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AN COIMISIÚN PLEANÁLA
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Carhue,
Dundrum,
Co Tipperary.

20th May 2026

Observation on Proposed Carrow Wind Farm, Co. Tipperary and Co. Limerick
An Coimisiún Pleanála Reference: PAX91.324164

Dear Sir/Madam,

Please find enclosed our formal observations and objection in relation to the proposed Carrow Wind Farm development.

We respectfully submit that the concerns raised within our observation are substantial, evidence-based, and grounded in detailed review of the Environmental Impact Assessment Report (EIAR), Natura Impact Statement (NIS), and associated planning documentation. The issues identified raise serious concerns regarding the potential impacts of the proposed development on residential amenity, our equine enterprise, the receiving environment, and protected ecological receptors.

Our submission identifies significant deficiencies, omissions and inconsistencies within the EIAR and NIS, including concerns relating to:

- biodiversity and ornithology assessment,
- ecological connectivity,
- cumulative impacts,
- noise and residential amenity,
- impacts on an established and registered equine enterprise,
- compliance with current environmental assessment standards,
- and continued reliance on the 2006 Wind Energy Development Guidelines notwithstanding the substantial evolution in turbine scale, scientific understanding and environmental assessment practice since their publication.

We further submit that there are significant inadequacies in the assessment of impacts on our property and surrounding environment, which materially undermine the robustness of the conclusions reached by the applicant.

We wish to emphasise that our concerns are not speculative in nature, but arise from the exceptional proximity of multiple industrial-scale turbines to our residential and equine

holding, and from the potential long-term implications for the continued functional use of the property and enterprise.

In that regard, we respectfully request that the Board does not attach undue weight to the fact that our planning application for a permanent residence has not yet been submitted. Our occupancy and established use of the lands are genuine, ongoing, and intrinsically linked to our livelihood and day-to-day equine operations.

Having regard to:

- the deficiencies identified within the EIAR and NIS,
- the uncertainty surrounding ecological and residential impacts,
- the precautionary principle,
- the concerns identified within the Chief Executive's Report,
- and the potential implications for residential amenity, protected species and environmental integrity,

We respectfully submit that the proposed development has not demonstrated the level of environmental certainty and compatibility required under Irish and European planning and environmental law.

Accordingly, we respectfully request that the Board give full and careful consideration to the matters raised within our submission in determining this application.

We thank the Board for its consideration of our observations.

Yours sincerely,

Orlagh Holohan

Andrew Holohan

Observation on Proposed Carrow Wind Farm, Co. Tipperary and Co. Limerick

An Coimisiún Pleanála Reference: PAX91.3241

Table of Contents

Section 1 – Background and Nature of the Equine Facility

We purchased the property in August 2025 due to the equine facilities already onsite with the intention of establishing a long-term equine training enterprise alongside our family home. The property extends to approximately 16.5 acres and includes substantial equine infrastructure comprising 24 stables, barns, gallops, horse walker, sand arena, feed and storage facilities.

I have over 30 year's experience working with racehorses and thoroughbreds and hold an MSc in Environmental Science. I returned to the racing industry on a full-time basis more than 15 years ago following an earlier career in the environmental sector. The property was specifically selected due to its suitability for equine training purposes and its quiet rural environment, which is important for the safe handling and management of high-performance thoroughbred horses.

Since acquiring the property, significant financial investment and physical works have been undertaken to restore and improve the facilities to the standards required by various Departments. The premises constitutes an established registered equine facility and is directly adjacent to the proposed development. Turbine T01 would be located in exceptionally close proximity to the property, with the nearest point of the residential curtilage approximately 265m distant, the closest section of the gallop approximately 291m distant, and associated equine infrastructure, including barns and arena areas, approximately 580m distant. A second turbine, T12, would also be located in close proximity to the holding, at approximately 585m from the residential curtilage and approximately 610m from associated equine infrastructure.

Thoroughbred horses are highly sensitive animals with acute hearing and strong flight instincts. Maintaining a calm, stable, and predictable environment is an essential aspect of equine welfare, rider safety, and effective training operations. Sudden or persistent disturbance can create elevated risks for both horses and riders, particularly within training environments where animals are exercised daily in close proximity to infrastructure.

Given the proximity of Turbine T01 to the property, we are concerned that the potential impacts on equine welfare, rider safety, residential amenity, and the long-term operational viability of the premises do not appear to have been fully assessed within the EIAR documentation.

Section 2 – Proposed Development

EIAR Chapter 4 states that the proposed development comprises 14 industrial-scale wind turbines with a tip height of 185m, rotor diameter of 163m and hub height of 103.5m. For context, the Spire of Dublin is approximately 121m high. The proposed turbines would therefore exceed one of Ireland's most recognisable structures by more than 60m and would also be substantially larger than the existing Glencarbry Wind Farm turbines, which are approximately 135–140m in height.

The Wind Energy Development Guidelines for Planning Authorities (2006) were prepared at a time when turbine dimensions were materially smaller than those now proposed. This is reflected in the Draft Revised Wind Energy Development Guidelines (2019), which proposed a residential setback distance of four times turbine tip height, subject to a minimum of 500m. For a 185m turbine, this equates to approximately 740m.

The proposed turbines would be located at the following approximate distances from our residential and equine holding:

- **T01:** 265m from residential curtilage, 291m from the gallops, 580m from barns and equine infrastructure, and 735m from the farthest boundary of the holding;
- **T12:** 585m from residential curtilage, 610m from equine infrastructure, and 715m from the holding boundary;
- **T10:** approximately 823m from the holding;
- **T03:** approximately 870m from the holding.

These distances are derived from EIAR mapping and Irish Grid Finder measurements.

Accordingly, both T01 and T12 fall within the 740m separation distance arising from the Draft Revised Wind Energy Development Guidelines (2019). While the Draft Guidelines specifically refer to residential curtilage, the operational reality is that the proposed turbines would directly affect the entirety of an established residential and equine-training environment, including gallops, paddocks, barns, turnout areas and daily outdoor working activities.

Although the 2019 Guidelines remain in draft form, they nevertheless represent a clear policy acknowledgement that the separation distances and assumptions underpinning the 2006 Guidelines may no longer provide adequate protection in the context of modern industrial-scale turbines.

The central issue is therefore not simply technical compliance with older guidance documents, but whether turbines of this scale can reasonably be regarded as compatible with the

continued functional use of an occupied residence and established equine enterprise at such exceptional proximity.

The EIAR places significant reliance on landscape screening, ETSU noise compliance and conclusions that impacts are "*not significant.*" However, partial screening does not eliminate blade movement, motion effects or aviation lighting visibility. Similarly, compliance with fixed ETSU thresholds does not preclude adverse effects on residential amenity or wellbeing in unusually exposed circumstances.

In this regard, Marshall Day Acoustics, *Examination of the Significance of Noise in Relation to Onshore Wind Farms* (SEAI, 2013), recognised that increasing turbine height may be associated with greater noise impacts and that increased setback distances can provide important mitigation benefits. Environmental-noise guidance from the World Health Organization also recognises that annoyance, sleep disturbance and stress effects may arise below formal regulatory thresholds.

The proposed development would introduce four industrial-scale turbines at distances ranging from approximately 265m to 870m from the holding, fundamentally altering the character, amenity and operational environment of what is currently a quiet rural residential and equine setting. The combined visual, acoustic, shadow flicker and operational impacts would create a substantial and long-term industrial presence within the holding.

We are not opposed to renewable energy and recognise its national importance. However, national renewable-energy policy cannot reasonably justify the siting of a 185m industrial turbine approximately 265m from an occupied residential curtilage and approximately 291m from an established equine-training gallop.

It has been suggested that the residence could be relocated elsewhere within the property. That suggestion is neither practical nor realistic. The alternative lands identified form part of the operational paddock and turnout system essential to the viability of the equine enterprise. In any event, relocating a dwelling would not relocate the gallops, paddocks, stables, turnout areas or wider training operation itself. The issue is not confined to a single house, but concerns the compatibility of multiple industrial-scale turbines with the continued operation of an established residential and equine-working environment at exceptionally close proximity.

Section 2.1 Reasonable Alternatives

EIAR 3.2.3 *"Alternative Site Locations To ensure that the Levelised Costs of building each Megawatt of electricity-generating capacity on a wind farm is controlled efficiently, it is incumbent on the design team to ensure that the most suitable site for development of a wind farm development is chosen. The process of identifying a suitable wind farm site is influenced*

by a number of factors, while wind speeds, the area of suitable or available land, proximity to a grid connection point and planning policy are all very important, a wind farm project must be commercially viable/competitive, as otherwise it will never attract the necessary project finance required to build it".

EIAR Chapter 3 places significant emphasis on wind speeds, land availability, grid proximity and commercial viability in the site-selection process. While these are relevant considerations, the assessment appears insufficiently balanced when considered against:

- the Wind Energy Development Guidelines for Planning Authorities (2006),
- the Draft Revised Wind Energy Development Guidelines (2019),
- current EIA best practice,
- and the requirements of the EIA Directive concerning objective consideration of reasonable alternatives.

Under Article 5 of the EIA Directive, an EIAR must include:

"a description of the reasonable alternatives studied by the developer which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for the option chosen."

The alternatives assessment appears primarily directed toward justifying the preferred development rather than demonstrating that materially less environmentally damaging options were objectively and rigorously examined.

2.1.1 Reliance on Mitigation Rather than Environmental Avoidance

The EIAR repeatedly refers to "mitigation by design" and iterative layout refinement. However, the assessment does not adequately demonstrate that environmentally preferable alternatives were meaningfully assessed at the outset of the design process, including:

- reduced turbine numbers,
- smaller turbine models or reduced turbine heights,
- increased setback distances from sensitive receptors,
- alternative turbine layouts or spatial configurations,
- or avoidance of environmentally sensitive areas and residential/equine receptors where possible.

Instead, the assessment appears primarily focused on optimisation of energy yield and retention of turbine numbers, with environmental impacts subsequently addressed through mitigation measures.

This concern was reinforced during discussions with the developer and MKO representatives on 29 January 2026 at our property. Concerns were raised regarding the proximity of the proposed development to our residence and equine enterprise, including whether alternative layouts, increased setbacks, reduced turbine numbers or alternative configurations had been considered within the wider project landholding. The response provided was that no alternative locations were available. No meaningful evidence-based explanation was provided as to why alternative layouts or reduced-scale options could not be considered.

This interaction reinforced the impression that turbine numbers and project output had effectively become fixed design parameters at an early stage, thereby constraining genuine consideration of environmentally preferable alternatives.

Such an approach appears inconsistent with:

- the mitigation hierarchy,
- current EIA best practice,
- and evolving Irish planning policy, which places increasing emphasis on early-stage environmental avoidance rather than post-design mitigation.

2.1.2 Inadequate Assessment of Turbine Scale, Setbacks and Receiving Environment

EIAR 3.2.5.1 states that the proposed turbines will have a blade-tip height of 185 metres and concludes that smaller turbines would not be appropriate. However, the assessment appears limited to comparing a larger number of smaller turbines against the selected larger turbine model.

The EIAR does not appear to provide meaningful comparative assessment of:

- materially reduced turbine numbers,
- increased separation distances from sensitive receptors,
- reduced turbine heights,
- or alternative spatial configurations capable of reducing impacts on residential amenity, ecology and established rural land uses.

This is particularly significant given that modern turbine dimensions materially exceed those contemplated under earlier guidance documents and give rise to materially different visual, noise, shadow flicker and landscape effects.

The receiving environment in this case comprises an integrated sensitive rural setting including:

- permanent residential occupation,
- equine activity,
- outdoor working activity,
- ecological sensitivity,
- and established rural enterprise.

While EIAR 3.2.5.2.1 refers to a minimum 740-metre setback from third-party sensitive receptors, the alternatives assessment does not adequately examine whether greater setbacks, alternative layouts or reduced-scale development could avoid or materially reduce conflict with this sensitive receiving environment.

This omission is particularly significant having regard to the known sensitivity of equine activity to turbine movement, shadow flicker, low-frequency noise, construction disturbance and visual stimuli.

Accordingly, the assessment does not adequately demonstrate that the selected turbine scale and layout represent the least environmentally harmful option reasonably available.

2.1.3 Environmental Constraints and Cumulative Effects

Best-practice alternatives assessment requires environmental constraints to fundamentally inform site selection from the outset. However, the EIAR appears to rely heavily on post-design mitigation rather than demonstrating that the site and layout selected were environmentally optimal.

The assessment does not adequately demonstrate how the following constraints informed site selection and layout design:

- protected species sensitivity,
- Hen Harrier activity,
- ecological connectivity,
- peatland hydrology,
- groundwater vulnerability,
- sensitive residential receptors,
- or cumulative landscape pressure.

Similarly, insufficient consideration appears to have been given to cumulative landscape saturation, including:

- cumulative wind farm development,
- landscape industrialisation,
- ecological fragmentation,

- and long-term transformation of upland rural character.

This approach appears difficult to reconcile with current best practice in cumulative assessment and evolving landscape-sensitive planning practice for wind-energy development.

2.1.4 Inadequate Consideration of the "Do Nothing" Alternative

While EIAR Chapter 3 assesses a "Do Nothing" scenario, the analysis appears primarily focused on national renewable-energy targets and the benefits of renewable-energy generation.

Insufficient consideration appears to have been given to:

- the environmental value of the existing receiving environment,
- ecological functionality,
- rural landscape sensitivity,
- established residential and equine land uses,
- and avoidance of irreversible ecological fragmentation.

The existence of renewable-energy policy objectives does not negate the requirement for balanced consideration of environmental harm, land-use compatibility, ecological sensitivity and proportionality.

2.1.5 Conclusion on Alternatives

Taken cumulatively, the alternatives assessment appears narrowly framed and insufficiently precautionary. The EIAR does not adequately demonstrate that:

- environmental constraints fundamentally informed project design,
- materially less environmentally damaging alternatives were rigorously assessed,
- environmental avoidance was prioritised over post-design mitigation,
- or the selected proposal represents the least environmentally harmful option reasonably available.

In particular, insufficient evidence has been provided to demonstrate that sensitive receptors — including a residence and equine-training establishment located approximately 280 metres from a proposed turbine — were adequately considered during the alternatives and layout-design process.

Accordingly, significant doubt remains as to whether the EIAR satisfies the requirements of the EIA Directive concerning genuine and objective consideration of reasonable alternatives, or provides a sufficiently robust basis upon which the Coimisiún can conclude that the

proposed development represents the most appropriate and environmentally acceptable option.

