAR does not provide sufficient site-specific reassurance on this point.

In short, the EIAR focuses on compliance with a numerical limit rather than demonstrating that residential amenity will be protected in practice.

4.2 Vibration and Structural Anxiety

Residents have expressed legitimate concerns regarding vibration and potential knock-on effects (including nuisance vibration perception, effects on wells, and anxiety about structural integrity).

The EIAR's noise and vibration discussion places disproportionate emphasis on construction-phase vibration, while giving limited and overly dismissive treatment to operational effects. While modern turbines may not typically cause structural damage at distance, the Board is entitled to consider that:

- The development involves heavy infrastructure founded in a complex karst limestone setting, where voids and variable rock depths can contribute to uncertainty.
- If blasting, rock-breaking, or other intensive groundworks occur (whether or not currently "envisaged"), there is a foreseeable risk of cosmetic damage (e.g., cracking of plaster), nuisance vibration, and heightened stress for residents.
- The application does not provide robust, enforceable assurances that would meaningfully address residents' concerns (e.g., a clear binding commitment, monitoring regime, complaint pathway, and independent verification).

This uncertainty itself is a material planning consideration. Residents should not be expected to live with ongoing anxiety arising from assessment gaps or assumptions.

4.3 Shadow Flicker and Strobing Impacts on Homes and Gardens

Shadow flicker is a well-recognised residential amenity impact. When the sun is low behind a turbine, rotating blades can cast moving shadows that produce a strobe-like flicker inside homes and across yards.

The applicant's own assessment indicates that shadow flicker is predicted to occur at certain dwellings, with compliance dependent on mitigation through operational curtailment and control systems. We submit that this is not an acceptable planning outcome in a settled area.

Specific concerns include:

- Disturbance even within guideline allowances: The guidance limit of 30 hours per year / 30 minutes per day may still result in material distress for occupants. Shadow flicker within living spaces is not a minor inconvenience; it can cause headaches, nausea, stress, and significant discomfort, particularly for children and those with sensory sensitivities.
- Reliability and enforceability: Reliance on a "flicker control system" introduces real-world risk: sensor failure, calibration error, poor maintenance, or operational error can result in repeated and prolonged flicker events. In practice, the burden often falls on householders to detect, prove, and pursue complaints—an unreasonable imposition.
- Cumulative effects: Shadow modelling can understate lived experience where multiple turbines contribute flicker at different times. A dwelling may remain "within limits" when each turbine is assessed separately, yet experience greater total annual disturbance when flicker from multiple turbines is aggregated across the year.
- Community receptors: The Board should also have regard to shadow flicker risk for community facilities where relevant (e.g., schools, places of worship, community buildings). Flicker affecting a school or playground would be plainly unacceptable.

The EIAR does not adequately address these practical and cumulative realities.

4.4 Overall Residential Amenity Harm

The amenity impacts of this proposal are multi-faceted and mutually reinforcing:

- Continuous operational noise (day and night), including intrusive characteristics (low-frequency and modulation)
- Shadow flicker affecting homes and outdoor spaces
- Psychological stress and loss of peace of mind arising from proximity to industrial infrastructure and fear of disturbance
- (In addition, the issue of visual domination and landscape impact is addressed separately)

Irish planning has long recognised that quiet enjoyment of the home is a core component of residential amenity. Where a development foreseeably diminishes quality of life through persistent noise and visual/lighting intrusion, it is contrary to proper planning and sustainable development.

The applicant's reliance on technical compliance is insufficient. The question for the Board is whether the development will be acceptable in the lived environment of residents. In our submission, it will not.

4.5 Conclusion on Residential Amenity

Given the proximity of numerous homes, the exceptional scale of the turbines, the quiet rural baseline environment, and the reliance on mitigation systems rather than inherent separation distance, we submit that the project would cause unacceptable residential amenity impacts. These impacts are foreseeable, significant, and not capable of reliable mitigation on this site.

Accordingly, we respectfully submit that planning permission should be refused on the grounds of unacceptable harm to residential amenity, contrary to proper planning and sustainable development.

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5 Inadequate Modelling

Shadow Flicker Assessment and Mitigation Deficiencies

We submit that the shadow flicker modelling and proposed mitigation strategy are **inadequate, unreliable, and insufficiently enforceable**, and therefore fail to demonstrate that residential amenity impacts will be prevented. As a result, the application does not provide the level of certainty required to support a grant of permission.

5.1 Deficiencies in Shadow Flicker Modelling

The applicant has carried out a geometric "worst-case" shadow flicker analysis, which is standard practice, and has identified dwellings potentially affected. The EIAR then asserts that *"no existing dwelling will experience shadow flicker as a result of the wind farm"* due to proposed mitigation measures.

This wording is **misleading**. What is actually being claimed is not that shadow flicker will not occur, but rather that any predicted flicker will be **actively curtailed** through turbine shutdowns. This distinction is critical.

The relevant planning question is not whether mitigation is theoretically possible, but whether the applicant has demonstrated, **beyond reasonable doubt**, that flicker will be eliminated **in practice**, consistently and permanently, across all affected dwellings.

The application does not meet that test.

5.2 Uncertainty and Enforceability of Mitigation Measures

The proposed mitigation relies on **automated turbine control systems** to shut down turbines during predicted flicker periods. However, the EIAR fails to adequately explain or guarantee how this system will function in real-world conditions.

Key unresolved issues include:

- **Lack of detail on control mechanisms**
  The EIAR does not specify whether mitigation relies on:
  - Astronomical time-based programming, or
  - Real-time sensor-based detection, or
  - A hybrid system.

Each approach has inherent limitations. Time-based systems may not accurately reflect actual sunshine conditions, while turbine-mounted sensors may not correspond precisely to flicker experienced at a dwelling located up to 1–1.6 km away.

- **Absence of redundancy and verification**
  There is no clear explanation of:

- Fail-safe mechanisms if a shutdown command fails;
- Independent verification of system performance;
- Continuous logging of flicker events at receptor locations.

- **Reliance on post-impact complaint mechanisms**
  In practice, enforcement of shadow flicker limits typically depends on affected residents identifying, evidencing, and reporting exceedances. This places an unreasonable burden on householders, who are unlikely to have access to specialist equipment or continuous monitoring data.

Without objective, independently verifiable monitoring at dwellings, compliance cannot be assured.

5.3 Failure to Address Cumulative Shadow Flicker Impacts

A particularly serious omission in the EIAR is the failure to robustly assess **cumulative shadow flicker impacts**.

Many dwellings in the Laurclavagh area fall within the theoretical flicker range of **multiple turbines**, given the dispersed layout of eight large machines. While each turbine may be modelled individually to remain under the annual 30-hour guideline threshold, the **combined experience at a single dwelling** may exceed that threshold when flicker from different turbines occurs at different times of day or year.

The EIAR does not provide:

- A **dwelling-by-dwelling cumulative flicker analysis**;
- Explicit confirmation that multiple turbines will be synchronised to ensure combined flicker exposure remains within limits;
- Clear programming logic demonstrating how competing curtailment demands will be resolved across the turbine array.

Generic statements that "no dwelling will exceed 30 hours" are insufficient without transparent, receptor-specific modelling and enforceable operational commitments.

5.4 Precautionary Principle and Residential Amenity

Shadow flicker is not a trivial or abstract impact. Repetitive, strobe-like light intrusion within homes can cause:

- Headaches, nausea, and visual discomfort;
- Stress and anxiety;
- Significant disturbance to children, those with sensory sensitivities, or individuals working or studying at home;
- Loss of the ability to enjoy natural daylight within one's dwelling.

The **precautionary principle**, embedded in EU environmental law and Irish planning practice, requires that where there is uncertainty regarding a risk of material harm, that uncertainty must be resolved **in favour of protection**.

In this case, with:

- Eight turbines,
- Multiple sensitive receptors,
- Overlapping sun paths,
- Reliance on complex operational controls rather than inherent separation distance,

the applicant has **not demonstrated with sufficient certainty** that shadow flicker nuisance will be avoided.

A zero-flicker condition would be the only precautionary approach capable of protecting residential amenity. However, if such a condition would materially compromise turbine operation, that in itself demonstrates that the site is **inherently unsuitable** for this scale of development.

5.5 Conclusion on Modelling Adequacy

The shadow flicker assessment relies excessively on theoretical mitigation and insufficiently on demonstrable, enforceable certainty. The modelling lacks receptor-specific cumulative analysis, the mitigation strategy lacks transparency and verification, and the burden of enforcement is unfairly shifted onto residents.

The mental well-being of residents and their right to enjoy natural light in their homes without artificial strobing must be afforded substantial weight. The rural environment should remain one where sunlight and shadow follow natural patterns, not the mechanical interruption of turbine blades.

Accordingly, we respectfully submit that planning permission should be **refused** on the grounds of **inadequate modelling and failure to demonstrate that shadow flicker nuisance will be prevented**, consistent with the precautionary principle and the protection of residential amenity.

Further Expert Evidence
Please see *Appendix B* for detailed concerns regarding the **validation of the WindFarm software** used by MKO in the shadow flicker assessment for Laurclavagh completed by Kristina Fahy.

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6 Public Health Concerns

Sleep Disturbance, Mental Health Impacts and Failure of Health Consultation

We submit that the proposed Laurclavagh Renewable Energy Development raises **serious and unresolved public health concerns** which have not been adequately assessed, mitigated, or independently reviewed. The applicant's documentation treats health impacts as a secondary consideration and relies on outdated technical thresholds rather than contemporary health-based evidence.

Of particular concern is the **absence of meaningful engagement with health authorities**, including the **Health Service Executive**, despite the proximity of a settled residential community and the scale of the proposed turbines.