Section 3 Biodiversity and Ornithology

This submission raises substantial concerns regarding the adequacy, robustness and legal compliance of the Biodiversity and Ornithology assessments contained within Chapters 6 and 7 of the Environmental Impact Assessment Report (EIAR) and the associated Natura Impact Statement (NIS) submitted in support of the proposed Carrow Wind Farm development.

The submitted ecological assessments appear inconsistent with:

- the Wind Energy Development Guidelines for Planning Authorities (2006),
- evolving Irish wind-energy planning policy and environmental assessment practice,
- guidance published by the National Parks and Wildlife Service (NPWS),
- the requirements of the EU Habitats Directive and Birds Directive,
- and established Article 6 Appropriate Assessment jurisprudence.

Taken cumulatively, the deficiencies identified raise significant doubt as to whether the competent authority can lawfully conclude, beyond reasonable scientific doubt, that the proposed development would avoid adverse effects on protected species, ecological functionality and connectivity, and the integrity of the wider ecological network.

3.1. Failure to Properly Apply the Mitigation Hierarchy

Current Irish and European environmental assessment practice requires strict adherence to the mitigation hierarchy whereby ecological impacts must first be avoided, then minimised, and only thereafter mitigated.

The submitted EIAR appears to place significant reliance on mitigation measures and post-construction management rather than first demonstrating avoidance and minimisation of ecological effects.

In particular, the EIAR does not adequately demonstrate:

- meaningful assessment of environmentally preferable layouts,
- avoidance of ecologically sensitive areas,
- minimisation of ecological impacts prior to reliance on mitigation,
- or a transparent ecological constraints mapping exercise informing project design.

This approach is difficult to reconcile with the precautionary and evidence-based standard required under Article 6 of the Habitats Directive.

3.2 Inadequate Assessment of Habitat Fragmentation and Hydro-Ecological Effects

The Biodiversity Chapter focuses predominantly on direct habitat loss while significantly underestimating broader ecological effects arising from:

- turbine hardstands,
- internal road construction,
- drainage networks,
- cable trenching,
- forestry restructuring,
- hydrological alteration,
- and long-term habitat fragmentation.

While Chapters 8 and 9 contain substantial technical information regarding soils, geology, hydrology and hydrogeology, the EIAR does not clearly demonstrate how the biodiversity, hydrology, hydrogeology and peat assessments were integrated into a single hydro-ecological assessment framework addressing:

- peatland functionality,
- habitat connectivity,
- groundwater dependent terrestrial ecosystems (GWDTEs),
- hydrological continuity,
- and downstream ecological impacts.

For example, 8.1.1 states *"only direct effects on land, soils and geology within the Site are expected with regard the Proposed Project works (i.e. no off-site indirect effects or cumulative effects are anticipated)"*

This conclusion does not appear to adequately account for the fact that peatland and upland hydrological systems are inherently interconnected and that indirect downstream hydro-ecological effects are a recognised risk associated with wind farm development.

The assessment focuses excessively on direct land-take while insufficiently evaluating indirect ecological degradation arising from hydrological alteration, habitat fragmentation, drainage impacts and the long-term functional isolation of upland habitats.

3.3 Failure to Adequately Assess Protected Species

The EIAR and associated NIS appear deficient in their assessment of protected fauna known to inhabit or utilise lands immediately adjacent to the proposed turbine locations.

The submitted ecological assessment does not adequately recognise or assess the ecological sensitivity of:

- Pine Marten,
- Irish Hare,
- breeding Buzzard,
- bat activity regularly observed within the receiving environment,
- and Hen Harrier.

Protected fauna including Pine Marten, Irish Hare, Buzzard, bat activity and Hen Harrier have been observed within the receiving environment surrounding proposed Turbine T01.

The Wildlife Act 1976 (as amended) provides explicit legal protection for protected fauna and prohibits the destruction of nests and disturbance of breeding birds.

Section 22 of the Wildlife Act specifically prohibits disturbance of birds on or near nests containing eggs or dependent young.

Despite these statutory protections, the EIAR does not adequately evaluate:

- disturbance impacts,
- habitat displacement,
- collision risk,
- barrier effects,
- or cumulative ecological impacts on these protected species.

The bat assessment does not appear to provide sufficient detail regarding commuting routes, foraging habitat, seasonal activity variation, turbine collision risk or operational curtailment thresholds, notwithstanding that current NPWS guidance and accepted ecological practice require detailed assessment of these matters.

3.4 Inadequate Assessment of Hen Harrier and Annex I Bird Species

The treatment of Hen Harrier within Chapter 7 raises particularly serious concerns.

The EIAR 7.3.8.2 states ; *"Hen Harrier were observed in the winter and breeding season. ..... **Of these, three were within 500m of the proposed turbine locations... An individual was observed carrying prey in June 2021 within the Proposed Wind Farm site, approximately***

100m from the nearest proposed turbine. ... there were only three observations of hen harrier during the two breeding seasons surveyed .....The remaining observations were of individuals hunting or commuting and were all within, or partially within the Proposed Wind Farm site. Of these, three were during the core breeding season (April to July) ... It is assumed that this bird is associated with the known nest north of the Proposed Wind Farm site ."

The EIAR explicitly acknowledges that the Hen Harrier were observed during both wintering and breeding season surveys, including:

- observations within 500 metres of proposed turbine locations,
- and an individual carrying prey within approximately 100 metres of a proposed turbine during June 2021.

Table 7-10 distinguishes between wintering and breeding-season Hen Harrier, excluding wintering Hen Harrier as a KOR while including breeding-season Hen Harrier due to acknowledged hunting activity, observations within 500 metres of turbine locations, and identified collision and disturbance pathways.

The exclusion of wintering Hen Harrier as a KOR is particularly difficult to reconcile with the EIAR's own survey data and ecological findings identifying:

- the acknowledged existence of a known nesting site north of the development area, observations within 500 metres of proposed turbine locations,
- foraging and commuting behaviour within the development footprint,
- and prey-carrying behaviour within approximately 100 metres of proposed turbine infrastructure,
- when considered alongside the severe national decline of the species.

According to BirdWatch Ireland and the 2022 National Hen Harrier Survey published by the National Parks and Wildlife Service:

- national Hen Harrier populations have declined by approximately 59% since the first national survey,
- SPA populations have declined by over 50% since designation,
- and the species may face national extinction within approximately 25 years if current trends continue.

The EIAR appears to place significant weight on the relatively limited number of observations recorded during surveys. However, limited survey observations do not necessarily exclude ecological significance in circumstances where the species is undergoing severe national population decline and where suitable habitat, nearby nesting activity and recorded foraging behaviour within the development area are all acknowledged.

In such circumstances, a highly precautionary and evidence-led assessment approach is required.

These concerns are reinforced by the April 2026 Chief Executive's Report of Tipperary County Council, which stated that the NIS and EIAR underestimated:"*By dismissing prey supported habitat and downplaying acknowledged pathways for displacement and collision, the NIS & EIAR underestimate the role of the site in maintaining the ecological functionality, connectivity and resilience of the SPA.*"

This represents a substantive criticism of the ecological assessment and raises substantial doubt regarding the conclusions reached by the applicant in relation to Hen Harrier activity, ecological functionality and SPA resilience.

Insufficient consideration appears to have been given to:

- displacement effects,
- cumulative disturbance pressures,
- ecological functionality and connectivity,
- and the role of the site in supporting the ecological functionality, connectivity and integrity of the wider SPA network.

Accordingly, the assessment methodology adopted within the EIAR and NIS does not appear sufficient to exclude adverse ecological effects beyond reasonable scientific doubt, as required under Article 6(3) jurisprudence.

3.5. Over-Reliance on Collision Risk Modelling

The Ornithology Chapter is dependent upon collision risk modelling while insufficiently addressing:

- behavioural displacement,
- habitat abandonment,
- barrier effects,
- cumulative disturbance,
- and functional habitat loss.

For sensitive upland bird species, disturbance and displacement effects may be ecologically more significant than direct collision mortality.

There is also insufficient clarity regarding:

- survey intensity,
- visibility correction methodology,

- confidence intervals,
- uncertainty analysis,
- and assumptions underpinning flight activity modelling.

Accordingly, the ornithological assessment does not provide a sufficiently robust evidential basis upon which adverse effects on protected bird species can be excluded beyond reasonable scientific doubt.

3.6 Inadequate Cumulative Impact Assessment

The cumulative ecological assessment is narrow and inconsistent with current best practice.

It remains unclear whether adequate consideration has been given to the cumulative impacts arising from:

- existing and permitted wind farms,
- forestry operations,
- electricity transmission infrastructure,
- habitat fragmentation trends,
- and cumulative disturbance pressures on protected species.

The absence of a robust landscape-scale cumulative assessment is particularly significant in the context of Hen Harrier ecology, upland habitat functionality and the resilience of the wider SPA ecological network.

3.7 Failure to Properly Apply the Precautionary Principle

The assessment methodology adopted throughout the EIAR and NIS appears inconsistent with established European and Irish legal principles requiring the absence of reasonable scientific doubt before adverse ecological effects can be excluded. Under established Article 6(3) jurisprudence, uncertainty regarding ecological effects must operate in favour of environmental protection rather than development consent.

This issue is particularly significant in relation to:

- Annex I bird species,
- SPA ecological functionality and connectivity,
- upland raptor habitat,
- species of heightened conservation concern.

The ecological assessment appears to rely excessively upon:

- limited survey observations,
- collision risk modelling,
- and assumptions regarding disturbance tolerance and habitat utilisation.

3.8 Over-Reliance on Future Monitoring and Adaptive Management

The EIAR places substantial reliance upon future monitoring and adaptive management measures despite:

- mitigation effectiveness not being fully demonstrated,
- monitoring thresholds lacking clarity,
- and adaptive management commitments remaining vague and non-specific.

Under established European case law, scientific uncertainty cannot lawfully be deferred to post-consent monitoring or future adaptive management measures. Mitigation measures relied upon to exclude significant adverse effects must be clearly defined, evidence-based, enforceable and scientifically demonstrated to be effective at the consent stage.

The submitted EIAR and NIS do not appear to satisfy this evidential standard.

3.9 Conclusion

Taken cumulatively, the identified deficiencies demonstrate a consistent tendency within the EIAR and NIS to minimise ecological sensitivity, rely upon mitigation and monitoring in circumstances of scientific uncertainty, and understate the functional ecological importance of the receiving environment.

Particular concern arises from:

- the treatment of recorded Hen Harrier activity,
- the exclusion of Hen Harrier as a Key Ornithological Receptor despite acknowledged breeding-season and foraging activity near proposed turbines,
- the limited assessment of ecological functionality and connectivity,
- the absence of robust assessment of displacement and cumulative disturbance effects,
- and the apparent underestimation of protected fauna sensitivity within the receiving environment.

Given:

- the acknowledged presence of Hen Harrier activity,

- nearby nesting association,
- the existence of additional protected fauna within the receiving environment,
- the national conservation status of Hen Harrier,
- and the concerns raised within the April 2026 Chief Executive's Report of Tipperary County Council.

It cannot reasonably be concluded, beyond reasonable scientific doubt, that the proposed development would not adversely affect protected species, ecological connectivity, SPA resilience, or the integrity of the wider ecological network.

Accordingly, the EIAR and NIS do not appear sufficient to satisfy the requirements of:

- the Habitats Directive, and Birds Directive,
- the Wildlife Acts,
- NPWS guidance,
- established Article 6, Irish and European environmental assessment requirements.

These deficiencies raise significant planning and legal concerns and may warrant either refusal of permission or the submission of substantial further ecological assessment and survey information prior to determination.

Section 4 – Water Supply and Groundwater Risk

Protection of private groundwater supplies is an important component of environmental assessment and planning decision-making.

4.1 Private Wells

The Environmental Protection Agency, EPA "*ensures protection of private wells through a combination of general Groundwater Protection Schemes and project-specific requirements mandated during the planning process. An Environmental Impact Assessment (EIA): Developers must identify all private wells within a certain radius (often 500m to 1km) and assess potential risks from piling, blasting, or excavation or significant ground disturbance may affect groundwater quality or supply*".

The EPA Groundwater Protection Responses for wind-energy developments emphasise the importance of conservative assessment where private groundwater supplies may be vulnerable to excavation, drainage alteration or construction-related contamination pathways.

EIAR 9.5.2.9 States *"The closest distance between a proposed turbine or borrow pit location and a downstream dwelling house (potential well) is >700m. In order to be conservative and following the worst-case assumption, we have assumed that all dwellings in the surrounding lands have a private groundwater well. 9-70 Carrow Wind Farm Ch 9 Hydrology and Hydrogeology F1 2026.03.24 - 231102 However, due to the relatively shallow nature of the deepest excavations (3.5 -8m), the hydrogeological regime and the >700m setback distance from potential wells, significant effects on private wells are unlikely".*

The Impact assessment states *"The elevation difference between turbine locations/borrow pit locations and downstream potential well locations (>50m).*

The existing well water supply serving both our current residence and the equine yard, which has been in established use for decades, is located approximately:

- 622m from T01; and
- 630m from T12.

The location identified for our proposed future residence on the holding is situated approximately:

- 280m from Turbine T01; and
- 647m from Turbine T12.

Accordingly, the existing groundwater supply serving the residence and equine facility appears to fall materially within the setback distances referenced in the EIAR's hydrogeological assessment. In addition, a proposed replacement residence would be located approximately 280m from Turbine T01 and would rely upon groundwater supply. The assessment's conclusion that significant effects are '*unlikely*' appears substantially dependent upon assumptions regarding setback distance, shallow excavation depth, hydrogeological conditions and elevation separation which may not fully reflect the specific circumstances of this property.

The calculated elevation differences between the proposed turbines and the existing groundwater receptor appear materially lower than the >50m elevation separations referenced within the EIAR hydrogeological assessment. (Figure 4)

- T01 to the existing groundwater supply serving the residence and equine yard: approx. 10.8m;
- T12 to the existing groundwater supply serving the residence and equine yard: approx. 15.3m.

  For context, the proposed replacement residence intended to rely upon the same groundwater supply would be located at elevation differences of approximately:
- 0.8m relative to T01; and

- 5.3m relative to T12.

Elevation differences were estimated using turbine coordinates derived from EIAR mapping together with receptor coordinates obtained from independent mapping sources and cross-referenced against publicly available topographical elevation data. The resulting elevation relationships appear materially different from the >50m elevation separations referenced within the EIAR hydrogeological assessment.

The EIAR does not appear to contain a detailed receptor-specific hydrogeological assessment of the long-established private well serving the residence and equine facility in proximity to Turbines T01 and T12. The assessment therefore appears to rely upon generalised setback distances and elevation separations which may not fully reflect the specific circumstances of nearby groundwater receptors.

4.2 Equine and Human Water Supply Sensitivity

Protection of the existing groundwater supply is critically important for both residential occupation and the continued operation of the equine-training establishment.

Racehorses are elite athletic animals with exceptionally high daily water requirements and are known to be highly sensitive to water quality, taste, odour, mineral balance, and contamination. Even relatively minor changes in water quality may affect hydration, feeding behaviour, gastrointestinal health, welfare, and athletic performance.

Any contamination event, sediment mobilisation, hydrocarbon ingress, interruption of supply, or alteration of groundwater quality arising from:

- excavation,
- blasting,
- spoil storage,
- concrete works,
- borrow pits,
- drainage alteration,
- or construction runoff

could therefore have serious consequences for both human and equine health and for the operation of the yard.

The absence of a detailed receptor-specific hydrogeological assessment is particularly significant given the property's reliance on the groundwater supply for both residential and equine use.

4.3 Absence of Clear Responsibility and Long-Term Protection

The EIAR does not clearly identify the proposed mechanisms for monitoring, remediation, continuity of supply or response measures in the event of groundwater contamination, reduced yield or supply disruption during construction, operation, maintenance, or decommissioning of the proposed wind farm.

No meaningful detail is provided regarding:

- baseline monitoring protocols,
- enforceable trigger thresholds,
- emergency replacement supply measures,
- independent testing arrangements,
- or long-term accountability.

This lack of clarity is particularly concerning given the property's reliance on private groundwater supply for residential and equine use, and the proximity of substantial excavation works to the well source. Although the EIAR concludes that significant effects are '*unlikely*', those conclusions appear to rely upon generalised setback assumptions and limited receptor-specific assessment.

Accordingly, the groundwater assessment appears insufficiently site-specific and does not provide a sufficiently robust evidential basis upon which potential impacts on the existing private groundwater supply can be excluded with confidence.

Section 5 – Population and Human Health

The Population and Human Health chapter of the EIAR relies heavily on the assumption that compliance with technical guidance and threshold limits automatically equates to the absence of significant health effects.

The assessment repeatedly concludes that:

- noise impacts are compliant,
- shadow flicker is controlled,
- water impacts are mitigated,
- traffic impacts are manageable,
- and construction impacts are temporary,

and therefore, significant health effects are not anticipated.

However, technical compliance does not automatically mean that significant health, wellbeing, or amenity impacts will not occur, particularly in an unusually exposed situation such as this where:

- a 185m turbine is proposed approximately 265m from the residential curtilage associated with the property, approximately 291m from an equine-training gallop, and approximately 580m from associated equine infrastructure;
- multiple turbines surround the holding;
- construction haul routes serve several turbines in close proximity; and
- a sensitive private groundwater supply is relied upon for both residential and equine use.

Where separation distances are unusually close, even relatively minor underperformance of mitigation measures may have disproportionately significant consequences for nearby residents and equine training facility.

The assessment appears to proceed on the basis that proposed mitigation measures will operate effectively throughout construction and operation.

5.1 Groundwater and Water Supply Health Risk

Section 5.10.2.2.2 *"There will be no significant effects on water quality during the construction phase of the Proposed Project."*

Elsewhere, Chapter 9.5 of the EIAR identifies potential pathways for groundwater contamination, sediment runoff, hydrocarbon pollution, excavation-related impacts, increased runoff, flooding risk, and construction-related hydrological disturbance.

Given the proximity of excavation and construction works to the existing private well supply, together with the potential for blasting, excavation, spoil movement, and altered groundwater pathways, the vulnerability of the water supply warrants far greater site-specific scrutiny than is provided within the EIAR.

This is particularly important given the reliance of both humans and high-value thoroughbred horses on the uninterrupted availability of clean groundwater at the property.

5.2 Failure to Assess Health and Wellbeing Effects

The EIAR primarily defines health impacts by reference to formal exceedance criteria and regulatory thresholds.

However, the likely residential and operational experience associated with a 185m industrial turbine located approximately 265m from the residential curtilage of an occupied dwelling

and approximately 291m from an equine-training gallop cannot be reduced solely to numerical compliance metrics. A population and human-health assessment requires consideration not only of numerical compliance, but also of the extent, duration, intensity and cumulative nature of human exposure within the receiving environment

Concerns regarding the proximity of the proposed turbines and haul infrastructure to the residence and equine yard were raised during community consultation and subsequent discussions with the developer on 29th January. In those circumstances, it is unclear whether the receiving environment was fully characterised within the baseline assessment informing the EIAR.

The assessment does not adequately evaluate the combined real-world effects arising from:

- visual dominance,
- continuous blade movement,
- nighttime turbine audibility,
- shadow flicker,
- construction disturbance,
- industrialisation of the rural landscape,
- prolonged loss of tranquillity,
- and the potential stress and wellbeing effects associated with continuous exposure.

These factors are directly relevant to:

- wellbeing,
- stress levels,
- sleep quality,
- peaceful enjoyment of property,
- and overall quality of life.

5.3 Cumulative Exposure

The EIAR assesses impacts across separate technical chapters and repeatedly concludes that individual effects are either *'compliant,' 'manageable,'* or *'temporary.*

However, the cumulative reality for a residence and racehorse training operation located approx. 265–280m from a 185m turbine and adjacent to a multi-turbine haul corridor is materially different. The combined and interacting effects of turbine operation, construction activity, haulage traffic, vibration, shadow flicker, and visual dominance would materially alter the character and amenity of the property.

The EIAR does not adequately assess the combined and interacting effects of these impacts on residential amenity, wellbeing, and the continued functional use of the property as a residential and equine-working environment. Such cumulative exposure would materially alter the character, amenity, and environmental conditions of the property.

5.4 Precautionary Principle and Emerging Evidence

The EIAR states *"While there are anecdotal reports of negative health effects on people who live very close to wind turbines, peer-reviewed research has not supported these statements."*

However, documented litigation, settlements, operational restrictions and nuisance findings associated with wind turbine developments indicate that predicted compliance at planning stage does not necessarily preclude significant operational impacts arising in practice.

A cautious and evidence-led assessment approach is particularly important where:

- turbine separation distances are unusually limited,
- exposure is prolonged,
- mitigation effectiveness is uncertain,
- and sensitive receptors are involved.

Several Irish and international cases demonstrate that turbine-related nuisance and amenity impacts can become sufficiently serious to result in litigation, settlements, operational restrictions, and court intervention.

In 2025 the High Court awarded damages and granted injunctive relief relating to operational impacts associated with the Gibbet Hill Wind Farm in County Wexford, including the shutdown of multiple turbines due to noise nuisance findings.

Additional disputes and legal proceedings relating to alleged turbine impacts have also arisen in both Ireland and internationally, including cases involving operational noise, shadow flicker and residential amenity impacts at setback distances substantially greater than those proposed in this instance. Appendix 2

These cases demonstrate that turbine-related amenity and nuisance disputes can arise notwithstanding predicted compliance assessments presented at planning stage.

While such disputes do not in themselves establish causation, they demonstrate that potential amenity impacts cannot be dismissed solely on the basis of predicted compliance assessments.

Given the exceptional proximity of Turbine T01 to the residential curtilage and equine-training facilities associated with the holding, together with the cumulative impacts identified throughout this submission, the Population and Human Health assessment does not appear to provide a sufficiently robust or site-specific evaluation of the likely effects on residential amenity, wellbeing, quality of life, and the continued operation of the equine enterprise.

Section 6 Noise and Vibration

There are significant concerns regarding the methodology, receptor selection, operational noise assessment and mitigation strategy adopted within the EIAR Noise and Vibration Chapter in respect of receptor H152 and the surrounding non-participating residential and equine holding.

The proposed development would place a 185m turbine (T01) approximately:

- 265m from the residential curtilage,
- 291m from horse gallops and equine-training areas,
- 580m from equine infrastructure,
- and approximately 735m from the wider holding boundary.

A further turbine (T12) is located approximately:

- 585m from the residential curtilage,
- 610m from equine infrastructure,
- and 715m from the holding boundary.

These are exceptionally close separation distances for modern industrial-scale turbines and give rise to serious concerns regarding residential amenity, equine welfare, operational noise intrusion and cumulative turbine dominance.

Section 6.1 Selection of Noise Receptor H152

The EIAR identifies receptor H152 and monitoring location "Site C" as a representative receptor in relation to T01. However, H152 is a participating landholding associated with the turbine development and is located approximately 739m from T01.

Under ETSU-R-97 assessment practice, participating properties are commonly treated differently due to turbine hosting arrangements. H152 does not represent the nearest or most sensitive independent receptor within the receiving environment.

This is particularly significant given that the nearest non-participating residential curtilage and equine holding are located substantially closer to T01 than H152 itself.

The EIAR further fails to adequately assess:

- the nearest non-participating residential curtilage approximately 265m from T01,
- the equine-training gallops approximately 291m from T01,
- and nearby independent dwellings subject to cumulative exposure from T12.

No adequate justification is provided for excluding the nearest and most sensitive non-participating receptors from receptor-specific assessment or baseline monitoring.

A participating receptor located approximately 739m from its associated turbine cannot reasonably be regarded as acoustically representative of a non-participating residential and equine receptor located approximately 265m from a 185m turbine.

Accordingly, the assessment is not sufficiently conservative or representative of the most sensitive receptors.

Section 6.2 ETSU-R-97 and Applicable Guidance

The EIAR relies primarily on ETSU-R-97 and the Wind Energy Development Guidelines 2006.

However, ETSU-R-97 was developed for substantially smaller turbine models and older turbine technology than the 185m turbines now proposed. The Draft Revised Wind Energy Development Guidelines 2019 expressly recognise limitations associated with the application of ETSU-R-97 to modern multi-MW turbines.

The Applicant therefore relies on older and less precautionary guidance rather than modern best-practice assessment standards.

This is particularly important because the EIAR itself acknowledges that predicted operational noise levels exceed adopted criteria at 49 receptor locations and that mitigation measures are required to achieve compliance.

The EIAR 12.6.2.1.1 states *"mitigation measures are required to reduce noise levels from the proposed turbines to within the criteria"* and further acknowledges that any curtailment strategy *"would have to be verified by the manufacturer based on the control and physical limitation of the turbine"*.

Accordingly, operational compliance is dependent upon future mitigation measures whose effectiveness remains uncertain.

Section 6.2.1 Predicted Noise Levels at H152

The EIAR demonstrates that the scheme operates acoustically extremely close to applicable ETSU thresholds.

Nearby receptors within the same receptor cluster are identified as exceeding daytime limits, while H152 itself appears either:

- marginally compliant,
- exactly at the criterion threshold,
- or marginally above applicable limits depending on wind speed and operational mode.

ETSU-R-97 treats even a 0.1 dB exceedance as a technical exceedance, yet the Applicant relies heavily on marginal compliance with permissive ETSU limits

The EIAR further demonstrates that ambient nighttime sound levels at H152 are exceptionally low:

Wind Speed	Existing Background	Predicted Turbine Noise
5 m/s	26.5 dB	approx. 40–43 dB
6 m/s	28.2 dB	approx. 40–43 dB
7 m/s	29.9 dB	approx. 40–43 dB

This represents increases of approximately 10–15 dB above existing nighttime ambient conditions.

A 10 dB increase is widely recognised as substantial and clearly perceptible.

Accordingly, even where nominal ETSU compliance is claimed, the proposed turbines would fundamentally alter the existing rural sound environment and introduce persistent industrial noise into an exceptionally quiet rural setting.

Section 6.2.2 WHO, EPA and Draft 2019 Guidelines

The EIAR relies heavily on ETSU-R-97 compliance while failing to adequately address the more precautionary approach reflected in:

- the Draft Revised Wind Energy Development Guidelines 2019,
- EPA guidance,
- and WHO Environmental Noise Guidelines for Europe.

The WHO guidance adopts a substantially more health-protective framework and recommends limiting wind turbine noise exposure to reduce risks of annoyance, sleep disturbance and adverse health effects.

The Draft 2019 Guidelines place greater emphasis on residential amenity, cumulative effects, amplitude modulation, low-frequency noise and modern turbine scale

A receptor already operating close to ETSU thresholds, such as H152 and the nearby residential curtilage, would likely experience a materially worse assessment outcome if these more precautionary approaches were fully applied.

The Applicant therefore benefits from reliance upon older and materially less protective guidance.

Section 6.3 Amplitude Modulation (AM) and Real-World Noise

The assessment relies predominantly on LA90 averaged broadband noise metrics which do not adequately capture the fluctuating and cyclical characteristics of turbine noise, including:

- blade-pass modulation,
- rhythmic swish,
- low-frequency pulsing,
- tonal variation,
- and repetitive amplitude modulation ("AM").

The limitations of ETSU-style averaging methodologies in assessing AM are widely recognised internationally.

The risk of intrusive and perceptible AM effects becomes materially greater at very close separation distances and within low-noise nighttime rural environments such as the receiving environment surrounding this property.

The EIAR itself demonstrates that nighttime ambient levels at H152 are substantially lower than at noisier receptors such as Receptor A:

Receptor	Night Background Noise at 8 m/s
A	41.4 dB
C (H152)	31.3 dB

Accordingly, turbine noise at H152 and nearby receptors is likely to remain acoustically dominant and clearly perceptible rather than blending into existing ambient conditions.

This issue is especially important given that the nearest non-participating residential and equine receptors are substantially closer to T01 than H152 itself.

Section 6.4 Equine Welfare and Receptor Sensitivity

The EIAR fails to adequately assess the specific sensitivity of horses to turbine-related auditory, visual and vibrational stimuli.

Scientific literature consistently demonstrates that horses, as prey animals, are highly sensitive to:

- rhythmic and unfamiliar noise,
- sudden movement,
- vibration,
- tonal fluctuation,
- shadow flicker,
- and repetitive visual disturbance.

Potential turbine-related effects include:

- heightened vigilance,
- anxiety,
- startle response,
- flight behaviour,
- behavioural disturbance,
- and physiological stress effects.

These concerns are particularly relevant where:

- gallops are located approximately 291m from T01,
- equine facilities are located within approximately 580–610m,
- and horses may be continuously exposed to blade movement, shadow flicker, amplitude modulation and low-frequency operational noise.

The EIAR contains no detailed specialist equine behavioural assessment despite the close proximity of turbines to active equine-training facilities, which is a material omission.

Section 6.5 Curtailment and Mitigation Uncertainty

The EIAR expressly accepts that mitigation measures and turbine curtailment are required to reduce operational noise to within adopted criteria. However, the EIAR simultaneously questions the *"practical benefits"* of curtailment and notes that curtailment may *"unnecessarily reduce the electrical power generating capacity of a wind farm"*.