6.1 Sleep Disruption and Physical Health Effects

Chronic environmental noise is widely recognised as more than a nuisance. A substantial body of international evidence links long-term noise exposure to adverse health outcomes, including:

- Sleep disturbance and chronic sleep deprivation;
- Stress-related illness;
- Increased risk of cardiovascular disease;
- Elevated blood pressure and impaired cognitive function.

The **World Health Organization** Environmental Noise Guidelines (2018) specifically examined wind turbine noise and concluded that there was sufficient evidence of harm to issue a **health-based recommendation** that average exposure be limited to **45 dB L_den**, corresponding to approximately **35–38 dB at night**, in order to prevent adverse health effects.

These recommendations are grounded in evidence that even **moderate but persistent noise** can result in high levels of annoyance and sleep disruption, which in turn contribute to broader physical and mental health impacts.

For **children**, the need for a quiet nighttime environment is particularly important. Research demonstrates that chronic noise exposure can impair reading comprehension, memory, and concentration. It is therefore reasonable to conclude that children living near turbines may experience disrupted sleep or difficulty concentrating on homework, even if they are not consciously aware of "noise annoyance".

The Laurclavagh area is home to **multiple young families**, yet the EIAR makes no attempt to consider **inter-generational health impacts**. Children exposed to turbine noise over many years may experience cumulative developmental effects during critical stages of growth — a factor entirely absent from the applicant's assessment.

6.2 Mental Health and Psychological Well-Being

Beyond physical health, the intrusion of large-scale industrial turbines into close proximity to homes can have significant **mental health consequences**.

Persistent noise, shadow flicker, and visual domination can create a sustained sense of loss of control over one's living environment. This can lead to chronic stress, anxiety, and reduced quality of life. Numerous international case studies — including recent Irish litigation referenced later in this submission — document residents experiencing:

- Heightened anxiety and distress;
- Feelings of being trapped or "under siege" within their homes;
- Deterioration in overall mental well-being.

Such impacts are not speculative. They reflect lived experiences reported by residents living near operational wind farms, including in Ireland. Some have sought relief through the courts, alleging serious interference with their health and enjoyment of their homes.

The Board's statutory remit to ensure **proper planning and sustainable development** necessarily includes the protection of public health. The Planning and Development Act and the EIA framework explicitly recognise the avoidance of **human health hazards** as a core objective. Approving a

development with foreseeable and inadequately assessed health risks would be inconsistent with that mandate.

6.3 Failure to Consult the Health Service Executive (HSE)

One of the most troubling procedural deficiencies in this case is the **failure to consult the HSE at application stage**.

For a development of this scale, involving multiple large turbines near residential receptors, consultation with the HSE's Environmental Health service would normally be expected. However, an investigation by **The Irish Times** (11 November 2024) revealed that An Coimisiún Pleanála did not seek HSE input in this case, based on an assumption that *"significant effects on public health were unlikely."*

We submit that this assumption was unjustified.

As a result:

- No independent public health authority reviewed the noise assessment;
- No health-based critique of shadow flicker impacts was undertaken;
- No consideration was given to cumulative sleep or mental health effects.

This procedural failure deprived the community of a critical layer of scrutiny and is contrary to the spirit, and arguably the requirements, of the **Aarhus Convention**, which guarantees public participation and access to health-related environmental information.

Even following the public disclosure of this omission, there is no evidence that a meaningful health review was undertaken as part of the Further Information process.

Notably, since 2022 the HSE has publicly endorsed the WHO position that **night-time noise levels closer to 38 dB** are necessary to protect health. Had the HSE been consulted, it is entirely plausible that more stringent noise limits, monitoring, or exclusion distances would have been recommended.

The Board is now on notice of this health-based guidance and cannot disregard it.

6.4 Inadequate Health Assessment within the EIAR

The EIAR does not contain a dedicated **Health Impact Assessment**. Instead, the "Population and Human Health" chapter relies almost entirely on assumed compliance with **older noise and shadow flicker standards** to conclude that there will be "no significant effects" on health.

This approach is fundamentally outdated.

Key deficiencies include:

- Dismissing WHO 2018 guidance on the basis that it has not yet been fully transposed into Irish policy, despite its status as best-practice, evidence-based health guidance;
- Failure to assess baseline sleep quality, health sensitivities, or vulnerability within the local population;
- No engagement with local GPs, public health professionals, or community health indicators;

- Treating health as a "tick-box" outcome of technical compliance rather than a holistic assessment of noise, sleep, stress, and mental well-being.

The EIA Directive requires assessments to be based on **current scientific knowledge and methods**. Ignoring contemporary health evidence because it has not yet been codified into national guidelines is inconsistent with that obligation.

The State's long-promised update of Wind Energy Guidelines reflects a recognition that **existing standards may not adequately protect health**. Granting permission under interim, less protective standards, in full knowledge of this evolving evidence, would be premature and potentially unjust.

6.5 Precautionary Principle and Health Protection

Where there is **plausible risk of serious harm to health**, the precautionary principle requires decision-makers to err on the side of protection.

Irish courts have increasingly recognised that wind turbine impacts can, in certain circumstances, pose real risks to health and the enjoyment of the home. It is neither reasonable nor responsible to allow developments to proceed on the assumption that any problems can later be resolved through enforcement action or litigation.

Prevention is preferable to cure.

In this case, our analysis indicates that the project is **unlikely to achieve night-time noise levels consistent with health-based guidance** at all nearby dwellings, given their proximity. This creates an inherent conflict that cannot be resolved through conditions alone.

6.6 Conclusion on Public Health

In conclusion, the proposed development fails to adequately protect public health, particularly in relation to **sleep quality, mental well-being, and long-term health outcomes**. This failure arises from both:

- A **procedural deficiency** (lack of HSE consultation and independent health scrutiny); and
- A **substantive deficiency** (EIAR's superficial and outdated treatment of health impacts).

Approving the wind farm in these circumstances would be contrary to the principles of proper planning and sustainable development and may engage constitutional protections relating to **bodily integrity and the inviolability of the home** (Articles 40.3 and 40.5 of Bunreacht na hÉireann).

We respectfully urge the Board to place the health of current and future residents at the forefront of its decision-making and to **refuse permission** for a development that would expose a settled community to ongoing and inadequately assessed public health risks.

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7 Visual and Landscape Intrusion

Scenic Degradation and Overbearing Turbine Dominance

We submit that the proposed Laurclavagh Renewable Energy Development would result in severe, irreversible and unacceptable visual and landscape impacts, fundamentally altering the character of a

valued rural and heritage landscape. The scale, height and proximity of the proposed turbines would cause scenic ruin, visual dominance and night-time light pollution, contrary to the principles of proper planning and sustainable development.

7.1 Fundamental Change to Rural Landscape Character

The proposal comprises eight wind turbines of approximately 185 metres tip height, comparable to a 60-storey building. Structures of this magnitude are unprecedented in the local landscape and would irrevocably transform its character.

The Laurclavagh/Belclare area is currently defined by:

- Open rolling pasture;
- Low hedgerows and field boundaries;
- Scattered farmsteads and small woodlands; and
- A natural skyline punctuated only by distant hills (including Knockma) and modest vertical elements such as church spires.

This is a human-scale, pastoral landscape. The introduction of turbines of this size would impose an industrial skyline that would become the dominant visual feature over a wide area. The EIAR's own Zone of Theoretical Visibility (ZTV) mapping confirms that the turbines would be visible across extensive parts of North Galway.

Visibility would occur from:

- Local and regional roads;
- Numerous private dwellings (including from upper floors and garden spaces);
- Community focal points such as churches, schools, sports grounds; and
- Recreational trails and viewpoints.

Residents who oriented homes to enjoy open rural views would instead face towering turbine structures and moving blades. The turbines' stark colour, motion, and vertical scale render them impossible to visually absorb or meaningfully screen within this landscape.

The EIAR's suggestion that retained hedgerows and mature trees could mitigate visual impacts is fundamentally flawed. As highlighted by Professor Mike Gormally, many of the taller trees in the area are Ash and are already being lost to Ash Dieback disease. Within the lifespan of the turbines (circa 30 years), much of this screening will disappear, leaving the turbines even more exposed. This represents a serious failure of long-term visual assessment.

7.2 Proximity to Knockma Hill – A Landscape of Exceptional Cultural Value

One of the most significant landscape impacts arises from the wind farm's proximity to Knockma Hill, located only a few kilometres to the north of the site.

Knockma is a landscape of exceptional archaeological, cultural and mythological importance, recognised internationally as an ancient sacral hill. As described in expert submissions, it contains:

- Multiple prehistoric cairns (including the Cairn of Queen Ceasair and Finvarra's cairn of folklore);

- Surrounding ringforts, barrows and associated archaeological features; and
- The remains of a Norman castle.

The hill has recently been enhanced as a heritage walking and amenity trail, attracting tourists, school groups and local visitors. From its summit — a renowned viewpoint — expansive views extend across Galway and, on clear days, as far as Croagh Patrick.

The proposed turbines, at approximately 185 metres high and around 4 km from Knockma, would be clearly visible from the summit and slopes of the hill. Their scale and movement would draw the eye and, in certain views, visually dwarf the hill itself.

Dr. Eamonn O'Donoghue has described the turbines as *"a monster in terms of height"* that would permanently damage the visual amenity of this ancient royal site. We fully concur with that assessment.

Knockma's value lies not only in its monuments but in its unspoilt visual setting and the experience of immersion in an ancient landscape. Introducing large, moving industrial structures into its viewshed would irreversibly undermine that experience. As Dr. O'Donoghue noted, such development would be unthinkable near sites such as Tara, Newgrange or Knocknarea — and Knockma merits the same respect and protection.

Knockma is identified in the Galway County Development Plan 2022–2028 as an Area of High Amenity and Archaeological Value, and is being promoted by heritage advocates for UNESCO World Heritage recognition as part of wider western stone monument initiatives. Locating industrial turbines so close to this heritage landscape conflicts directly with Development Plan objectives to protect scenic views, archaeological settings and cultural tourism assets.