This wording raises significant concern that commercial generation considerations may be weighed against residential amenity protection. More importantly, the EIAR confirms that any curtailment strategy *"would have to be verified by the manufacturer"*.

T The proposed mitigation strategy is therefore not fully demonstrated at application stage.

The Board cannot reasonably conclude that operational impacts have been fully resolved where compliance itself is dependent upon future manufacturer verification and uncertain operational mitigation measures.

Section 6.5.1 Cumulative Operational Noise Effects

The property already experiences audible operational noise from existing wind farms located within approximately 5km, including turbines audible during windy conditions at distances of approximately 3.2km.

The introduction of a 185m turbine approximately 265m from the residential curtilage would fundamentally alter the rural environment and materially increase turbine dominance and operational noise exposure.

The significance of such impacts has been recognised in Irish legal proceedings, including the Gibbet Hill Wind Farm litigation, where findings of noise nuisance resulted in damages and operational turbine restrictions despite technical compliance arguments being advanced.

This demonstrates that nominal ETSU compliance does not necessarily equate to protection of residential amenity or freedom from significant environmental nuisance.

Conclusion

The proposed development fails to demonstrate robust protection of:

- residential amenity,
- environmental quality,
- equine welfare,
- rider safety,
- and the continued use of the holding for equine purposes.

The assessment relies upon:

- older and permissive ETSU-R-97 guidance,
- receptor selection which is not representative of the nearest sensitive non-participating receptors,
- uncertain future mitigation measures,
- and operational modelling which already sits extremely close to applicable thresholds.

If more precautionary approaches reflected in the Draft Revised 2019 Guidelines, EPA guidance and WHO guidance were fully applied, the likely outcome for H152 and the associated holding would be materially less favourable. Accordingly, the proposed development would give rise to unacceptable and insufficiently mitigated impacts.

6.6 Construction Noise, Blasting and Haulage Impacts

The construction phase assessment contained within the EIAR substantially understates the likely real-world impacts arising from prolonged heavy construction activity immediately adjacent to an established equine training facility and residence.

Section EIAR 12.6.1.1 Construction Phase Mitigation Measures – Noise *"The hours of construction activity will be limited to avoid unsociable hours where possible. Construction operations shall generally be restricted to between 7:00hrs and 19:00hrs Monday to Friday and 07:00 to 13:00 Saturday. However, to ensure that optimal use is made of good weather periods or at critical periods within the programme (i.e. concrete pours, turbine component deliveries) it could occasionally be necessary to work out of these hours".*

"Where rock breaking is employed .... The methods used to minimise impacts will consist of the following: Restriction of hours within which blasting can be conducted (e.g. 09:00 – 18:00hrs). The firing of blasts at similar times to reduce the 'startle' effect. On-going circulars informing people of the progress of the works"

12.7.1.7 Construction Traffic *"The effects associated with the overall noise levels from construction traffic is not significant and summarised as follows, for the worst-case phase of the construction".*

While the EIAR relies heavily on generic BS5228 methodology, *"best practicable means"* mitigation, and standard construction management measures, these approaches are primarily designed for typical residential receptors and do not adequately address the highly sensitive operational environment associated with thoroughbred horse training.

The EIAR states that construction activities will generally occur between:

- 07:00–19:00 Monday to Friday; and
- 07:00–13:00 Saturdays,

but immediately qualifies this by stating that works outside these hours may occur where considered *"necessary"* for programme or weather-related reasons.

This qualification substantially weakens the practical value of the stated restrictions and provides broad operational flexibility for extended construction activity adjacent to nearby residences and equine facilities.

Similarly, the proposed blasting mitigation measures consist largely of:

- restricting blasting hours,
- firing blasts at similar times,

- and issuing circular notifications to residents.

Such measures fail to meaningfully address the practical realities of operating an equine-training holding where the residential curtilage is located approximately 265m from the proposed turbine and the gallops approximately 291m from major construction and blasting activity.

Thoroughbred horses are highly reactive prey animals and are particularly sensitive to:

- impulsive noise,
- vibration,
- sudden acoustic events,
- reversing alarms and flashing lights,
- heavy machinery movement,
- and unpredictable disturbance.

The EIAR does not contain any meaningful assessment of how daily horse training, turnout routines, handling operations, or rider safety are expected to continue safely during periods of:

- blasting,
- rock breaking,
- compaction,
- heavy haulage,
- crane operations,
- concrete pours,
- turbine deliveries,
- and continuous internal road construction activity.

The proposal involves shared haul-road infrastructure serving multiple turbines including T01, T03, T10, T11, T12 and T14. Consequently, the impacts associated with haulage traffic, compaction works, stone placement, excavation, drainage installation, cable trenching, braking, acceleration, reversing alarms, and heavy vehicle movement are likely to occur repeatedly over an extended duration rather than as isolated short-term events.

This represents a materially different and more intensive impact scenario than that presented within the EIAR. Within an otherwise quiet rural environment, prolonged industrial-scale construction activity occurring approximately 265 m from the residential curtilage and approximately 291 m from the equine-training gallops would likely remain clearly audible and perceptible.

The EIAR repeatedly characterises construction impacts as "*temporary in nature.*" However, where cumulative construction activity associated with multiple turbines and shared haul routes continues over extended periods, the distinction between "*temporary*" and prolonged industrial disruption becomes materially reduced from the perspective of affected residents and equine training facility.

The assessment also fails to adequately consider cumulative vibration and disturbance impacts on horses arising from:

- repeated heavy goods vehicle movements,
- road compaction,
- blasting,
- vibrating plant,
- and sustained industrial activity adjacent to gallops, paddocks, stables, and turnout areas.

These effects are not fully captured by standard residential noise metrics or generic BS5228 construction assessments which EIAR 12.6.1.1 largely relies on.

The mitigation measures proposed are generic in nature and largely reflect standard construction-management wording commonly used in windfarm EIAR documentation e.g. "*maintain plant, orient equipment where practical, restrict hours, use best practicable means*". EIAR 12.6.1.2 states "*no specific mitigation measures are required* ".

Reasonable site-specific mitigation measures could include;

- restricted haulage windows,
- no early-morning compaction,
- equine-sensitive scheduling,
- acoustic screening berms,
- road-surface maintenance,
- wheel-rattle suppression,
- effective complaint-response mechanisms,
- local monitoring.

Considering the heightened receptor sensitivity and cumulative construction exposure identified above, the conclusion that '*no specific mitigation measures are required*' does not appear adequately justified.

The EIAR does not appear to adequately assess the cumulative operational reality of a prolonged shared internal haul corridor serving multiple turbines, instead relying on generic BS5228 methodology without a sufficiently site-specific assessment of cumulative haulage and construction impacts.

Any meaningful mitigation strategy would require consideration of site-specific measures including restricted haulage windows, equine-sensitive scheduling, local monitoring, vibration mitigation, and additional acoustic protection measures.

The absence of such site-specific mitigation measures further raises concerns regarding whether the EIAR has adequately assessed the operational realities and sensitivities associated with this property.

6.7 Shadow Flicker

The Shadow Flicker assessment contained within the EIAR raises serious concerns regarding both the adequacy of the methodology used and the failure to properly assess the real-life impacts on residential amenity and equine training facility at this location.

The EIAR relies primarily on the outdated 2006 Wind Energy Guidelines, which permit shadow flicker exposure within 500m of a turbine.:

- up to 30 hours per year,
- or up to 30 minutes per day

By contrast, the 2019 Draft Revised Wind Energy Guidelines propose a substantially more protective approach, including:

- a mandatory minimum setback of 500m or four times turbine tip height (740m in our case),
- and a substantially more restrictive approach to shadow flicker exposure at residential properties.

While EIAR 5.6.2 suggests the proposed development "*could*" comply with the draft 2019 guidance, while not formally adopted, the draft 2019 guidance reflects a more precautionary approach to setback distance and shadow flicker assessment than that applied within the EIAR. Consequently, the assessment applies a materially less precautionary standard than that contemplated by the draft 2019 guidance.

This is particularly concerning given that the residential curtilage associated with our property is located approximately 265m from Turbine T01, with equine-training gallops, paddocks and

associated equine facilities also situated at exceptionally close proximity to the turbine. These receptors fall substantially within both the 500m shadow flicker zone identified in the 2006 Guidelines and the setback distances contemplated by the 2019 draft guidance.

6.7.1 Limitations of the WindPRO Assessment

The EIAR states that the assessment was undertaken using WindPRO Shadow software.

However, the methodology employed focuses almost exclusively on theoretical rotor shadow crossing at window locations and does not meaningfully assess several highly relevant real-world effects, including:

- moving blade dominance,
- repetitive visual disturbance,
- glint and reflected light,
- looming blade movement,
- outdoor amenity impacts,
- visual distraction,
- psychological and behavioural effects,
- or equine behavioural response.

These omissions are particularly significant given the proximity of an ongoing equine training facility to T01.

6.7.2 Equine Safety and Operational Impacts

The EIAR fails to adequately assess the specific implications of shadow flicker and moving blade effects on horses and riders despite acknowledged policy requirements relating to the equine industry.

Thoroughbred horses are highly reactive prey animals with acute sensitivity to movement, changing light conditions, shadows, and sudden visual stimuli. Repetitive flicker, rotating blade shadows, and sudden moving contrasts can provoke startle responses, bolting, avoidance behaviour, and loss of rider control.

These risks are particularly acute during:

- early morning gallops,
- turnout periods,
- evening handling,
- and low-angle sunlight conditions,

which coincide directly with the periods when shadow flicker effects are typically most pronounced.

The practical implication is that routine daily equine management and training operations would become subject to turbine operation, lighting conditions, blade rotation, and solar position.

This appears difficult to reconcile with the need for reasonably consistent and predictable environmental conditions commonly regarded as important for equine management, training stability and rider safety.

Shadow flicker and repetitive blade movement are not merely amenity concerns in this context; they represent credible operational and safety risks to both horses and riders.

6.7.3 Real-World Experience and Existing Wind Farms

The likely severity of these effects is reinforced by existing experience within the area.

Operational turbines at the nearby Glencarbry Wind Farm, located approximately 4km from the property and significantly smaller in scale than the proposed 185m turbines, already generate clearly perceptible shadow flicker effects during suitable weather conditions.

The visibility of shadow flicker effects at those distances demonstrates that turbine-related flicker phenomena may remain perceptible over substantial separation distances.

The proposed siting of a significantly larger turbine in exceptionally close proximity to the residential curtilage and equine-training gallops associated with our property — approximately 265m and 291m respectively — would likely result in a substantially greater level of visual dominance, flicker exposure and moving-shadow effects than currently experienced.

6.8 Failure to Adequately Assess Equine Receptors

Section EIAR 5.2.5.5.1 *"Equine Industry ... "The Council will consider and will have regard to the impact of developments on the equine industry in assessing applications. The Council may, where appropriate require the submission of an impact statement, with particular with respect to noise and shadow flicker."* ***There*** *are no* ***registered*** *thoroughbred* ***stud*** *farms or* ***equine facilities located within the Shadow Flicker*** *Study* ***Area.*** *The closest registered stud farm is Forge Stud Ltd., in Clonoulty, Co. Tipperary, approximately 6.8km east of the nearest proposed turbine. The closest equestrian facility is Cashel Equestrian Centre in Clonoulty, Co. Tipperary, approximately 8.7km east of the of the nearest proposed turbine.* ***There is 1*** *no. equine facility comprising of stables and training adjacent to the Proposed Wind Farm* ***site***

approx. 265m south of T1. These facilities have been closed for a number of years with no sign of renewed use.

EIAR acknowledges that:

"The Council will consider and will have regard to the impact of developments on the equine industry."

Yet the EIAR simultaneously states that there are:

"no registered thoroughbred stud farms or equine facilities located within the Shadow Flicker Study Area" before referring to the equine facilities adjacent to T01 as having been *"closed for a number of years with no sign of renewed use."*

This statement does not appear to fully reflect the actual use and sensitivity of the receiving environment. The property comprises stables, gallops, turnout lands, and associated equine infrastructure intended for ongoing equine and residential use.

By characterising the equine training facility adjacent to T01 as having no sign of *"renewed use"*, the EIAR does not undertake the detailed equine-specific assessment expressly contemplated by planning policy in relation to noise and shadow flicker impacts. Given the limited setback distances involved, the absence of a meaningful equine-specific impact assessment represents a material omission in the assessment of likely significant effects.

In particular, the assessment does not adequately address the operational sensitivity of the equine receptor, the compatibility of turbine development with ongoing equine use, or the implications of noise and shadow flicker impacts for the continued use of the property as an equine-training facility.

Taken together, the reliance on participating receptor monitoring locations, generic ETSU-R-97 averaging methodologies, standardised BS5228 construction assumptions and non-site-specific mitigation measures does not appear to provide a sufficiently receptor-specific assessment of the likely impacts on the nearest non-participating residential and equine-sensitive receptors.

Section 7 Impacts on Residential and Equine Amenity

7.1 Reliance on Outdated Guidance

The proposed development has been assessed primarily under the 2006 Wind Energy Development Guidelines, which pre-date modern turbine dimensions, current international

health guidance, and evolving Irish regulatory standards relating to setback distances and noise assessment.

The proposed turbines will have an overall tip height of 185metres, significantly larger than the turbines contemplated when the 2006 Guidelines were introduced. Existing turbines within the wider area are approximately 145–150 metres in height, meaning the proposed turbines represent a substantial increase in scale and visual dominance.

The 2006 Guidelines are now widely recognised as outdated in the context of modern turbine design and proximity impacts. Emerging Irish standards, including the draft Wind Turbine Guidelines and the Wind Turbine Regulation Bill 2025, indicate a clear policy movement toward substantially greater residential setback distances, including minimum setbacks of 500m and visual amenity setbacks linked proportionally to turbine height.

The proposed siting of Turbine T01 approximately 265m from the residential curtilage associated with our property, approximately 291m from the equine-training gallops, and in close range to associated equine infrastructure appears inconsistent with these emerging standards and with international best practice approaches to residential and environmental amenity protection.

The proposal is also inconsistent with the objectives of the Tipperary County Council Development Plan 2022–2028, which requires renewable energy developments to avoid adverse impacts on residential and environmental amenity.

7.2 Close Range Turbine Separation and Cumulative Impact

Our property is located in immediate proximity to four proposed turbines:

- T01: approximately 265m from the residential curtilage, approximately 291m from the equine-training gallops, and approximately 580m from associated equine infrastructure;
- T12: approximately 585m from the residential curtilage and approximately 610m from associated equine infrastructure;
- T10: approximately 823m from the holding; and
- T03: approximately 870m from the holding.

Accordingly, the residential curtilage, equine facilities, gallops, paddocks and surrounding lands are likely to experience substantial cumulative exposure to turbine noise, blade movement, aviation lighting, shadow flicker and visual-dominance effects.

The scale and concentration of turbines surrounding the property raises significant concerns regarding compatibility with the quiet and stable environment generally associated with equine training facilities and residential amenity.

7.3 Equine Sensitivity and Safety

The property comprises an equine training facility with gallops, stabling, and associated infrastructure located in extreme proximity to Turbine T01.

Thoroughbred horses are highly sensitive prey animals with acute auditory and visual awareness and strong instinctive flight responses. Maintaining a calm and routine based environment is a fundamental requirement for equine welfare, rider safety, and effective training operations.

The EIAR does not adequately assess the potential impacts of turbine noise, low frequency sound, blade movement, shadow flicker, or visual disturbance on equine behaviour, rider safety, or operational viability despite the unusually close separation distances between the proposed turbines and the facility.

This omission is particularly concerning given the policy position of:

- Horse Racing Ireland,
- the Irish Thoroughbred Breeders' Association,
- and Association of Irish Racecourses,

all of whom have consistently advocated for specific protections for equine facilities within wind energy planning policy. These organisations have highlighted:

- the heightened sensitivity of thoroughbreds to auditory and visual stimuli,
- the need for detailed assessments where turbines are proposed near equine facilities,
- and the importance of protecting the long-term viability of Ireland's internationally significant equine industry.

HRI states *"While HRI does not oppose renewable energy goals, their policy centers on the vulnerability of thoroughbreds—which are more sensitive to auditory and visual stimuli than other horses—to the impacts of industrial-scale turbines.*

HRI and the ITBA have lobbied;

- for equine facilities (stud farms, stables, and training yards) to be designated as Noise Sensitive Receptors, similar to residential dwellings, to ensure they are protected by mandatory noise limits.
- Mandatory Detailed Assessments: They recommend that any wind energy development within a 5 km radius of an equine facility must include a detailed assessment of potential impacts on the animals and the viability of the business.
- Minimum Setback Distances: HRI contends that a minimum 5 km setback is the baseline necessary to protect equine businesses, and only at or beyond this distance

should a proponent be required to demonstrate that a development will have "nil effects" regarding noise, visual impact, and health and safety.

- Environmental Constraint: HRI requests that proximity to training yards and stud farms be identified as a specific environmental constraint during the site selection stage for wind energy projects.

These policy submissions consistently emphasise that thoroughbred horses and equine facilities represent uniquely sensitive receptors requiring detailed assessment where industrial-scale turbines are proposed nearby. Despite this, the EIAR does not contain any meaningful equine-specific assessment of rider safety, behavioural impacts, operational disruption, or long-term enterprise viability at this location.

7.4 Business Viability and Insurance Implications

The proposed turbine proximity raises serious concerns regarding the long-term operational viability of the training establishment.

Horse training is an inherently high-risk activity requiring strict safety management procedures and appropriate insurance cover. The proximity of a 185m industrial turbine to equine-training gallops and riding areas introduces additional and insufficiently assessed risk factors associated with potential horse behavioural responses to turbine operation, including turbine movement, shadow flicker, noise disturbance and sudden visual stimuli.

These issues may have implications for rider safety management, operational risk assessment, public liability exposure, insurance underwriting considerations, and the continued commercial operation of the enterprise.

The EIAR does not appear to contain any meaningful assessment of these operational and risk-management implications despite their obvious relevance to an equine-training facility with gallops located approximately 291m from a turbine.

7.5 Failure to Properly Consider Equine Industry Impacts

The equine industry is of major economic and cultural importance within County Tipperary and nationally.

The policy position of Tipperary County Council specifically recognises the need to consider impacts on the equine sector, including potential effects arising from noise and shadow flicker.

Despite this, the EIAR appears to understate the presence, status, and sensitivity of the equine training facility adjacent to Turbine T01 and fails to provide the level of detailed assessment warranted by the unusually limited setback distances involved.

7.6 Established Planning Precedent and Protection of the Equine Industry

The importance of protecting equine enterprises from incompatible development has long been recognised within Irish and UK planning decisions.

In Appeal Ref. ABP 23-225138 concerning a proposed biogas and biodiesel facility at Castleblake, Rosegreen, An Bord Pleanála upheld the refusal of permission on the basis that the development would be incompatible with the surrounding equine industry and prejudicial to its long-term viability.

In that case, the Board accepted that the area constituted a nationally important bloodstock and horse training region and recognised that developments which undermine confidence in the equine sector can materially damage both existing operations and the wider reputation of the industry.

The Planning Inspector specifically noted that:

- the equine industry requires exceptionally high environmental standards,
- perception and reputation are critically important commercial factors,
- and that the Precautionary Principle may appropriately apply where internationally significant equine enterprises could be placed at risk by non-essential and non-location-dependent development.

Importantly, the Inspector stated that:

"the onus is on any new development... to demonstrate that it will not have a negative impact on the viability of existing stud farms or stables."

That principle appears highly relevant in the present case. The proposed Carrow Wind Farm is not inherently dependent upon siting Turbine T01 in exceptionally close proximity to an occupied residential curtilage and established equine-training holding, nor Turbine T12 within approximately 585–610m of the same holding. However, the proposed turbine layout — including T01 approximately 265m from the residential curtilage and approximately 291m from the gallops, together with cumulative exposure arising from T12 — has the potential to materially impact

- equine welfare,
- rider safety,
- business viability,
- insurance exposure,
- residential amenity,
- and client confidence in the training establishment.

The significance of these impacts is reinforced by UK planning precedent concerning proposed wind turbine developments adjacent to equine businesses, where the UK Secretary of State accepted evidence that turbine blade movement, shadow flicker, and turbine noise could create serious safety concerns for horses and riders.

The Planning Inspector in that case concluded that:

- thoroughbred horses are "high value, highly strung and volatile,"
- sudden blade movement and shadow flicker can spook horses,
- and the resulting perception of increased risk could undermine confidence in nearby equine facilities and drive clients elsewhere.

The Inspector further recognised that even where not every horse would react adversely, the existence of an elevated and avoidable risk beyond normal equine operational hazards was itself materially significant.

These findings are highly relevant to the present application given the extraordinary proximity of Turbine T01 to our residence, gallops, and equine facilities, in conjunction with the additional cumulative exposure arising from Turbine T12.

It is therefore essential that existing equine enterprises, including smaller independent operations, receive the same planning consideration and protection from inappropriate and incompatible development as larger and more established industry participants.

Given the unusually close separation distances involved in this case, we respectfully submit that the EIAR fails to adequately demonstrate that the proposed development will not adversely affect the viability, safety, operation, and long-term sustainability of the equine activities conducted at this property.

The proposed development represents an industrial-scale energy project within a sensitive rural environment characterised by residential occupation, equine activity, outdoor working, and ecological sensitivity. However, the EIAR largely treats the receiving environment as a standard residential receptor and does not meaningfully assess the specific implications for equine welfare, rider safety, operational stability, or long-term enterprise viability.

The proposed juxtaposition of industrial-scale turbines with an established equine and residential environment therefore raises significant land-use compatibility concerns which do not appear to have been adequately assessed within the planning documentation.

Section 8 – Property Values

EIAR 5.11.1.4 states that *"it can be concluded that there is the potential for a short-term negative not significant impact on property values within 1 km of the proposed turbines of the Proposed Wind Farm ... conclusions from available international literature indicate that property values are not impacted by the positioning of wind farms near houses".*

That conclusion does not appear to adequately account for the exceptional site-specific circumstances of this application, involving:

- an occupied residential curtilage located approximately 265m from a proposed 185m turbine, and
- an established equine-training holding and gallops located approximately 291m from the turbine.

The EIAR applies broad international generalisations derived largely from conventional residential receptors at materially greater setback distances. It does not appear to adequately assess the implications of locating industrial-scale turbine infrastructure in immediate proximity to a specialised equine enterprise whose viability depends upon environmental quality, tranquillity, safety perception, and client confidence.

Stephen Gibbons' 2015 peer-reviewed study, *Gone with the wind: Valuing the visual impacts of wind turbines through house prices*, identified evidence that visible wind turbines may negatively affect residential property values in certain circumstances, concluding that:

"Operational wind farm developments reduce prices in locations where the turbines are visible..." and that this price reduction is around 5–6% for housing located within a visablw wind farm within 2km".

The study further concluded that the *"visual environmental costs are substantial"*, identifying visibility and visual dominance as key drivers.

Importantly, that research concerned ordinary residential properties located up to 2 km from visible turbines. The present proposal involves substantially closer proximity together with the additional sensitivities associated with a commercial thoroughbred-training enterprise incorporating gallops, stables, paddocks, turnout areas, and daily equine activity.

The issue is therefore not confined to conventional residential value alone, but also concerns:

- residential amenity,
- visual dominance and industrialisation of the rural environment,
- turbine noise, amplitude modulation, and shadow flicker,
- equine safety and behavioural concerns,

- reputational impacts, and
- the commercial attractiveness and operational suitability of the holding as a specialised equine-training establishment.

Within the thoroughbred industry, commercial reputation and client confidence are critically important. The visible dominance of industrial-scale wind-energy infrastructure in immediate proximity to a training establishment may reasonably affect perceptions regarding the suitability of the environment for training and housing high-value thoroughbred horses.

The EIAR also does not appear to meaningfully assess cumulative visual and environmental effects arising from existing wind-energy infrastructure in the wider area, including Glencarbry Wind Farm and other operational wind farms.

In those circumstances, the conclusion that impacts would be "*not significant*" does not appear to adequately reflect the specific characteristics and sensitivities of the receiving environment.

Accordingly, the EIAR does not adequately assess the implications of locating industrial-scale turbine infrastructure in immediate proximity to an occupied residence and specialised equine enterprise, nor does it satisfactorily address the potential implications for residential amenity, commercial viability, market perception, and long-term property value.

Section 9 Landscape and Visual Impact Assessment

Section 14.3.2 of the Landscape and Visual Impact Assessment does not appear to adequately assess the likely effects on our property and equine operation, including a residential curtilage located approximately 265m from Turbine T01 and equine-training gallops located approximately 291m from the turbine.

The assessment relies heavily on strategic landscape methodology, Zone of Theoretical Visibility ("ZTV") mapping, and broad receptor classifications. While such methodology may be appropriate for distant or moderate-range receptors, it does not meaningfully assess the exceptionally close receptor-level exposure arising at this property.

9.1 Over-Reliance on "Theoretical Visibility"

Part 1: 14.3.2 The assessment relies heavily on coloured ZTV mapping and theoretical visibility analysis. However, at the exceptionally close separation distances involved, visibility is not theoretical but experienced continuously within the day-to-day residential and equine environment.

The assessment fails to distinguish between:

- distant landscape visibility,
- intermittent glimpsed views, and
- immersive close-range exposure experienced by residents, workers, and horses living beside the turbine.

A turbine viewed occasionally from several kilometres away is materially different from a 185m turbine forming a dominant visual presence beside an occupied residential curtilage and active equine-training environment.

9.2. Failure to Address Scale Dominance and Dynamic Effects

Section 14.3.2 discusses visibility patterns and landscape integration but does not adequately assess scale dominance or dynamic visual effects.

At approximately 185m in height, T01 would be substantially taller than surrounding structures, vegetation, and existing turbines within the area. At the separation distances involved, the turbine would become a visually dominant and continuously present feature within the immediate residential and equine environment.

The assessment largely treats turbines as static landscape objects and does not adequately assess:

- continuous blade movement,
- moving shadow effects,
- blade glint and changing light reflection,
- aviation lighting,
- repetitive peripheral movement, or
- visual distraction during equine handling and training.

These effects extend beyond general landscape-character change and involve direct receptor-level amenity and operational impacts.

9.3 Inconsistency Regarding Screening

Part 4: "Dense/Full" and "Intermittent/Partial" visual screening by mature forestry and roadside vegetation along more than 70% .... as well as visual screening by steep upland terrain, spatial enclosures and localised undulations in topography which allow a sense of set-back from most receptors in cases where the proposed turbines are partially visible. In addition, from a distance, the layout of the proposed turbines ensures a relatively even height profile and even spacing between proposed turbines are seen to be sited on or near elevated peaks

within a small spatial extent and with slightly irregular spacing in a clustered layout of relatively even height profile, thereby aligning with best practice ... Draft 2019 Guidelines)" .

The EIAR repeatedly relies on forestry, roadside vegetation, topography, and partial screening as visual mitigation measures.

However, while such features may partially obscure lower turbine elements in certain locations, they are unlikely to materially screen the overall scale, blade movement, skyline presence, or dynamic visual effects associated with a 185m turbine at such close proximity.

Furthermore, screening effects vary seasonally and over time due to vegetation loss, forestry management, and winter visibility conditions.

The assessment therefore conflates partial visual interruption with meaningful visual mitigation.

9.4 Failure to Assess Equine Sensitivity

The Landscape and Visual chapter is almost entirely human-centred and contains no meaningful assessment of visual effects on the equine-training operation notwithstanding the acknowledged presence of stables, gallops, paddocks, turnout areas, and daily equine activity adjacent to T01.

Thoroughbred horses are highly sensitive to movement, visual contrast, shadow, and environmental disturbance. Continuous turbine movement at such close proximity creates a materially different visual environment from normal rural conditions.

Yet the EIAR contains no substantive assessment of:

- behavioural response,
- rider safety implications,
- visual distraction during training, or
- operational consequences for the equine enterprise.

9.5 Misuse of Landscape-Level "Best Practice"

The EIAR repeatedly references balanced spacing, clustered layout, and consistent turbine profile as evidence of good design practice. However, such landscape-scale principles primarily address regional visual composition and do not materially mitigate the close-range receptor effects arising at this property, including overwhelming scale, visual dominance, and continuous movement within a residential and equine environment.

9.6 Overall Deficiency

Overall, the assessment:

- over-relies on theoretical visibility analysis,
- understates close-range exposure effects,
- overstates the effectiveness of screening,
- fails to adequately assess dynamic visual impacts, and
- does not meaningfully assess equine visual sensitivity or outdoor operational exposure.

The EIAR also does not appear to include realistic receptor-level visualisations from the nearest non-participating property, notwithstanding the exceptionally close proximity involved.

Accordingly, the assessment materially underrepresents the likely visual, residential, operational, and equine effects arising from the proposed development.

Figure 3; Photos 3A illustrate the proposed location of T01 in direct relation to the gallops. Photo 3B shows an existing operational turbine of approximately 135–150m at a comparable separation distance of approximately 265m and provides a realistic illustrative representation of the visual scale and dominance likely to arise at such close proximity. The proposed turbine at T01 would be substantially larger again at 185m in height.