The draft 2019 Wind Energy Guidelines emphasise the importance of assessing *intervisibility and interrelationships between archaeological heritage within the wider landscape*. In this case, that intervisibility would be fundamentally compromised.

7.3 Overbearing and Dominant Visual Presence on Nearby Homes

For residents living within approximately 700–800 metres of the nearest turbine, the impact would not be abstract or distant — it would be immediate and overbearing.

At this distance, a turbine of 185 metres would appear visually overwhelming, dominating views from homes and gardens and becoming an unavoidable focal point. An Coimisiún Pleanála Inspectors have repeatedly characterised turbines at similar proximities as "overbearing" or "visually domineering" in previous refusals.

Although the applicant has attempted to maintain a minimum setback of circa 768 metres, this equates to only about four times turbine height, which is widely regarded as insufficient to avoid excessive visual intrusion.

In addition to daytime impacts, there are significant night-time effects. Each turbine will require aviation warning lights, resulting in flashing red lights atop eight towers. In a rural area with minimal existing light pollution, this would introduce a conspicuous and intrusive nocturnal element, visible over long distances and further eroding rural character.

7.4 Scenic Routes, Recreation and Tourism Impacts

The Galway County Development Plan identifies scenic routes and views in the wider Knockma area as assets to be protected. Roads around Lough Hackett, Castlehackett and the Knockma looped walk are valued for their scenic and recreational quality.

While the EIAR includes photomontages, such images cannot fully convey real-world scale, motion, or dominance. Turbines attract the eye due to movement, and their presence is often far more intrusive than static images suggest.

As highlighted by Dr. O'Donoghue, placing a wind farm in close proximity to Knockma risks undermining efforts to develop heritage-based tourism, potentially deterring visitors seeking tranquillity, folklore and landscape authenticity. This concern echoes decisions of An Coimisiún Pleanála in other highly scenic or culturally sensitive locations, including refusals where turbines were found to significantly harm visual amenity and landscape character.

7.5 Planning Judgment and Landscape Sensitivity

While the applicant relies on the classification of the immediate site as a landscape of "lower sensitivity", this assessment fails to account for adjacency to the exceptionally high-sensitivity Knockma–Castlehackett landscape.

A low-sensitivity designation does not provide a licence to introduce structures that will dominate views from a high-sensitivity area nearby. The scale disparity is profound, and the resulting impacts extend well beyond the site boundary.

In exercising its planning judgment, the Board is fully entitled — and, we submit, obliged — to conclude that the visual and landscape impacts are unacceptable. To do otherwise would undermine Development Plan objectives and long-standing planning principles aimed at conserving scenic and heritage landscapes.

7.6 Conclusion on Visual and Landscape Impacts

The proposed development would:

- Fundamentally alter the rural landscape character;
- Visually dominate nearby homes and community spaces;
- Severely compromise the setting and experience of Knockma Hill;
- Introduce significant night-time light pollution; and
- Undermine scenic routes and heritage tourism potential.

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8 Impacts on Recreation and Tourism

Loss of Amenity Value and Degradation of a Developing Heritage Destination

We submit that the proposed Laurclavagh Renewable Energy Development would result in significant and unacceptable harm to recreation, tourism, and community amenity, undermining the established and emerging role of the area as a destination for heritage-based and outdoor recreation. These

impacts are not incidental; they strike at the core qualities that make the locality attractive to residents, visitors, and educational groups.

8.1 Knockma Hill – A Recreational Asset Under Threat

Knockma Hill (Castlehackett) is a focal point for outdoor recreation and cultural tourism in North Galway. It supports:

- A network of looped walking trails through woodland and up to the cairns;
- Panoramic viewpoints;
- Interpretive signage explaining its archaeology, mythology, and folklore.

The hill is regularly used by families, walkers, school groups, and visitors, particularly at weekends. Its appeal lies in a combination of tranquillity, mythological resonance, and relatively unspoilt views.

Knockma is increasingly promoted as part of inland heritage offerings that complement the Wild Atlantic Way, showcasing authentic Irish landscapes away from over-commercialised coastal sites. The presence of a large industrial wind farm within close proximity is fundamentally incompatible with the atmosphere that Knockma's promoters seek to foster.

Visitors come to Knockma seeking:

- A sense of immersion in an ancient landscape;
- Solitude and connection with nature;
- Uninterrupted views and a mystical ambience.

The introduction of turbines visible from trails and viewpoints would undermine the visitor experience, intruding into photographs, vistas, and the overall sense of place. It is reasonable to expect that some potential visitors would choose not to come at all if aware that a wind farm dominates the surrounding landscape.

This concern is not speculative. Planning authorities routinely protect views from nationally important heritage sites. While Knockma may not yet be as commercialised as sites such as the Rock of Cashel, it is highly valued locally and increasingly recognised regionally, and deserves proactive protection rather than retrospective regret.

Allowing the wind farm would likely stunt the growth of heritage tourism at Knockma, limiting opportunities to integrate the site into wider folklore trails, Tuam-area heritage routes, or educational tourism centred on figures such as Finvarra, the fairy king of Connacht.

8.2 Impacts on Local Recreation: Walking, Cycling and Riding

Beyond Knockma itself, the wider Laurclavagh area supports everyday outdoor recreation. Its quiet rural roads, low traffic volumes, and scenic quality make it popular for:

- Recreational walking and jogging;
- Leisure and club cycling;
- Informal outdoor activity by local residents.

Several routes near the site, including sections of the N83 and adjoining local roads, are used for organised cycling events and regular club runs. The proximity of turbines would materially reduce the enjoyment of these routes. Many people find walking or cycling beneath large turbines intimidating, due to noise, blade movement, and the sheer scale of the structures.

The result would be a qualitative loss of rural tranquillity:

- Natural soundscapes replaced by turbine noise;
- Pastoral views replaced by industrial infrastructure;
- A subtle but pervasive deterrent to outdoor activity.

As detailed elsewhere in this submission, equestrian recreation — including leisure riding and long-established hunting traditions — would be effectively curtailed. In particular, the Galway Blazers Hunt has used these lands for decades. It would be neither safe nor responsible to conduct hunts through a wind farm, resulting in the permanent loss of a traditional recreational use.

This has secondary tourism impacts, as hunting and equestrian visitors contribute to local hospitality and service businesses. Objections from local riding groups, including the North Galway Foxhounds, underline the seriousness of this impact.

See Appendix C: Objection Letter from the North Galway Foxhounds.

8.3 Cultural Tourism and Education

Knockma Hill and the surrounding historic landscape — including nearby churches, ringforts, and archaeological features — function as an outdoor classroom. Local schools, history groups, and cultural organisations regularly use the area for educational visits focused on:

- Irish mythology;
- Archaeology and early settlement;
- Landscape history.

The proposed wind farm would overshadow these resources, both visually and symbolically. It conveys a message that large-scale industrial development takes precedence over cultural and educational values.

As noted by Dr. Eamonn O'Donoghue, there is a duty to protect and enhance this *"rich cultural asset that is in the process of rediscovery"*. Approving a wind farm in such close proximity would represent a failure of that duty, diminishing the educational and cultural legacy available to future generations.

8.4 Incompatibility with Tourism and Amenity Policy

The proposal is difficult to reconcile with national and local tourism strategies. Fáilte Ireland has repeatedly emphasised the need to balance renewable energy development with the protection of tourism assets, particularly in rural areas where tourism depends on landscape quality and cultural authenticity.

While some wind farms are designed as destinations in their own right (e.g. with visitor centres), this proposal is not. It is an industrial intervention in a landscape whose tourism value lies precisely in its natural, historic and tranquil character.

The Galway County Development Plan 2022–2028 contains clear objectives to:

- Promote sustainable tourism in rural areas;
- Protect amenities and scenic assets;
- Ensure that development does not undermine established or emerging tourism resources.

While the Plan supports renewable energy, it does not do so at the expense of key amenity and tourism assets. Knockma and its environs clearly qualify as such an asset.

The developer's suggestion that impacts are negligible because current tourist numbers are modest is short-sighted. Tourism potential must be nurtured and grown, particularly forms of low-impact, heritage-based tourism that deliver long-term benefits to local communities.

Moreover, local residents who use these amenities daily are, in effect, "internal tourists" whose quality of life and recreational opportunities would be diminished.

8.5 Conclusion on Recreation and Tourism Impacts

The proposed development would:

- Undermine the recreational value of Knockma Hill;
- Deter heritage and cultural tourism;
- Reduce the enjoyment of walking, cycling and equestrian activities;
- Conflict with local and national tourism and amenity policy objectives.

These impacts represent a material planning harm and are incompatible with the proper development of the area. Sustainable development requires the protection of community amenity and the long-term stewardship of cultural and recreational assets.

Accordingly, we respectfully urge An Coimisiún Pleanála to refuse permission in order to safeguard the rural amenity values and the emerging tourism potential of Knockma and its surrounding landscape.

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9 Planning Policy Conflicts

Galway County Development Plan, Wind Energy Guidelines and EU Environmental Law

We submit that the proposed Laurclavagh Renewable Energy Development is materially inconsistent with, and in several respects contrary to, the applicable planning policy framework at local, national and European level. While renewable energy development is supported in principle, such support is expressly conditional on appropriate siting, protection of residential amenity, safeguarding of landscape and heritage assets, and compliance with EU environmental obligations. The proposed development fails these tests.

9.1 Non-Compliance with the Galway County Development Plan 2022–2028

Although the site is identified as being within an area of "lower landscape sensitivity" for wind energy consideration, this designation does not override or disapply other Development Plan

objectives. The Plan must be read as a whole. When assessed cumulatively, the proposal conflicts with multiple core provisions, including the following:

(a) Landscape Protection and Cultural Amenity

(Objectives NHB-3, LCM and related policies)

The Development Plan contains clear objectives to protect landscape character, scenic amenity and culturally important settings. The site's immediate proximity to Knockma (Castlehackett) — identified in the Plan as an Area of High Amenity and Archaeological Sensitivity — is a critical material consideration.