These photographs provide a receptor-level perspective not adequately conveyed through the EIAR visualisations and ZTV mapping. Notably, no equivalent close-range visual representation from the nearest non-participating property appears to have been included within the EIAR.

The assessment also does not adequately reflect the operational nature and extent of the equine facility, including the gallops, paddocks, turnout areas, exercise routes, and wider outdoor working environment used daily as part of the training operation.

The property is not simply a conventional residential receptor but an active equine-training enterprise where day-to-day activity occurs predominantly outdoors in direct visual exposure to the proposed turbines. Accordingly, the visual and shadow flicker assessments materially underrepresent the likely scale of exposure and operational impacts arising at this property.

Section 10 Turbine Safety

EIAR 5.6.3 Turbine Safety, states that turbines *"pose no threat to the health and safety of the general public"* and further references the DoEHLG 2006 guidance which states that *"people or animals can safely walk up to the base of the turbines"*.

While this statement may reflect general guidance contained within the 2006 and Draft 2019 Wind Energy Guidelines, it is overly broad and fails to adequately consider the site-specific realities of this proposed development, including the immediate proximity of an occupied residential curtilage and equine-training gallops located approximately 265m and 291m respectively from Turbine T01.

The EIAR does not assess turbine safety in the context of:

- thoroughbred horses with heightened sensitivity to environmental disturbance,
- young racehorses in training,
- equine behavioural responses,
- rider safety,
- or emergency management involving approximately 30 stabled/paddock horses immediate vicinity to industrial-scale turbines.

A generic statement that *'animals can safely walk up to the base of turbines'* does not fully account for the behavioural sensitivity of thoroughbred racehorses, which are widely recognised as highly sensitive animals with acute responses to unfamiliar movement, noise, lighting and environmental disturbance.

The EIAR further states that turbine blades *"are manufactured of glass reinforced plastic which will prevent any likelihood of an increase in lightning strikes within the Site or the local area"*.

While such systems are intended to reduce risk, turbine incidents involving fire, lightning damage, blade failure and mechanical malfunction are nonetheless documented within the operational wind-energy sector,

- the 2022 turbine fire at Arklow Bank Offshore Wind Farm following a lightning strike;
- a turbine fire in County Fermanagh in 2025;
- blade failure at Tursillagh Wind Farm, County Kerry in 2015;
- a turbine fire involving blade detachment in County Cork in 2014.

Wind Energy Ireland has acknowledged that blade failure and turbine fire are recognised categories of turbine incident. Published engineering studies examining catastrophic blade-failure scenarios further demonstrate that blade fragments and associated debris can travel significant distances under certain failure conditions. Annex 2

One published debris-field analysis identified large blade fragments at distances of approximately 150m, 210m and up to 280m from the turbine base, with smaller debris recorded at substantially greater distances. While such events are statistically infrequent, the potential consequences become materially more significant where turbines are proposed in unusually close distance to occupied residences and equine facilities.

Given the proposed proximity of T01, parts of the residence and equine facilities are located within separation distances comparable to debris distances identified in certain published turbine failure analyses, notwithstanding the infrequent nature of such events.

The issue is not whether turbine failures are common occurrences. The issue is whether it is appropriate, proportionate and consistent with proper planning to expose:

- residents,
- riders,
- handlers, and
- thoroughbred horses

to those risks at close distances to a 185m industrial turbine, including a residential curtilage located approximately 265m from Turbine T01 and equine-training gallops located approximately 291m from the turbine.

The concern in this instance is not the general operational safety of wind turbines under normal circumstances, but whether the EIAR has adequately assessed the implications of siting a 185m turbine in unusually undue proximity to an occupied residential curtilage and equine operation.

The EIAR also fails to address practical emergency-management considerations specific to the equine operation, including:

- evacuation procedures during turbine fire,
- containment of panicked horses,
- smoke exposure
- Impacts and debris risks,
- operational shutdown procedures in the event of mechanical failure.

These matters do not appear to have been substantively addressed within the EIAR despite the receptor sensitivity and unusually limited separation distance involved.

Section 11 National Policy

We fully recognise and support Ireland's national climate obligations, including the State objective of achieving net-zero emissions by 2050 and a 51% reduction in emissions by the end of this decade. This objection is not opposition to renewable energy in principle.

The issue is whether it is appropriate, proportionate, or consistent with proper planning and sustainable development to locate a 185m industrial turbine approximately 265m from an

occupied residential curtilage and approximately 291m from equine-training gallops within an area already subject to substantial cumulative wind-energy development.

National renewable energy policy must be balanced against the obligation to protect:

- residential amenity,
- human health,
- groundwater,
- rural character,
- road safety,
- and the viability of existing rural and equine enterprises.

Recent decisions of An Coimisiún Pleanála demonstrate that the compatibility of wind-energy development with sensitive residential receptors, rural enterprise, and existing lawful land uses are treated as a relevant planning consideration.

The Inspector's Report for ABP-320843-24 specifically notes *"the following operational farms in proximity to the site"*

- *Glencarbry Wind Farm to the north;*
- *Cappawhite Wind Farm to the west.*

However, the cumulative extent of existing wind energy infrastructure in the wider area is far more significant than this brief reference suggests. The following operational wind farms are located within approximately 25km of our property:

Operational Wind Farms Within Approximately 25km of the Property

Wind Farm	No.of Turbines	Approx. Distance from Property	Status
Glencarbry / Turraheen	12	3.2km NW	Operational
Glenlough	14	4.9km NW	Operational
Milestone / Inchivara	6	7.2km N	Operational
Cappawhite Wind Farm	17	8.8km W	Operational
Hollyford	3	11.5km NE	Operational
Mounvaun (Mienvee) Wind Farm	12	15.1km W	Operational
Gortnahalla	2	22.9km N	Operational
Knockastanna	4	25km NW	Operational

This represents a total of 77 operational turbines within approximately 25km of the property, excluding the additional 14 turbines proposed as part of the Carrow Wind Farm development.

The area already accommodates a substantial concentration of operational wind energy infrastructure, resulting in significant cumulative:

- landscape impacts,
- visual impacts,
- environmental impacts,
- and community impacts.

The cumulative concentration of operational wind-energy infrastructure within the receiving environment is a material consideration under the EIA Directive (Article 3) requirement to assess cumulative effects and the interaction of effects on residential amenity, landscape character, and existing lawful rural land uses.

It is also well documented that wind generation in Ireland is subject to curtailment and dispatch-down measures arising from:

- grid constraints,
- transmission limitations,
- and electricity system balancing requirements.

Accordingly, actual operational output from wind farms may be materially lower than theoretical installed capacity.

It has also been publicly reported (RTE.ie 1st February 2021) Glencarbry Wind Farm operational in 2017 with 12 Turbines was sold 2 years later. In 2019 it was reported by John Laing, that a multi million euro write-down would occur due to the lower wind speeds that first predicted, generating less power over the 10-15 year period. It was subsequently sold for a reported €70million.

The burden of national renewable energy infrastructure should not fall disproportionately on the same rural counties and communities without proper consideration of cumulative effects, existing infrastructure intensity, residential amenity, and the sustainability of established local enterprises.

Proper planning requires a balanced and proportionate approach.

Climate policy and renewable energy objectives are important national priorities. However, they do not remove the obligation to ensure that renewable energy infrastructure is appropriately located and proportionate to the sensitivity of the receiving environment,

including the avoidance of disproportionate concentrations of large-scale wind infrastructure close to homes, families, and sensitive equine training facilities.

In this case, the proposed siting of a 185m turbine approximately 265m from the residential curtilage associated with our property and approximately 291m from established equine-training gallops is incompatible with the principles of proper planning, sustainable development and the reasonable protection of residential and rural amenity.

Section 12 International and EU Policy

6.1.1 Planning Policy Appraisal states that the revised Renewable Energy Directive (RED III) recognises renewable energy development as being in the *"overriding public interest"* and notes that *"renewable energy developments, including related grid and storage infrastructure, are presumed to be in the overriding public interest."*

However, the designation of renewable energy as being in the overriding public interest does not remove the statutory obligation on planning authorities to critically assess:

- residential amenity,
- human health,
- environmental protection,
- rural character,
- groundwater protection,
- road safety,
- cumulative impacts,
- and the viability of existing lawful rural enterprises.

RED III does not create an automatic entitlement to planning permission, nor does it remove the obligation on planning authorities to assess site-specific impacts, proportionality, and competing planning considerations. Planning decisions remain a balancing exercise requiring careful assessment of both national policy objectives and local environmental and amenity effects

This principle was reinforced by the Supreme Court decision relating to Coolglass Wind Farm, where the Court rejected the proposition that climate objectives create a simple presumption in favour of renewable-energy development irrespective of other planning considerations and local impacts. The Court confirmed that planning decisions involve a nuanced balancing of competing interests and are:

"much more complex than a traffic light system of climate-friendly 'go' (unless impracticable) and climate-unfriendly 'stop'."

The issue in this case is therefore not opposition to renewable energy in principle. The issue is whether it is compatible with proper planning and sustainable development to locate a 185m industrial turbine within this specific receiving environment, including an occupied residential curtilage located approximately 265m from Turbine T01 and equine-training gallops located approximately 291m from the turbine.

Neither RED III nor national climate policy removes or diminishes the obligation on An Coimisiún Pleanála to determine whether this particular development, in this particular location, imposes disproportionate impacts on residential amenity, equine welfare, rural character, and quality of life. The EIA process requires an assessment of likely significant effects on the environment, including cumulative effects and effects on population and human health, irrespective of the strategic importance of renewable-energy policy objectives.

A policy objective of national importance does not eliminate the requirement for proportionality, environmental assessment, and proper planning judgment.

Section 13 Community Consultation

13.1 Public Information Event

We have significant concerns regarding the adequacy and accessibility of the community consultation process described within the application documentation.

At the Public Information Event held on 21 January 2026, no hard-copy literature, maps, or supporting documentation were made available for attendees to retain for later review. Members of the public were instead directed to access project information online or to photograph displayed material during the event itself.

Following the event, we experienced difficulties accessing the project website and were required to separately request access details. There were also repeated occasions where the website and supporting documents were inaccessible or could not be readily retrieved. It is our understanding that similar difficulties were experienced by other members of the local community.

Given the scale and significance of the proposed development, particularly for residents located in immediate proximity to Turbines T01 and T12, we do not consider that the consultation process facilitated fully informed or effective public participation.

We are also concerned by the statement within the application documentation that issues raised during consultation "*informed and shaped the project proposal*." Based on our direct engagement, we do not believe that concerns relating to residential amenity, equine welfare, noise, shadow flicker, or the exceptional proximity of Turbine T01 were meaningfully reflected in the evolution of the proposal or adequately addressed within the EIAR.

In our view, the consultation process appeared primarily informational rather than constituting substantive engagement with the concerns raised by nearby residents.

13.2 Personal Meeting and Site Visit

On 29 January 2026, a meeting and site visit took place at our property involving representatives of AIP and MKO in relation to the proposed Carrow Wind Farm development, particularly Turbine T01, which is proposed approximately 265m from the residential curtilage associated with our property and approximately 291m from the equine training gallops.

During discussions, concerns were raised regarding the closeness of Turbine T01 to our residential accommodation, gallop facilities, and equine training operations. During the meeting, it was stated by a representative that there was "*no business operating and no house present on site*" and, consequently, that the property was not considered a significant residential or operational receptor within the assessment process.

This characterisation does not accurately reflect the established and ongoing use of the property. The premises comprises a registered equine facility with established gallops, training infrastructure, turnout lands, and associated residential occupation. The residential curtilage is located approximately 265m from Turbine T01, while the gallops are located approximately 291m from the turbine.

The apparent exclusion or downgrading of the property within the assessment process reflects an unduly narrow interpretation of the receiving environment and fails to adequately recognise the site as:

- a continuously occupied residential holding;
- an established equine training enterprise; and
- a sensitive rural receptor.

This interaction reinforced our concern that the assessment process did not adequately consider the compatibility of the proposed industrial-scale development with the established use and sensitivity of the area.

The adequacy and accuracy of baseline receptor identification is a fundamental component of the EIAR process, particularly where the assessment of likely significant effects depends upon the identification and classification of nearby residential and land-use receptors.

Particular concern arises from the fact that, despite the site visit and direct discussions regarding the nature and operation of the premises, the EIAR subsequently states that the equine facility *"has been closed for a number of years with no sign of renewed use."*

We strongly dispute the accuracy of this description. The property continues to contain and utilise equine infrastructure, training areas, turnout lands, and associated residential occupation. The EIAR therefore appears to materially understate and mischaracterise the nature, sensitivity, and ongoing use of the property and associated equine infrastructure.

This is especially concerning having regard to the policy position contained within the Tipperary County Council Development Plan 2022–2028, Appendix 2, Section 5.10 (Renewable Energy Strategy), which states:

"The Council will consider, and will have regard to the impact of developments on the equine industry in assessing applications. The Council may, where appropriate, require the submission of an impact statement, particularly with respect to noise and shadow flicker."

Notwithstanding this policy context, the EIAR states that there are *"no registered thoroughbred stud farms or equine facilities within the Shadow Flicker Study Area,"* while simultaneously acknowledging equine facilities approximately 265m south of Turbine T01.

This represents both a factual inaccuracy and an internal inconsistency within the EIAR. Our premises is a registered equine premises located within the study area. The omission materially affects the baseline characterisation and receptor sensitivity assessment upon which the conclusions regarding likely significant effects are based.

Given the Development Plan requirement that the Council have regard to impacts on the equine industry, including noise and shadow flicker impacts, the failure to properly identify and assess existing equine receptors materially undermines the robustness and reliability of the EIAR conclusions.

During the same discussions, we queried whether alternative turbine layouts, reduced turbine numbers, increased setback distances, or alternative siting arrangements within the wider landholding had been considered in order to reduce impacts on nearby residential and equine receptors. We specifically raised the point that they must have a *"contingency plan"* for such a scenario.

The response provided was simply that no such contingency or alternative siting arrangement existed. It was indicated that removal or relocation of Turbine T01 could lead to requests for

the removal of other turbines elsewhere within the scheme. No explanation was provided as to why alternative layouts, reduced turbine numbers, or increased setback distances could not be considered.

This suggested that limited flexibility remained regarding turbine layout, turbine numbers, or setback distances, thereby constraining meaningful consideration of environmentally preferable alternatives and limiting effective avoidance of impacts on nearby receptors.

Concerns were also raised regarding potential effects on equine welfare, rider safety, and training operations. During discussions, it was stated by an MKO representative that there was no published evidence supporting such concerns. Reference was made during the meeting to existing guidance and published material, including British Horseracing Authority guidance and other sources relating to equine sensitivity and rider safety.

We were also informed that legal agreements had already been entered into with participating landowners. However, private contractual arrangements cannot diminish the statutory obligation to fully and objectively assess the impacts of the proposed development on nearby residential, ecological, and equine receptors, nor can they predetermine the outcome of the planning process.

Given the exceptional proximity of Turbine T01 to our home and equine infrastructure, together with the inconsistencies identified within the EIAR documentation, we respectfully submit that the assessment of the receiving environment is incomplete and insufficiently detailed in relation to the nature, sensitivity, and ongoing use of the property.

Accordingly, we respectfully request that An Coimisiún Pleanála apply careful scrutiny to the adequacy, accuracy, and completeness of the EIAR, particularly in relation to:

- the assessment of nearby residential and equine receptors;
- land-use compatibility;
- noise and shadow flicker impacts; and
- the apparent mischaracterisation of an existing registered equine premises and activity adjacent to Turbine T01.

Where specific inconsistencies and inaccuracies have been identified and raised during consultation, we respectfully submit that heightened scrutiny is required to ensure the integrity and robustness of the environmental assessment and planning process.

Section 14 Future Development

The EIAR states *"The Site, covering a total of 1,564 hectares, with the Proposed Wind Farm site measuring 830ha, comprises a mix of commercial forestry, agricultural pastoral land, mixed forest, transitional woodland shrub and public road corridors... the final chosen turbine*

layout is considered the optimal layout given it has the least potential for environmental effects."

Notwithstanding this conclusion, it is reasonable to observe that, given the scale of the overall landholding and associated infrastructure corridor, the current 14-turbine scheme may not necessarily represent the ultimate development potential of the wider site area.

The overall landholding of approximately 1,564 hectares is substantial. Once haul roads, crane pads, grid infrastructure, and access arrangements are established, future turbine additions, revised layouts, repowering, uprating, or operational intensification may become more feasible within the wider site through separate consent processes.

During discussions on 29th January 2026, we queried whether additional or larger turbines could potentially be introduced within the wider landholding in the future. The response provided was that any such future development would require a separate planning application.

It is acknowledged that any future modification or expansion would require independent planning consent and environmental assessment. However, the existence of substantial established infrastructure within a large landholding is relevant to the broader cumulative-planning context within which the current proposal falls to be assessed.

There are clear precedents within Ireland for wind-energy developments to undergo later expansion, repowering, turbine replacement, or operational intensification following initial consent. By way of example, the Meenadreen Wind Farm in County Donegal commenced as a small cluster of just 4 turbines but later secured a massive expansion permission to construct 38 additional turbines. This dramatically transformed the initial minor land holding into a major 95MW green energy site.

While the current application relates to 14 turbines, the scale of the wider landholding and associated infrastructure gives rise to legitimate cumulative-planning considerations regarding the long-term development potential of the site.

These considerations are particularly relevant having regard to the exceptional proximity of Turbine T01 to nearby residential and equine receptors. We already have significant concerns regarding residential amenity, equine welfare, operational disturbance, and business viability arising from the current proposal. In this context, the broader cumulative-planning setting reinforces the need for careful receptor-specific assessment, proportionate mitigation, and a precautionary approach to the assessment of likely significant effects.

Section 15 Do Nothing Approach

The EIAR characterises the "Do Nothing" scenario primarily as a failure to realise renewable-energy generation targets and associated economic investment. This represents an overly narrow and unbalanced interpretation of the baseline position.

The absence of the proposed development is not a planning failure, nor does it render the site environmentally or economically underutilised. Rather, the "Do Nothing" scenario represents the continuation of an already functioning rural landscape supporting established:

- agricultural activity,
- forestry,
- equine training facility,
- residential occupation,
- biodiversity,
- and rural economic activity all of which currently operate without the significant adverse impacts identified throughout this submission.

The EIAR places disproportionate emphasis on projected renewable-energy output, construction expenditure, rates income and temporary economic gains, while giving insufficient weight to the substantial environmental, social and economic value already generated by the existing land uses and rural landscape.

The assessment gives limited weight to the existing environmental, agricultural, forestry, residential and equine-related value of the receiving environment in the context of the 'Do Nothing' scenario.

The receiving environment already supports established agricultural, forestry, residential and equine-related land uses which contribute to ongoing rural economic activity, environmental management and landscape character.

These sectors are not obstacles to sustainability; they are already contributing to national climate and environmental objectives through sustainable land management, carbon storage and long-term rural economic activity.

The EIAR therefore oversimplifies the "Do Nothing" scenario by implying that refusal of the development would amount to a lost environmental opportunity, while largely ignoring the continuing environmental and economic contribution of the existing landscape.

The EIAR places significant emphasis on the contribution of the project toward Ireland's climate obligations under:

- the Kyoto Protocol,

- the Paris Agreement,
- and EU climate law.

That interpretation is not proportionate in the context of national climate policy obligations.

Ireland's climate obligations are national obligations to be achieved through a broad range of measures and projects across the State. They do not create an automatic entitlement to planning permission for every proposed wind-energy development regardless of location, scale or impact.

The EIA process therefore requires assessment not only of project benefits, but also whether the chosen location and scale of development are appropriate having regard to the sensitivity of the receiving environment.

Climate policy objectives must continue to be balanced alongside obligations arising under:

- the Habitats Directive,
- the Birds Directive,
- the Wildlife Acts,
- residential amenity protections,
- groundwater protection obligations,
- and the requirement for proper planning and sustainable development.

Nor does support for renewable energy remove the obligation to undertake a rigorous, site-specific assessment of impacts on nearby residents, equine enterprises, ecological receptors, groundwater systems and rural landscape character.

There are numerous renewable-energy projects currently progressing through the Irish planning system. Accordingly, refusal of this specific development would not prevent the State from continuing to pursue its broader renewable-energy and climate-policy objectives.

Significantly, the EIAR11.5.1 itself characterises the consequence of the Proposed Project not proceeding as constituting only a "*long-term slight negative effect*" in climate terms. The EIAR states that, if the project were not to proceed, "*the opportunity to further significantly reduce emissions of greenhouse gases*" and contribute toward national and EU climate commitments "*would be lost,*" but nonetheless concludes that this would amount only to a "*long-term slight negative effect.*"

In our view, this is relevant in balancing the claimed climate-policy benefits of the proposal at national, European, and international level against the significant site-specific concerns arising in relation to residential amenity, receptor sensitivity, equine welfare, and the exceptional proximity of Turbine T01 to established residential and equine receptors.

The planning issue is not whether renewable energy is desirable in principle. The issue is whether it constitutes proper planning and sustainable development to locate 185m industrial-scale turbines in exceptionally close proximity to an occupied residential curtilage, established equine-training gallops, sensitive ecological receptors, and a rural landscape already experiencing cumulative wind-energy pressure.

The "Do Nothing" scenario is the option which avoids the identified impacts whilst preserving:

- residential amenity,
- equine welfare and rider safety,
- groundwater integrity,
- ecological functionality,
- rural character and tranquillity,
- the viability of an existing equine enterprise,
- and the continued sustainable use of the receiving environment.

While the EIAR repeatedly quantifies projected economic gains associated with the proposed development, it fails to meaningfully assess potential economic losses arising from:

- interference with an existing equine-training enterprise,
- reduced property utility and marketability,
- loss of residential amenity,
- cumulative industrialisation of the rural landscape,
- reputational damage associated with operating an equine business adjacent to industrial-scale turbines,
- and the long-term impact on the attractiveness and viability of the property as a racehorse-training establishment.

This omission is a material limitation within the assessment. The EIAR effectively quantifies the perceived economic value of the proposed development while failing to quantify the potential economic harm to existing rural activities and businesses already operating within the receiving environment.

Proper planning requires a balanced assessment of both benefits and adverse consequences. This includes consideration of the existing environmental and land-use value of the receiving environment alongside the projected benefits of the proposed development. The existence of renewable-energy policy does not remove the obligation to appropriately balance competing environmental, residential and rural land-use considerations

Accordingly, the "Do Nothing" assessment contained within the EIAR is overly simplistic, disproportionately weighted toward project justification, and insufficiently reflective of the

substantial environmental, economic and social value already inherent within the existing landscape and established rural land uses.

In the specific circumstances of this case, involving an occupied residential curtilage located approximately 265m from a proposed 185m turbine together with an established equine-training facility and gallops located approximately 291m from the turbine, the "Do Nothing" scenario represents the option which avoids the residential, environmental and operational impacts identified throughout this submission.

Conclusion

Having regard to the totality of issues identified throughout this submission, it is respectfully submitted that the proposed Carrow Wind Farm development would give rise to significant and unacceptable impacts on:

- biodiversity and protected species,
- ecological connectivity and SPA resilience,
- water resources and hydrological integrity,
- residential amenity and human health,
- landscape character,
- and the continued viability of an established sensitive rural and registered equine facility.

The Environmental Impact Assessment Report and Natura Impact Statement appear to contain material deficiencies, omissions and areas of scientific uncertainty, particularly in relation to:

- the assessment of protected species including Hen Harrier,
- cumulative ecological impacts,
- habitat connectivity,
- hydro-ecological interactions,
- noise and residential amenity impacts,
- and the compatibility of the proposed industrial-scale development with the receiving environment.

Of particular concern is the apparent failure of the EIAR to adequately assess the interaction between the proposed development and the established use of the area as an occupied rural residential and equine-training environment, including residential curtilage located approximately 265m from Turbine T01 and equine-training gallops located approximately

291m from the turbine. The proposed development would introduce large-scale industrial infrastructure into an area currently characterised by environmental sensitivity, rural tranquillity, ecological importance and outdoor equine activity. The resulting land use compatibility and receptor-sensitivity issues do not appear to have been adequately assessed within the EIAR.

Furthermore, the EIAR appears to rely heavily upon mitigation measures and assumptions rather than demonstrating avoidance of environmental harm at source. Significant uncertainty remains regarding:

- the true ecological impacts of the proposal,
- the effectiveness of proposed mitigation,
- and the long-term cumulative consequences of the development on the wider receiving environment.

These concerns are reinforced by the findings of the Chief Executive's Report of Tipperary County Council, which identified concerns regarding the underestimation of ecological functionality, connectivity and resilience within the wider SPA network.

While we acknowledge and support the importance of renewable energy development and the transition to a low-carbon economy, renewable energy policy does not override environmental law, nor does climate policy displace the obligations arising under:

- the Habitats Directive,
- the Birds Directive,
- the Wildlife Acts,
- or the precautionary principle established under European and Irish law.

Support for renewable energy does not remove the obligation to apply the precautionary principle where significant scientific uncertainty remains regarding potential environmental effects.

The concerns identified throughout this submission are not isolated issues considered in abstraction. Rather, they interact cumulatively across ecology, hydrology, landscape, residential amenity, equine land use, noise, shadow flicker and human health, particularly having regard to the exceptional proximity of Turbine T01 to the identified residential and equine receptors.

The burden rests upon the applicant to demonstrate, on the basis of complete, precise and definitive findings and conclusions, that the proposed development would not adversely affect the integrity of European sites and that the likely significant environmental effects of the development have been adequately identified, assessed and mitigated. Based on the

information currently before the Board, it is respectfully submitted that significant uncertainty and assessment deficiencies remain.

Accordingly, and having regard to:

- the deficiencies identified within the EIAR and NIS,
- the compatibility issues arising between the proposed development and the established rural and equine receiving environment,
- the potential impacts on protected species and ecological connectivity,
- the uncertainty surrounding cumulative and long-term impacts,
- and the obligations imposed under Irish and European environmental law,

we respectfully request that An Coimisiún Pleanála refuse planning permission for the proposed development.