The Plan:

- Recognises the importance of protecting views and prospects from Knockma and its environs;
- Identifies the surrounding landscape as archaeologically sensitive; and
- Does not identify industrial wind energy as an appropriate development in such settings.

The introduction of eight turbines of approximately 185m height within close visual range of this sensitive landscape directly conflicts with these objectives and undermines the Plan's intent to safeguard heritage settings and scenic views.

(b) Renewable Energy Strategy and Community Considerations

(Galway Local Authority Renewable Energy Strategy – LARES)

While the Local Authority Renewable Energy Strategy seeks to facilitate renewable energy development, it does so subject to environmental protection, community acceptance, and compliance with planning policy.

This proposal:

- Has generated widespread and sustained local opposition;
- Required extensive Further Information across 14 substantive headings; and
- Relies on mitigation to address impacts that arise fundamentally from poor siting.

A development that provokes such opposition and requires numerous material clarifications cannot reasonably be characterised as a "sustainable" or policy-compliant renewable energy project within the meaning of the Strategy.

(c) Heritage and Biodiversity Protection

(Objectives NHB-1, NHB-2, NHB-8 and related policies)

The Development Plan mandates the protection of ecological networks and expressly requires that development avoid adverse impacts on protected habitats and species, particularly where impacts are incapable of satisfactory mitigation.

As demonstrated elsewhere in this submission, the proposal threatens:

- Annex I limestone pavement and calcareous grassland;
- Protected bat species;

- Birds of conservation concern, including Hen Harrier.

The Plan explicitly references Article 10 of the Habitats Directive, requiring the maintenance of ecological connectivity through features such as hedgerows, wetlands and semi-natural habitats. The extensive hedgerow removal and habitat fragmentation proposed here are directly contrary to this requirement and cannot be satisfactorily mitigated.

(d) Protection of Residential Amenity

(Objectives UD-1, RH-4 and related policies)

The Development Plan places strong emphasis on safeguarding the amenity of existing rural residents. Despite proposed mitigation, the predicted impacts relating to noise, shadow flicker, visual dominance and health represent a clear diminution of residential amenity.

The proximity of turbines to dwellings — in some cases within 4–5 times turbine tip height — falls well below separation distances commonly associated with acceptable amenity outcomes. This represents an implicit but material conflict with Development Plan objectives.

9.2 Conflict with the Wind Energy Development Guidelines (2006) and Draft 2019 Guidelines

The Wind Energy Development Guidelines 2006 emphasise achieving an *appropriate balance* between renewable energy development and the protection of communities and the environment. That balance has not been achieved in this case.

While the applicant claims compliance with:

- ETSU-R-97 noise limits; and
- The 30-hour annual shadow flicker guideline,

such compliance represents the bare minimum of an outdated framework, not contemporary best practice.

The draft 2019 Wind Energy Guidelines, although not yet adopted, reflect updated scientific understanding and policy intent. They would require:

- Significantly lower noise limits; and
- Effectively zero shadow flicker at dwellings.

The legal relevance of this evolving context was clearly articulated by the Supreme Court in Balz & Heubach v An Bord Pleanála, where the Court criticised the rigid application of the 2006 Guidelines in the face of credible expert evidence indicating that those standards may be inadequate.

Justice O'Donnell held that where relevant submissions raise concerns about guideline adequacy, the decision-maker must engage with and address those concerns, rather than defaulting to mechanical compliance.

Applying that principle here:

- There is substantial evidence from WHO guidance, HSE positions, and expert submissions that the 2006 standards may not adequately protect health or amenity;

- Approval based solely on technical compliance with outdated guidance would risk repeating the legal error identified by the Supreme Court.

Moreover, the 2006 Guidelines contemplated turbines of a far smaller scale (circa 100m), whereas this proposal involves 185m turbines, well beyond what was envisaged at the time.

9.3 Article 10 of the EU Habitats Directive – Ecological Connectivity

Article 10 of the Habitats Directive requires Member States to encourage land-use planning that maintains and enhances ecological corridors and landscape features essential for wildlife movement.

The obligations under the Directive:

- Apply beyond designated Natura 2000 sites;
- Require avoidance of unnecessary habitat fragmentation where feasible.

The removal of extensive hedgerow networks and disruption of semi-natural habitat mosaics at Laurclavagh is incompatible with these obligations. Refusal of this proposal would be entirely consistent with Ireland's duties under EU law.

9.4 Other Relevant Policy Conflicts

European Landscape Convention

Ireland has ratified the European Landscape Convention, which emphasises the importance of:

- Recognising landscape as a key component of people's surroundings;
- Giving weight to public perceptions and community values in landscape decision-making.

The strong and consistent expression of community attachment to this landscape has not been adequately reflected in the applicant's assessment. Disregarding that input would be inconsistent with the Convention's intent.

Climate Action Policy and Planning Balance

While national climate policy strongly supports renewable energy, it does not override proper planning. The courts have repeatedly affirmed that climate benefit does not excuse poor siting or legal non-compliance.

In Coolglass Wind Farm v An Bord Pleanála, the High Court emphasised that renewable energy proposals must still be assessed on a case-by-case basis and in accordance with planning law and environmental protections.

Approving an ill-sited project in the name of climate action risks:

- Legal challenge and delay;
- Damage to public confidence in renewable energy;
- Undermining the credibility of climate policy itself.

9.5 Conclusion on Planning Policy Compliance

In conclusion, the Laurclavagh proposal is materially contravention, or at the very least significantly inconsistent, with:

- The Galway County Development Plan 2022–2028;
- The intent and proper application of the Wind Energy Guidelines;
- Article 10 of the Habitats Directive;
- The European Landscape Convention; and
- Established principles of Irish planning law.

An Coimisiún Pleanála has, in recent years, refused wind energy developments in Cork, Donegal and Clare where landscape, noise, ecology and amenity impacts rendered proposals unsuitable. Those decisions establish a clear expectation that policy will be enforced even where renewable energy is proposed, where impacts are excessive or siting is inappropriate.

Laurclavagh is such a case.

Accordingly, we submit that the Board not only may refuse permission on policy grounds, but should do so, in order to remain consistent with the hierarchical planning framework, its own precedents, and the principles of proper planning and sustainable development.

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10 Procedural Flaws and Legal Precedents

Policy Vacuum, Inadequate Rationale and Comparable Refusal Outcomes

We submit that, in addition to substantive environmental and amenity impacts, the proposed Laurclavagh Renewable Energy Development is undermined by serious procedural deficiencies and engages well-established legal precedents which strongly support refusal. Granting permission in the present circumstances would expose the decision to significant legal vulnerability and would be inconsistent with best planning practice.

10.1 Outdated Wind Energy Guidelines and the Policy Vacuum

Ireland's Wind Energy Development Guidelines (2006) remain in force despite being widely acknowledged as outdated. A revised draft was published in 2019 but remains unfinalised more than six years later. This prolonged delay has created a policy vacuum, placing communities, developers, and decision-makers in an uncertain and legally precarious position.

In the Laurclavagh application, the developer has:

- Relied almost exclusively on the 2006 standards (43 dB night noise, notional 500m setbacks, 30 hours/year shadow flicker);
- Acknowledged the draft 2019 Guidelines, yet effectively disregarded them, despite their clear intent to impose more protective thresholds (lower noise limits and zero shadow flicker at dwellings).

This raises a fundamental procedural question for the Board:
Is it sufficient to assess the project solely against outdated guidance, or must the Board also take account of evolving standards that reflect best available scientific and policy knowledge?

The Supreme Court addressed this exact issue in Balz & Heubach v An Bord Pleanála, confirming that under section 28 of the Planning and Development Act, the Board must *"have regard to"* guidelines but is not bound to apply them rigidly, particularly where credible evidence suggests they are inadequate.

In *Balz*, the legal failing was the Board's refusal to meaningfully engage with expert evidence that the 2006 noise limits were no longer sufficient. The parallels with Laurclavagh are striking. Here, the Board has before it:

- WHO Environmental Noise Guidelines (2018);
- Endorsed HSE positions on health-based noise thresholds;
- Detailed expert submissions identifying deficiencies in noise, flicker and health protection.

Failure to demonstrably engage with that evidence — by defaulting to 2006 guidance — would risk repeating the same error identified by the Supreme Court.

As Dr. Eamonn O'Donoghue warned in his submission:

"The Government's failure to finalise these guidelines is at odds with the speed of the national energy project... Without such guidance there is a high risk that inappropriate decisions will be made that we will rue in the near future; let this not be so for Laurclavagh."

That warning is prescient. Approving a wind farm under obsolete standards, only for it to conflict with imminent policy updates or to be successfully challenged in court, is precisely the outcome that prudent decision-making should avoid.

Applying the precautionary and protective elements of the 2019 draft guidelines to this proposal demonstrates its unsuitability:

- Residential separation distances of approximately 768m (≈4.2× tip height) are borderline at best;
- Shadow flicker would need to be effectively zero, yet has not been convincingly eliminated;
- Noise levels consistent with health-based guidance are unlikely to be achieved at all dwellings.

From a procedural standpoint, refusal is the safer and more defensible course.

10.2 Failure to Provide an Adequate and Reasoned Rationale

(Balz precedent)

The Supreme Court in *Balz & Heubach* also made clear that where substantial expert evidence is submitted, the Board must provide a clear and reasoned explanation if it chooses not to accept that evidence. Summary dismissal or conclusory reasoning is unlawful.

In this case, the community has placed before the Board:

- Expert botanical evidence regarding rare limestone habitats;
- Ecological evidence concerning protected species;

- Health-based evidence on noise and sleep disturbance;
- Technical critique of modelling and mitigation assumptions.

If the Board were to grant permission, it would be required to explicitly and substantively address these matters in its reasoning. A statement that impacts are "acceptable" without engaging with, for example:

- WHO/HSE noise guidance;
- Evidence of Annex I habitats;
- Admissions of uncertainty regarding species presence (e.g. Hen Harrier);

would expose the decision to challenge for failure to consider relevant considerations.

This is not presented as a threat, but as a legitimate concern for decision robustness. One way to ensure robustness is to apply the precautionary principle where evidence is conflicting.

For example:

- Where there is reasonable scientific doubt about the presence of Hen Harrier, EU law requires erring on the side of protection.
- Where health-based noise standards conflict with older technical guidance, the Board is entitled — and obliged — to prioritise health and amenity.

Refusal in such circumstances aligns with precaution and significantly reduces legal exposure.

10.3 Comparable Legal Outcomes and Recent Refusals

Irish planning jurisprudence demonstrates that permissions have been quashed or refused where assessments were incomplete or impacts inadequately addressed.

In O'Grianna v An Bord Pleanála, the High Court quashed a wind farm permission because the grid connection was not properly assessed as part of the EIA.

In the present case:

- The Laurclavagh application does not adequately address community concerns regarding the grid connection;
- There is no consent from affected landowners for cabling across private lands;
- The grid route is the subject of strong local objection.

See Appendix D: Petition of Objection to Grid Connection.

In addition, An Coimisiún Pleanála has demonstrated in recent decisions that it will refuse wind farms where material impacts or data gaps arise:

- Cork (2024) – refused on landscape and visual grounds;
- Donegal (2024) – refused due to impacts on Golden Eagle;
- Clare (2024) – refused due to Hen Harrier concerns and ecological data gaps.

Laurclavagh exhibits similar characteristics:

- Significant scenic and heritage impacts (as in Cork);

- Reasonable scientific uncertainty regarding protected species (as in Clare).

Consistency with those decisions strongly supports refusal here.

10.4 Legal Risk Arising from the Absence of Updated Guidelines

Finally, the continued absence of updated national wind energy guidelines presents a forward-looking legal risk.

Should revised guidelines be adopted in the near future (as anticipated), developments permitted under a laxer regime may:

- Become policy outliers;
- Face pressure for retrofitting or curtailment;
- Attract renewed legal and public scrutiny.

Under section 37(2)(b)(iv) of the Planning and Development Act, the Board is entitled to consider the pattern of development and emerging policy context. Granting permission for a development that is already misaligned with expected future standards would be imprudent.

It is preferable — and legally sound — to require proposals to meet anticipated standards now, rather than allowing poorly sited developments to proceed through a regulatory gap.

10.5 Conclusion: Upholding Best Practice and the Law

In summary, there are compelling procedural, legal, and precedent-based grounds for refusal:

- A policy vacuum arising from outdated guidelines;
- Failure of the application to meet emerging best practice;
- Significant uncertainty engaging the precautionary principle;
- Clear Supreme Court authority requiring reasoned engagement with evidence;
- Comparable recent refusals by the Board itself.

Granting permission in these circumstances would stretch the limits of acceptability under Irish and EU law and expose the decision to avoidable legal risk.

The safer, fairer, and more legally robust outcome is refusal. In doing so, the Board would not only protect the Laurclavagh community and environment, but also reinforce the principle that renewable energy development must comply with the spirit as well as the letter of planning and environmental law.

Poorly sited projects must not be allowed to slip through a regulatory gap.

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11 Public Health and Residential Rights Impacts of Industrial Wind Turbines Within 1km

The Laurclavagh community objects in the strongest possible terms to the proposed siting of industrial wind turbines within 1 km of our homes. These turbines, by virtue of their scale, height, and proximity to a densely populated rural area, would pose significant and foreseeable risks to the health, wellbeing, and safety of adults and children living here.

Our objection is firmly grounded not only in scientific evidence but also in the legal rights guaranteed to every resident under the Irish Constitution, the European Convention on Human Rights, the EU Charter of Fundamental Rights, and the Aarhus Convention. These instruments impose clear obligations on planning authorities to protect human health, children's rights, and the integrity of the home environment.

11.1 Irish Constitutional Rights of Families and Children Are Directly Threatened

11.1.1 Article 40.3 – Right to Bodily Integrity

The State must protect citizens from foreseeable harm.
Industrial turbines within 1 km will generate:

- Persistent noise and vibration
- Shadow flicker
- Sleep disturbance and chronic stress
- Documented physical and psychological health impacts

Allowing such impacts would breach the community's right to bodily integrity.

11.1.2 Article 41 – Protection of the Family

The Constitution recognises the family as a uniquely protected institution.
A home overshadowed and disturbed by turbines cannot provide:

- Safety
- Stability
- Health
- Peace and privacy

This is especially damaging to children, who are significantly more vulnerable to noise-induced sleep disruption, anxiety, and developmental impacts.

11.1.3 Article 43 – Property Rights

Families have a constitutional right to the peaceful use and enjoyment of their homes.
Industrial turbines at close proximity would:

- Severely diminish residential amenity
- Impair daily living
- Impact property value and usability

This constitutes an unjust attack on property rights.

11.2 Breach of the European Convention on Human Rights (ECHR)

Article 8 – Right to Respect for Private Life, Family Life, and the Home

European case law confirms that environmental hazards such as noise, vibration, and visual intrusion can breach Article 8 when they meaningfully disrupt life in the home.
Turbines within 1 km create:

- Continuous environmental disturbance
- Threats to physical and mental health
- A significant reduction in quality of life

Approving such a development in a densely populated area would be disproportionate and unlawful.

Articles 2 & 3 – Health and Human Dignity

Long-term exposure to significant environmental stressors, especially when affecting children, engages the State's obligations to prevent foreseeable harm to life and wellbeing.

11.3 EU Charter of Fundamental Rights

Article 7 – Respect for Private & Family Life

Mirroring Article 8 ECHR, this Charter protection prohibits environmental interference that makes a home unhealthy or unliveable.

Article 24 – Rights of the Child

Children's best interests must be a primary consideration in planning decisions.
Potential impacts on children include:

- Sleep disruption
- Concentration and learning difficulties
- Stress and anxiety

Locating industrial machinery beside homes clearly fails to meet this standard.

Article 37 – Environmental Protection

EU law requires a high level of environmental and human health protection.
Placing turbines in a densely populated area contradicts this principle.

11.4 The Aarhus Convention Strengthens the Community's Position

Ireland is a party to the Aarhus Convention, which grants communities enforceable rights in environmental matters.
These rights must be upheld by planning authorities.

Article 1 – The Right to Live in an Environment Adequate to Health and Wellbeing

This is the Convention's guiding principle.
Industrial turbines within 1 km breach this right by exposing residents—especially children—to unacceptable environmental stressors.

Article 4 – Right to Access Environmental Information

Communities have the right to:

- Full transparency
- Accurate data
- Independent assessments
- Access to modelling files and validation evidence

When developers provide incomplete, unvalidated, or opaque assessments (including noise, shadow flicker, and software modelling), it violates the spirit and intent of Aarhus.

Article 6 – Public Participation in Environmental Decision-Making

Aarhus requires that:

- The public be involved early, before decisions are made
- Technical data be accessible and understandable
- Communities be given adequate time to prepare submissions

In this case:

The developer (MKO) was granted **six months** to prepare its responses to a Further Information (FI) request from An Coimisiún Pleanála

The community has been given only **10 weeks**

This imbalance contravenes the principle of fair and meaningful participation.

Article 9 – Access to Justice

If a decision infringes constitutional, European, or Aarhus rights, the community is legally entitled to challenge it.
Authorities must therefore avoid decisions that ignore or undermine these rights.

11.5 Health Risks of Placing Turbines Within 1 km of Homes

Extensive research demonstrates that turbines at such close proximity increase the risk of:

- Sleep disturbance and insomnia
- Headaches and dizziness
- Stress and elevated cortisol levels
- Infrasound-related discomfort
- Shadow flicker–induced anxiety or visual disturbance
- Reduced learning capacity in children

These risks are predictable, avoidable, and unacceptable in any residential area.

11.6 The Proportionality Test in Planning Law

Under Irish and EU law, any interference with constitutional or Convention rights must be:

- Necessary
- Proportionate
- The least intrusive option

Situating industrial turbines 700–1000 metres from family homes fails all three criteria, especially when:

- International best practice recommends far greater setback distances
- Impacts on children's health are known and preventable
- No public interest objective justifies infringing the rights of hundreds of residents.

Conclusion

The proposed wind turbine development would cause serious, foreseeable, and avoidable harm to the health and wellbeing of families living within 1 km of the site. It would infringe rights protected under:

The Irish Constitution (Articles 40.3, 41, 43)

The European Convention on Human Rights (Article 8)

The EU Charter of Fundamental Rights (Articles 7, 24, 37)

The Aarhus Convention (Articles 1, 4, 6, & 9)

Given the scale of the impact, the vulnerability of affected children, and the legal responsibilities of the State, An Coimisiún Pleanála must refuse permission for this development.

The community stands united in asserting these rights and in insisting on a planning process that protects our health, our homes, and the next generation.

12 Inadequacy of the L-61461 to Facilitate Construction Traffic

Reference detailed report submitted on belhalf of Martin Lavelle, BE. MBA, FIEI, C.ENG, Road Safety Auditor, Diploma in Biodiversity and Landscape Management.

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13 Conclusion

Having regard to the documentation submitted, the further information provided by the applicant, and the submissions and observations on file, we respectfully submit that the proposed Laurclavagh Wind Farm (ABP Ref. 319307) **would not constitute proper planning and sustainable development** of the area.

The proposed development is fundamentally flawed in terms of **siting, scale, and impact**, and would give rise to **significant adverse effects** on residential amenity, human health, landscape and visual character, cultural heritage, biodiversity, and water resources. These impacts, individually and cumulatively, are of such magnitude and permanence that they **cannot be satisfactorily mitigated**.

Notwithstanding the submission of Further Information, the application continues to exhibit **material deficiencies, unresolved uncertainties, and reliance on optimistic assumptions**, particularly in respect of noise, shadow flicker, health effects, ecological impacts, hydrogeology, and landscape sensitivity. Critical matters have been deferred to mitigation and future management rather than being adequately assessed at application stage, contrary to the requirements of the EIA Directive and established planning practice.

In this regard, the Board is expressly reminded of the **original group submission lodged in May 2024**, which included **independent expert analysis and technical reports** demonstrating that the Laurclavagh site is inherently unsuitable for industrial-scale wind energy development. The concerns and conclusions set out in those reports — including but not limited to impacts on human health, protected habitats and species, karst hydrology, landscape and heritage assets, and residential amenity — **remain valid, relevant, and unresolved**.

The Further Information submitted by the applicant has **not materially addressed or overcome** the substantive deficiencies identified in that original submission. Rather, it has served to reinforce the existence of persistent uncertainty and the absence of a robust evidential basis upon which the Board could reasonably conclude that significant adverse effects will not arise. Accordingly, the expert evidence submitted in May 2024 must be afforded **full continuing weight** in the Board's assessment of this application.

The **precautionary principle**, as embedded in EU environmental law and consistently applied by An Coimisiún Pleanála, requires that where reasonable scientific doubt exists regarding the likelihood of significant adverse effects, permission should be refused. In this case, the evidence discloses **more than residual doubt**; it demonstrates a clear risk of unacceptable harm.

The Board cannot be satisfied, on the basis of the information before it, that the proposed development would not endanger human health, undermine residential amenity, or adversely affect sensitive environmental receptors.

While the importance of renewable energy development and national climate objectives is fully acknowledged, such objectives **do not override the requirement for appropriate siting, environmental protection, or community welfare**. Renewable energy development must proceed in locations capable of accommodating such infrastructure without disproportionate harm. The Laurclavagh site does not meet that test.

For these reasons, and having regard to:

- the scale and proximity of the proposed turbines to residential properties;
- the unacceptable impact on residential amenity and human health;
- the serious and inadequately addressed impacts on landscape, heritage, ecology, and water resources;
- the continued relevance and weight of the expert evidence submitted in May 2024; and
- the failure of the Further Information to remedy fundamental defects;

we respectfully submit that the proposed development **should be refused**.

A refusal would be consistent with the Board's statutory obligations, its recent decisions in comparable cases, and the proper application of planning policy and environmental law. It would uphold the rights of residents to the peaceful enjoyment of their homes, protect sensitive landscapes and habitats, and reinforce the principle that renewable energy development must be **lawfully located, evidence-based, and environmentally responsible**.

For all of the foregoing reasons, we respectfully request that An Coimisiún Pleanála **refuse permission for the proposed Laurclavagh Wind Farm**.

Thank you for your attention to our submission.

Signed

The concerned residents of the Laurclavagh area

Appendix

Appendix A - Expert opinion piece by Dr. Peter Tyndall

Dr. Peter Tyndall,
Glenrevagh,
Corrandulla,
Co. Galway.
H91 HXV1.
11th Nov. 2025.

To: The Secretary,
An Bord Pleanala,
64, Marlborough Street,
Dublin 1.

Further observations to an Bord Pleanana with regards to Case No PA07, 319307, Laurclavagh in reply to MKO's response to the Bord's request for additional information.

MKO's response leans heavily on the requirement for Ireland to achieve defined greenhouse gas emissions by certain dates. It also relies strongly on Mr. Justice Humphrey's Coolglass judgement delivered on 10th Jan 2025. While An Bord Pleanala may have to consider conformity with the climate plans and objectives as Judge Humphreys states clearly in his judgement "this does not mean allowing an application which is prohibited by law". As the proposal is contrary to Environmental and Biodiversity Law (Wildlife Act, 1976, Wildlife [Amendment] Act, 2000 and2023, EU Nature Restoration Law which came into force in August 2024, EU Habitats Directive [Council Directive 92/43/EEC], EU Birds Directive [updated by Directive 2009/147/EC]) it must, in line with Judge Humphrey's ruling, be dismissed. Planners must equally take full account of the National Biodiversity Plan with the 2023 Act giving it legal weight and requiring public bodies, by legal obligation, to integrate its targets into their work. The application also infringes the property rights of the home which are protected in the Irish Constitution (Article 40.3.2) and which include quiet enjoyment and minimum standards. Both the construction and operation of the proposed electricity generating site run contrary to the Constitutional rights of the 2,800 residents who would be impacted should permission be granted.

Environmental and Biodiversity Law.

Bats have a high conservation status across Europe and all species have been listed on Annex IV of the Habitats and Species Directive and some, such as the lesser horseshoe bat, which we are fortunate to have in this area, are further listed on Annex II. The domestic legislation, which implements this directive, combined with the Wildlife Acts (1976 and 2000), ensures that individual bats and their breeding sites and resting sites are fully protected. This has very important implications for those who own, manage or knowingly permit the construction of windfarm turbines if they are to avoid potential breaches of the law and criminal offences being committed.

The MKO assessment of the local bat population is inadequate and error strewn. Bats are abundant in the area as shown by MKO's ground level static survey where 62,368 bat passes were recorded. (This was over about 40 suitable nights (page 19, Appendix 6-2) giving a bat pass rate of 1,559 per night). Quoting the MKO report they state "the calculated activity thresholds in Table 3-6 were considerable high for all species surveyed. Thresholds were therefore adapted to more representative activity levels for agricultural/wet grassland habitats based on MKO's experience with similar habitats as presented in Table 3-7. "This seems extraordinary and in effect amounts to "we didn't like the high figures we actually measured so we lowered them to what we thought they should look like"!

I have frequently surveyed the area, using a Magenta 5 heterodyne bat detector and agree with the comprehensive species list identified in the application. The lesser horseshoe bat is the species of most concern and has the highest conservation status. In a Vincent Wildlife Trust article written by Dr. Kate McAney, who studied the lesser horseshoe bat for her PhD, she quotes a Bat Conservation Ireland Publication "landscape conservation for Irish bats and species specific roosting characteristics" whose authors state that the small region currently occupied by the lesser horseshoe bat represents the only suitable range for this species in Ireland, based on habitat association and landscape modelling. As a result even low levels of habitat modification or changes to roost availability could have significant adverse effects on the lesser horseshoe bat in Ireland. The proposed construction is vastly more than low level habitat modification and there can be little doubt that the huge amount of rock breaking, transport and explosives blasting will, during the construction phase of the proposed windfarm, have a detrimental effect on the roosts and feeding areas of this most sensitive species. The removal of hedgerows is particularly damaging to the lesser horseshoe bat as it has a uniquely high frequency, low range call which it uses to navigate, using hedgerows, between roosting and feeding areas. Once hedgerows are removed the bat is lost. The promoters plan to remove 1.8km of these essential hedgerows which can only prove detrimental to this most vulnerable species.

The proposers state that the only SAC designated lesser horseshoe bat roost is 27.8km from the proposed site. This is intentionally misleading as SAC designation is not required for the bats' protection. I know of, and have visited, 3 lesser horseshoe bat roosts and hibernation areas which are only a few kilometres distance to the North of the proposed site and these can be confirmed by communication with local NPWS staff. In the interests of reporting the truth why were these sites not mentioned and were excluded from the report? This proves that the MKO survey is not comprehensive, their survey is not adequate and it has failed to record lesser horseshoe bat roosts and hibernation sites close to the immediate area.

Bats are negatively impacted by windfarms and no amount of imaginary mitigation measures alters this reality. Direct impacts include collisions and barotrauma (damage to tissues from air pressure changes around the rotating blades resulting in the collapse of the bat's lungs). Indirect impacts can include habitat loss (roosts, commuting routes and foraging area) and fragmentation of populations.

"An updated review of hypotheses regarding bat attraction to wind turbines" was published in 2022 in the US by the National Library of Medicine and states that "patterns of bat activity and mortality at wind energy facilities suggest that bats are attracted to wind turbines." Attraction hypotheses of noise, roost sites, foraging and water, mating behaviour, lights and olfaction have all been examined. It is still unknown why bats are attracted to turbines and until such a time as an understanding is acquired and proof of effective mitigation measures exist, turbines must be excluded from areas such as this which hold such strong bat populations.

MKO state (page 68, Appendix 6-2 in the original submission and page 43 [6.5.3.2.2] in the subsequent submission) that when wind speeds are below the cut-in speed, the blades will be feathered and that this measure has been shown to reduce bat fatalities by up to 50%. This is an admission that even when the blades are turning slowly they are aware that they will be breaking European and national law and will be knowingly killing bats –a totally illegal activity and more than sufficient grounds to reject this application.

Over 3 decades Birdwatch Ireland has collected data on the populations of swans, geese, ducks, waders and other associated birds in the turloughs, callows and lakes which surround the proposed site (see iWeBs data, Birdwatch Ireland). Unfortunately, this data highlights sharp declines in many species over this period. Lines connecting the adjacent iWeBs (Irish Wetland Bird Survey) areas (Belclare Turlough, River Clare Callows, Doolough Headford, Lough Corrib sites, Lough Hackett,

Levelly Lough, Summerville, Gardenfield, Rahasane Turlough, inner Galway Bay along with many more temporary turloughs which are known to hold populations of these birds,) clearly demonstrate that the flight paths connecting many of these sites will be severely impacted through the installation of these massive structures. It must be remembered that many wetland birds roost on the water during the night and move to grassland areas to feed during the daylight with many of these passages taking place in the dark. What chance has a whooper swan of seeing, never mind avoiding, a huge blade travelling towards him from above in the dark at perhaps 150 mph on a wet windy night? This is a very important area for certain Annex 1 species under the European Habitat's Directive. Protection must be provided to species such as Whooper Swan, Greenland White fronted Geese, Hen Harrier, Merlin and Peregrine Falcon which are all present on this site. The fact that they are all present and confirmed by MKO's own survey, should be sufficient to terminate further consideration of the application as the provision of protection for these endangered species, as the country is obliged to do by European and National law, and the granting of construction permission are diametrically opposed. In addition to Annex 1 species, other endangered birds such as shoveler, wigeon, lapwing, golden plover, curlew, herring gull, and black headed gull are all present in good numbers over the Winter months and travel between the above water bodies and their shores.

A review of the literature on the impacts of wind farms on swans and geese by Eileen C Rees of the University of Cambridge found that 8 studies of flight behaviour all reported changes in flight- lines for swans and geese initially seen heading towards the turbines, at distances ranging from a few hundred metres to 5Km. As key knowledge gaps remain in area such as the long term effects of birds not returning to their wintering grounds, wastage of flight energy, effects of weather, wind farm size, cumulative effect of multiple wind farms, habituation, alignment of turbines all that can be ascertained at present is that the proposed construction will impact negatively on these Annex 1 species. The conservation status of these threatened species is such that any decision must apply the precautionary principle and err, as is required by law, on the side of their protection. The application of the law under the European Habitats Directive is obligatory and is not discretionary.

A study entitled "Bird displacement by wind turbines: Assessing current knowledge and recommendations for future studies" by Marques, Natalha and Bernardino reviewed 71 peer-reviewed studies on displacement and found that wind turbines can affect bird populations by causing collision mortalities and 40.6% of the studies found displacement effects. Causing deaths and displacing Annex 1 birds from their habitat is contrary to the provision of protection as legally required.

The 5 sightings of hen harriers, 4 of which were within 500m of proposed turbines is of National importance and should ring alarm bells in the minds of decision makers. The National hen harrier survey of 2015 found that there were only between 108 and 157 pairs remaining and when this survey was repeated in 2022 a further very significant decline to 85 to 106 pairs was recorded. This rare bird is vulnerable to being killed by wind turbines and the Government's own paper of 2024 entitled "Threat response plan for the hen harrier 2024-2028" identifies wind turbines as a threat to the survival of the species. Critically, this paper quotes the UCC (University College Cork) study of 2015 (Wilson et al) which states "the density of all bird species, including prey species for hen harrier, was lower at wind energy sites than control sites, and lower again close to turbines". There is a known Winter roost on Lough Corrib where they have also been recorded breeding. Research undertaken by UCC has shown that hen harriers will forage up to 11.4Km from their base and this plan to construct a towering industrial site in the nearby countryside places this long established roost in real jeopardy. National parks and Wildlife Service (NPWS) have recorded a number of hen harrier deaths directly by impacting turbine blades. It should be noted that records of mortalities are always very conservative as scavengers, such as the fox, are quick to learn that free meals of birds and bats are available at the base of these power plants.

What is thought to be the highest number of buzzards recorded in a single location in Galway was reported to Birdwatch Ireland from this area (Bunnahevna More) only a few years ago (April '20), when 12 were sighted together. This wonderful species is now recovering from extinction in Ireland which came about through human interference. Both this species and the hen harrier are especially vulnerable to being killed by blades impacting them from above while they look downwards focusing on the ground below them in search of prey.

Residents of 3 houses surrounding the proposed site, agreed between them to record whooper swans observed in flight transecting the proposed power plant area. Between 11th Oct '23 and 17th Feb '24 these incidental observations recorded 15 flights of flocks of up to 19 whooper swans flying through the area. Given that each of these observers is working away from home and that they could only casually observe a small part of the area for short periods, it is clear that large numbers of whooper swans transit the area on an ongoing basis for the 6 months of the year when these highly protected birds are in the area. Separate occasional counts were made of whooper swans and Greenland white fronted geese in turloughs and lakes on 32 different dates between 29th Oct '23 and 20th March '24 in the water bodies in the local vicinity. A total of 2,414 whooper swan sightings were recorded along with those of 64 Greenland white-fronted geese. The highest daily count was of 317 whooper swans. Tagging trials have shown that these birds consist of family groups which return to the same locality after their Icelandic breeding season. The planned construction would prove extremely damaging to this internationally endangered Annex 1 species, both through impact mortalities and disturbance.

As mentioned above whooper swans frequently fly in the dark between roosting and feeding areas. They are large heavy birds which often fly at low altitude and in straight lines and will undoubtedly be killed by these huge industrial turbines. MKO made no effort to record night flights within the area despite recording 198 whooper swans in the area between Oct. '23 and March '25. MKO also failed to provide collision risk assessments for whooper swans.

The NPWS have released 20 juvenile white tailed sea eagles on Lough Corrib over the last two years and I have had the pleasure of watching these birds on numerous occasions in different locations around the lake and at distances of several miles from the lake. Wind farm promoters in Donegal assured ABP that the chance of mortality through impact with turbines was minimal. The reality was very different when, in a short 8 months between Oct '24 and May '25 three eagles were illegally killed by turbines in the Killybegs and Inver areas. The indisputable evidence provided by the deaths of these birds is that the collision risk modelling in planning applications for windfarms is seriously flawed and should be rejected by planning authorities.

The quality of MKO's assessments and research is drawn into question where, on page 42, it is stated that while it is possible that dormouse are either known to occur at the site or are likely to occur at the site. There are no dormice in Ireland other than a tiny population which has been questionably introduced into Co. Kildare in recent times. When such blatant misinformation is presented as fact, it raises serious concerns about the quality of much of the submission which strangely, for a supposedly objective assessment, finds little negativity with the proposal. The submission could be perceived to be written from the perspective of a promoter rather than that of an independent assessor. It is strange that despite significant numbers of Annex 1 bird species in the area and despite the known and undisputed fact that wind turbines kill birds, those in the study area are, according to MKO, going to live a charmed life and in essence be unaffected by the installation of 185m structures, the blade tips of which move at astonishing speeds of up to 150mph. MKO's assessment stretches credibility beyond all reason. An Bord Pleanala must be seen to uphold environmental and biodiversity law and in line with Justice Humphrey's ruling must not allow "an application which is prohibited by law".

Dr. Peter Tyndall

Appendix B - Independent Expert Report on Software Validation

Validation of the WindFarm Software used by MKO for the Shadow Flicker Assessment for the Proposed Laurclavagh Renewable Energy Ltd., Co. Galway Development Strategic Infrastructure Development Case: An Coimisiún Pleanála PA07.319307

Statement of Authority

The independent expert assessment in relation to MKO's response to software validation, has been prepared by Kristina Fahy.

Kristina Fahy is a Senior Test Equipment Engineer with 20+ years of experience Validating machinery, equipment, and software.

Introduction

On 7 March 2025, *An Coimisiún Pleanála* issued a Further Information (FI) request for the Laurclavagh wind-farm application, specifically asking:

"Please confirm if the shadow flicker software utilised in the EIAR has been validated."

On 5 September 2025, MKO submitted their response. However, their response **fails to provide any evidence of validation** for the shadow-flicker modelling.

This report outlines why MKO's submission cannot be considered legally or scientifically adequate.

1. **Deficiencies in Shadow-Flicker Modelling – Absence of Software Validation**
   1.1. No Evidence of Validation Provided

   MKO's response included only:

   - A general description of the WindFarm/WindPro software,
   - A statement that the software is commercially available, and
   - A list of organisations that also use the software.

   As a result, the modelling cannot be regarded as scientifically valid or reliable.

2. **Non-Compliance with EPA EIAR Guidelines (2022)**

   The **EPA Guidelines on the Information to be Contained in EIAR (2022)** set out specific requirements for modelling to be:

   - **Transparent**,
   - **Reproducible**, and
   - **Supported by verifiable evidence**.

MKO's submission does not meet these guidelines. The failure to disclose crucial modelling inputs and validation data means that the shadow-flicker assessment is not transparent, and the modelling cannot be independently tested or reproduced. Therefore, it does not meet the required scientific rigor and cannot be used as a reliable basis for decision-making.

3. Inconsistency with the Galway County Development Plan (2022–2028)

The Galway County Development Plan requires that developments:

- Utilise evidence-based and transparent methodologies,
- Demonstrate that environmental impacts are accurately and reliably assessed, and
- Protect residential amenity and quality of life.

MKO's failure to provide validated shadow-flicker modelling contradicts these objectives. Without **reliable evidence** of predicted shadow-flicker effects, the assessment cannot assure that impacts on residents are accurately assessed or mitigated, particularly for those living within **1 km** of the proposed turbines.

4. Lack of Transparency – Omission of Essential Inputs and Assumptions

MKO's submission failed to provide:

- Software settings or configurations,
- Input datasets,
- Sensitivity or uncertainty analysis, and
- Disclosure of model limitations or assumptions.

The **EPA (2022)** requires that these factors be explicitly disclosed. The omission of this information prevents both independent scrutiny and meaningful participation from affected parties, thereby breaching procedural transparency requirements.

5. Prior Usage of the Software Is Not Validation

MKO argues that the software is "commonly used," but simply listing other users does not constitute validation. As noted in the UK Department of Energy & Climate Change's 2011/2016 report, prior use does not guarantee accuracy. The report found:

- No standardised modelling protocol,
- High variability in results even among consultants using the same software,
- Significant sensitivity to model parameters.

Therefore, independent validation is critical, and the absence of this in MKO's response renders the modelling scientifically and legally inadequate.

6. Breach of the Aarhus Convention – Procedural Environmental Rights

Ireland is a party to the UNECE Aarhus Convention, which guarantees:

1. Access to environmental information (Article 4),
2. Public participation in decision-making (Article 6), and
3. Access to justice in environmental matters (Article 9).

By submitting unvalidated modelling, MKO withholds crucial information needed for the public to assess the environmental effects of the proposed development, thereby violating the public's procedural rights under the Aarhus Convention. Specifically:

- **Article 4**: The public is not provided with accurate data, access to modelling files including validation evidence or independent assessments
- **Article 6**: Public participation is hindered by incomplete modelling data,
- **Article 9**: Citizens are denied the opportunity to challenge a decision based on incomplete or unverifiable environmental information.

The failure to meet these requirements renders the EIAR **procedurally flawed** and **unlawful**.

7. Irish High Court Precedent – Requirement for Verifiable Modelling

The Irish High Court, in Sweetman v An Bord Pleanála & Bord na Móna Powergen Ltd [2021 IEHC 390], reinforced that:

- Developers must provide detailed, specific, and verifiable technical assessments,
- Ambiguous or unsubstantiated modelling is unacceptable, and
- The Board must base decisions on evidence-based, scrutinise-able material.

MKO's failure to provide validated modelling, disclose assumptions, or provide sufficient detail for independent scrutiny directly contradicts this legal precedent. Consequently, An Coimisiún Pleanála cannot lawfully rely on the submitted shadow-flicker assessment.

8. Risk to Residents Within ~1 km of Proposed Turbines

Without validated modelling:

- Actual flicker exposure could be significantly underestimated,
- The predicted flicker hours and intensity may be inaccurate, and
- Nearby residents could face avoidable nuisance and loss of amenity.

The Lawrence Berkeley National Laboratory (2021) found that modelled flicker hours often poorly correlate with actual human-reported annoyance, highlighting the limitations of modelling without real-world validation. The unvalidated model provided by MKO cannot accurately predict the actual community impact.

9. Combined Legal and Scientific Failures

The following authoritative sources highlight the mandatory standards for environmental modelling:

- **EPA Guidelines (2022)** – Require transparency and reproducibility,
- **EU EIA Directive 2014/52/EU** – Requires complete and accurate scientific information,
- **Aarhus Convention** – Guarantees access to information and public participation,
- **DECC (2011/2016)** – Highlights the variability and risks of unvalidated modelling,
- **LBNL (2021)** – Demonstrates the unreliability of modelled flicker predictions without validation,
- **Irish High Court (Sweetman, 2021)** – Demands detailed, verifiable modelling.

MKO's submission meets **none** of these rigorous requirements, and as such, cannot be relied upon for lawful decision-making.

Conclusion

The WindFarm/WindPro modelling tool is not a measurement instrument; its outputs are highly dependent on the assumptions, data inputs, and parameters selected. MKO's failure to:

- Provide any validation data,
- Disclose modelling inputs and assumptions,
- Offer uncertainty or sensitivity analysis, and
- Present real-world verification of the predictions,

renders the shadow-flicker assessment **scientifically unreliable**, **procedurally deficient**, and **legally non-compliant**.

Therefore, An Coimisiún Pleanála cannot lawfully rely on the submitted shadow-flicker modelling and must refuse the application.

Kristina Fahy 26 Nov 2025

Kristina Fahy

References

Department of Energy & Climate Change (DECC). (2011). *Update of UK Shadow Flicker Evidence Base*. Department of Energy & Climate Change, UK.

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European Union (EU). (2014). *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*. Official Journal of the European Union.

Galway County Council. (2022). *Galway County Development Plan 2022–2028*. Galway County Council.

Lawrence Berkeley National Laboratory (LBNL). (2021). *The Impact of Shadow Flicker on the Community: A Review of the Literature and Field Studies*. Lawrence Berkeley National Laboratory.

MKO. (2025). *Further Information Submission for the Laurclavagh Wind Farm Application*. Submission to An Coimisiún Pleanála, 5 September 2025.

Sweetman v An Bord Pleanála & Bord na Móna Powergen Ltd [2021 IEHC 390]. Irish High Court. Judgment delivered on 24 November 2021.

UNECE (United Nations Economic Commission for Europe). (1998). *Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters*. United Nations.

Appendix C – North Galway Foxhounds Letter of Objection

NORTH GALWAY FOXHOUNDS

We the North Galway Hunt Wish to object to the Laurclavagh Wind farms, We have been using this Particular beautiful and Unique biodiversity area for many years, up to 60 participants come from around the Country to enjoy this recreational but Culture activity, many off the participants are young and Inexperienced Riders and the remote Location off Laurclavagh is ideal training ground for learning, The turbines would prevent us from using this facility Where the Farmers have always given us passage, We enter Laurclavagh From Kilcuilt and exit at Castlehackett School, Insurance would be a problem and we dont believe, We Could get Participants that we now have We urge on bord Pleanla to Refuse this Application

Yours faithfully,

Gerard O' Brien

Mr. Gerard O'Brien
Chairman of the North Galway Foxhounds
(087) 2798516

Appendix D – Petition of Objection to Grid Connection

Petition D1

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We Sheila O'Grady **of** Killaclare **own the lands to the centre of the N83 & our Folio GY** H54 RR64 **includes this area. We own this area in Fee Simple.**

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

Signed Sheila O'Grady 087 65 76 859

Date 26.11.2025

Signed.....

Date.....

Witnessed.....

Date.....

Petition D2

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We P J + DELLA LAWLESS **of** Cloonmore **own the lands to the centre of the N83 & our Folio GY ..... includes this area. We own this area in Fee Simple.**

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

Signed P J. Lawless H54Y489.

Date 26/11/25.

Signed Della Lawless 093-28493.

Date 26/11/25

Witnessed.....

Date.....

Petition D3

ENERCO

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We Seamus O'Reilly of Killelane own the lands to the centre of the N83 & our Folio GY ..... includes this area. We own this area in Fee Simple. HS4RV05

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

Signed.....

Date 26-11-25

Signed.....

Date 26-11-25

Witnessed.....

Date.....

Petition D4

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We Breege Cooley **of** Cloonmore **own the lands to the centre of the N83 & our Folio GY** 454TP 59 **includes this area. We own this area in Fee Simple.**

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

Signed Breege Cooley 087614452C

Date 26/11/2025

Signed..

Date..

Witnessed..

Date..

Petition D5

L 6141

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We M Mangan L 8741 **of** Clonascragh **own the lands to the centre of the [redacted] & our Folio GY ..... includes this area. We own this area in Fee Simple.**

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

Signed. M Mangan H54 H83 0863944844

Date. 26.11.25

Signed. B Mangan 0851947669

Date 26 11 2025

Witnessed.....

Date.....

Petition D6

L 6141

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We ...EMMA DONNELLAN........ of CLOONTHUE......own the lands to the centre of the [redacted] L 6141 & our Folio GY H54 K45P .... includes this area. We own this area in Fee Simple.

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

Signed Emma Donnellan..........

Date 26-11-25.......................

Signed Niall Mcloughlin..........

Date 26-11-25.......................

Witnessed..

Date...

Petition D7

L. 6141

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We MARTIN CONWAY **of** Clonascragh. **own the lands to the centre of the N83 & our Folio GY** L6141 **includes this area. We own this area in Fee Simple.** HG4CD92

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

085 8438430

Signed... Martin Conway ...

Date.....

Signed.....

Date.....

Witnessed.....

Date.....

Petition D8

L 6141

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We Gerard Brady .... of Cloonascragh H54 ... GY own the lands to the centre of the N83 & our Folio GY L6141 .... includes this area. We own this area in Fee Simple.

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

Signed Gerard Brady

Date 26/11/23

Signed Eleanor Brady

Date 26/11/23

Witnessed...

Date..

Petition D9

L 6141.

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We Martin Noone **of** Cloonhue **own the lands to the centre of the** ~~N83~~ **& our Folio** ~~GY~~ L 6141 **..... includes this area. We own this area in Fee Simple.** H54 AR46

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

Signed Martin Noone 087 9421394

Date 26/11/2025

Signed Niamh Noone

Date 26/11/2025

Witnessed.....

Date.....

Petition D10

L 6141.

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We John Kelly L 6141 **of** Cloonthue **own the lands to the centre of the [redacted] & our Folio GY .... includes this area. We own this area in Fee Simple.** H54 DY45

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

Signed John Kelly

Date 26/11/25

0876152058

Signed..

Date..

Witnessed..

Date..

Petition D11

L6141

AN BORD PLEANALA CASE NUMBER 319307

N83 LANDOWNER OBJECTION

I/We Marcus Donellan (L6141) of Cloonthue own the lands to the centre of the [redacted] & our Folio GY (H54N504) ..... includes this area. We own this area in Fee Simple.

I/We object to any person or company laying services on our property without our permission.

The applicant for the proposed windfarm has no interest in our lands, but indicates that he/she intends to lay cables on our property without our permission & this constitutes trespass.

Signed Marcus Donellan 0868623620.

Date 26.11.2025.

Signed.....

Date.....

Witnessed.....

Date.....

Appendix E - The 110KVA line from Clough to Cloone in Tuam

***Photo I** – The 110KVA line from Clough to Cloone in Tuam.*

NOTE: None of the undersigned residents was **notified of, consulted on, or otherwise made aware** that an electricity power line was proposed to be laid outside or adjacent to their respective properties. At no stage was consent sought or information provided to affected homeowners regarding the routing, installation, or long-term implications of such infrastructure.

Furthermore, the **N83 has been subject to successive widening and upgrading works over a number of years**, with the result that **no adequate buffer or protection zone has been retained** between the carriageway and adjoining residential properties. The placement of power lines within this constrained corridor would materially increase risk and represents a further erosion of residential amenity and safety.

In the absence of a clearly defined and protected setback, the installation of power lines in such proximity to family homes raises serious concerns regarding **public safety, future road works, maintenance access, and cumulative infrastructure encroachment**, all of which have occurred **without the knowledge or consent of the affected residents**.