Figure 1: Our Property in relation to the proposed windfarm

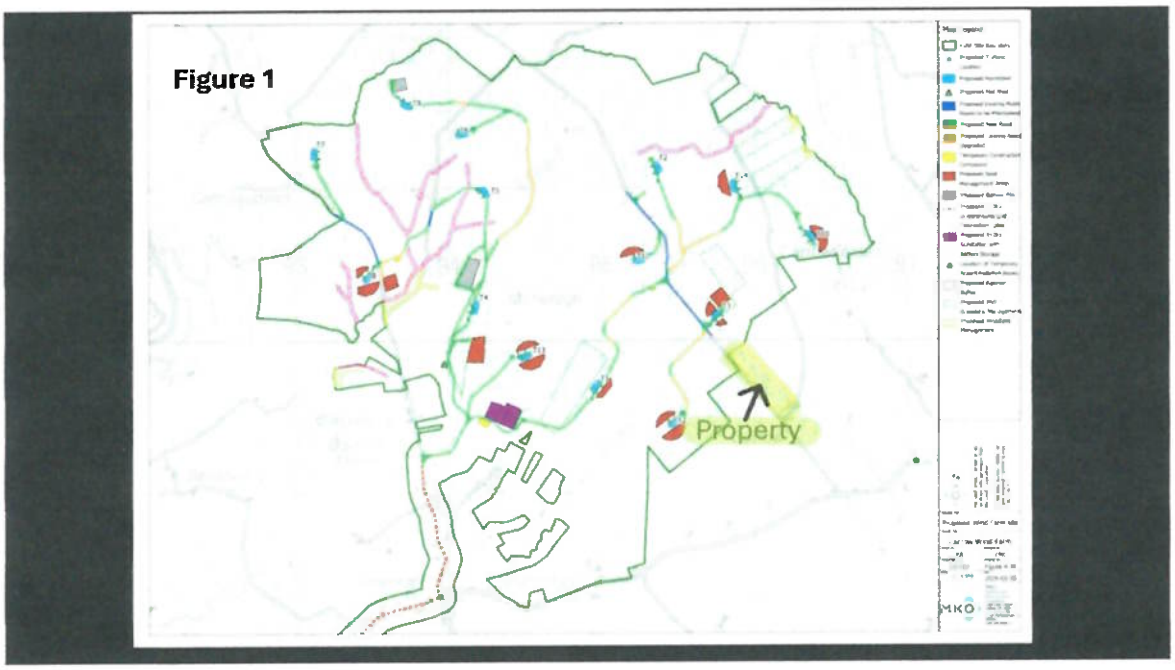
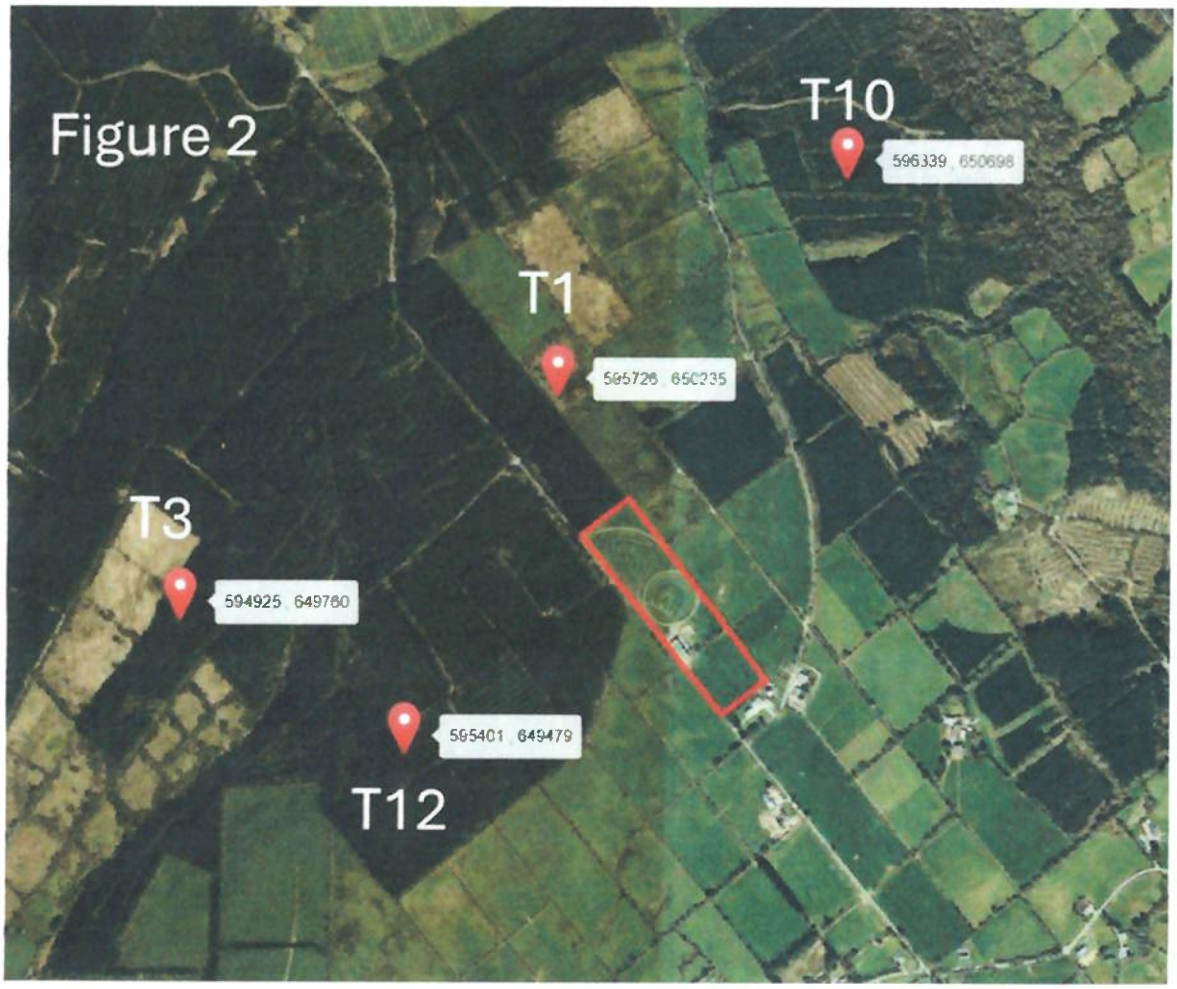


Figure 2: Proximity of 4 Proposed Turbines to Our Property and Equine Facilities



- T01: approximately 265m from the nearest point of the residential curtilage, approximately 291m from the closest section of the gallop, approximately 580m from barns and associated equine infrastructure, and approximately 735m from the farthest boundary of the holding;
- T12: approximately 585m from the residential curtilage, approximately 610m from barns and associated equine infrastructure, and approximately 715m from the farthest boundary of the holding;
- T10: approximately 823m from the holding;
- T03: approximately 870m from the holding.

Figure 3, 3A

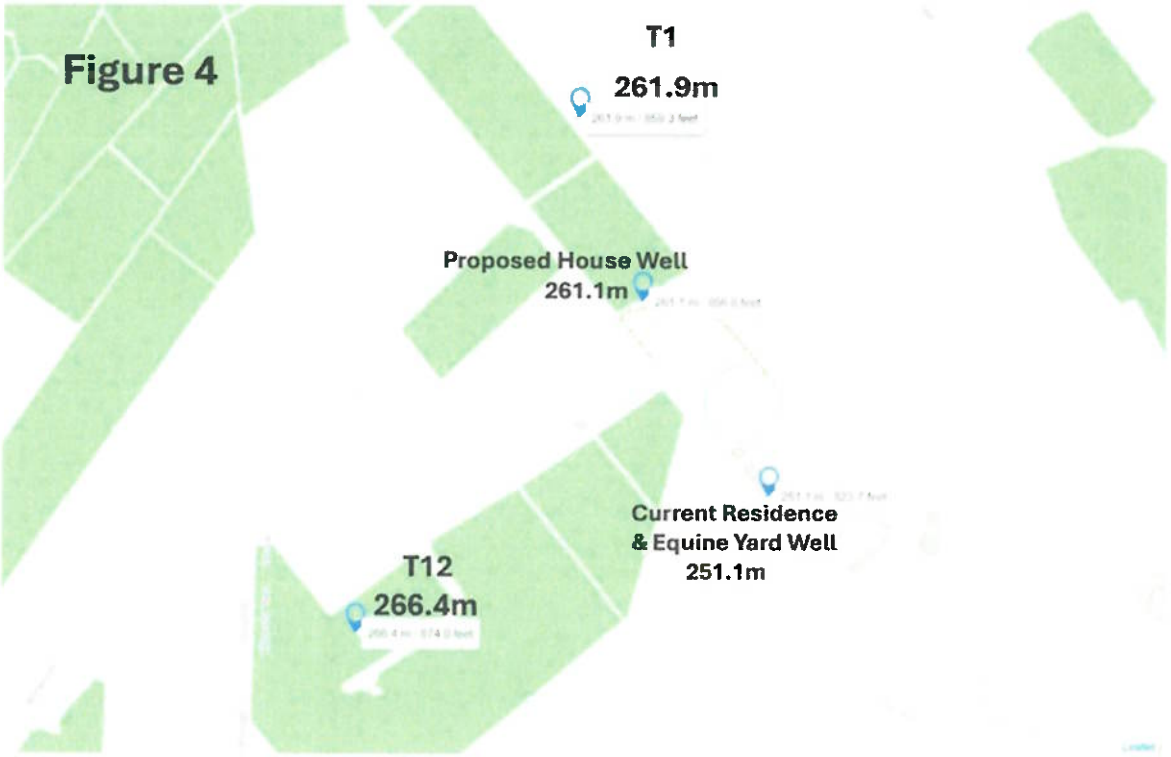
Illustrative photo of proposed Turbine T01 viewed from the edge of the gallop at approx. 291m. The image is not to precise scale or exact turbine coordinates but is intended to illustrate the likely visual relationship and proximity of the proposed turbine to the equine-training facilities. Glencarbry Wind Farm is visible in the distance.

Figure 3: 3B

Photo of existing operational Turbine at Glencarbry farm, 3.2km from our property

This turbine is approx. 135-140m (Glencarbry has two different height turbines). The photo was taken from road with an elevation difference of approx. 14.6 thus there is an increase of approx. 30-35m of height for proposed windfarm turbines at 185m.

Figure 4 illustrates the relative elevation differences between the proposed turbines T01 & T12, the residence, equine facilities, and associated wells



- The elevation difference between Turbine T01 and the proposed residence is approximately 0.8 metres.
- The elevation difference between Turbine T01 and the existing residence and equine yard is approximately 10.8 metres.
- The elevation difference between Turbine T12 and the proposed residence is approximately 5.3 metres.
- The elevation difference between Turbine T12 and the existing residence and equine yard is approximately 15.3 metres.

All recorded elevation differences between the proposed turbines and the on-site wells are less than 16 metres, substantially below the 50-metre level referenced elsewhere within the assessment documentation.

Appendix 1

Scientific and Industry Literature Relating to Equine Sensitivity

- Gimsing L, *Hestesport og ridesport: En analyse af ulykkesmønstre* (European Home and Leisure Accident Surveillance System Report, Denmark 2001)
- *Green AL, Davies R and Veterinary Consultants Ltd, *The Impact of Industrial Wind Turbine Emissions (Flicker and Tonal Noise) on Neonatal Foals and Thoroughbred Nursery Management* (Technical Environmental Impact Report 2021)
- Head HH and others, *Effects of Low-Flying Aircraft Noise on Endocrine Function and Milk Production in Equines and Bovines* (Research Report to the Federal Aviation Administration, FAA-EE-93-01, 1993)
- *Jones ER, 'Chronic Environmental Stressors and Physiological Instability in Commercial Equine Facilities' in *Equine Welfare and Industrial Co-existence Studies* (2019)
- *O'Connor M and Walsh P, *Assessment of Low-Frequency Noise and Visual Fluctuations on Gestating Equines* (Equine Veterinary Infrastructure Compliance Report 2021)
- *Smith TJ and others, *Early Developmental Behavioral Impacts of Acoustic Stressors on Thoroughbred Foals* (International Equine Behavior and Safety Forum Position Paper 2020)

Journal Articles

- Algers B, 'Animal Anxiety and Environmental Noise' (1984) 8 Veterinary Research Communications 157
- Brouček J, 'Effect of Noise on Well-being, Behavior, and Production of Agricultural Animals' (2014) 47 Slovak Journal of Animal Science 59
- Christensen JW, Keeling LJ and Rundgren M, 'Responses of Horses to Novel Visual, Olfactory and Auditory Stimuli' (2005) 93 Applied Animal Behaviour Science 53
- Christensen JW, Rundgren M and Olsson K, 'Training Methods for Horses: Link Between Habituation, Energy Expenditure, and Cortisol' (2006) 98 Applied Animal Behaviour Science 271
- Grönqvist G, Rogers C and Gee E, 'The Management of Horses during Fireworks in New Zealand' (2016) 6 Animals 20
- Holler F, 'Reit- und Reitsportunfälle im Krankengut einer chirurgischen Klinik' (1984) 109 Zentralblatt für Chirurgie 115
- Johnson PJ and others, 'Equine Stereotaxic Population Average Brain Atlas With Neuroanatomic Correlation' (2019) 13 Frontiers in Neuroanatomy 89
- Lesimple C, 'Indicators of Horse Welfare: State-of-the-Art' (2020) 10 Animals 294

- Riva MG and others, 'The Impact of Noise Anxiety on Behavior and Welfare of Horses from UK and US Owner's Perspective' (2022) 12 Animals 1319.
- Saslow CA, 'Understanding the Perceptual World of Horses' (2002) 78 Applied Animal Behaviour Science 209
- Scopa C and others, 'Physiological Outcomes of Calming Behaviors Support the Resilience Hypothesis in Horses (Equus caballus)' (2018) 8 Scientific Reports 17441
- Tracy JA, Keiper RR and Searing RM, 'Behavioral Reactions of Horses to Military Jet Aircraft Noise' (2007) 108 Applied Animal Behaviour Science 114
- Zeitler-Feicht MH, 'Verhaltensstörungen bei Pferden – Ursachen, Diagnose, Therapie' (1997) 25 Tierärztliche Praxis 412

Conference Proceedings

- Dai F and others, 'Noise Anxiety in Horses: A Pilot Study on Owners' Perspective' (Proceedings of the 16th International Society for Equitation Science Conference 2020) 66

Note:

The sources marked with an asterisk (*) are not peer-reviewed veterinary journal publications. They comprise expert reports, technical submissions, industry position papers, and materials prepared in the context of planning, environmental, or infrastructural assessment processes. These sources are referenced as examples of industry and professional concerns relating to potential effects of turbine-related noise, shadow flicker, and environmental disturbance on equine welfare, behaviour, breeding, and training environments.

Appendix 2:
Section 5 – Reported Community Concerns, Disputes and Litigation Relating to Wind Farm Development

Byrne v Wexwind Limited [2025] IEHC (Unreported, High Court, Quinn J, 5 June 2025)

- The Gibbet Hill Case (Wexford, 2025); High Court orders total shutdown of three wind turbines in Wexford due to noise nuisance' *The Journal* (Dublin, 5 June 2025)

Fockaert v SAS Margen (Toulouse Court of Appeal, 8 November 2021)

- Kim Willsher, 'French couple who said windfarm affected health win legal fight' *The Guardian* (Paris, 8 November 2021) <The Guardian>

Kelleher v Green Energy Supply Limited [2020] IEHC (High Court, Reynolds J, 25 February 2020)

- Aodhan O'Faolain, 'Siblings who became ill next to wind farm settle case' *The Irish Times* (Dublin, 25 February 2020) <The Irish Times>

Sinnott v Enercon Windfarm Services Ireland Ltd [2017] IEHC (High Court, 14 June 2017)

- Ann O'Loughlin, 'Cork village families settle action against wind turbine operators' *The Irish Examiner* (Cork, 14 June 2017) <The Irish Examiner

Kilcash Wind Farm Action Group, 'A Droning, Pulsating Noise: The Michael and Dorothy Keane Story' (Facebook Video, 2014) <Kilcash Action Group>

- Annotation for Objection: Demonstrates long-term, non-mitigable acoustic failure in domestic structures. Despite improvised insulation attempts using high-density polystyrene, duvets, and fleeces, local residents experienced continuous sleep deprivation from two 100-metre high turbines sited 700m away, leading to explicit medical advice recommending relocation.

Appendix 3:

Section 10 – Published Studies and Documented Wind Turbine Incidents

1. The Arklow Bank Offshore Wind Farm Fire (2022)

- **Public Reporting / Source:** 'No impact on the grid' after wind turbine catches fire during lightning storm off Wicklow coast' *The Journal* (Dublin, 20 October 2022) <The Journal>; 'Turbine struck by lightning as storm warning in effect' *RTE News* (Dublin, 20 October 2022) <RTE>.
- **Incident Summary:** On 19 October 2022, a General Electric (GE) 3 MW turbine at the Arklow Bank Offshore Wind Farm off the County Wicklow coast caught fire and billowed heavy smoke after a confirmed direct lightning strike during severe localized thunderstorms.

2. The Ballinamallard, Co. Fermanagh Fire (2025)

- **Public Reporting / Source:** William Smith, 'Fire service called to wind turbine fire in Fermanagh' *The Impartial Reporter* (Enniskillen, 10 October 2025) <The Impartial Reporter>; 'A wind turbine is currently on fire on the Makenny road Ballinamallard/Irvinestown' *Fermanagh Herald* (Enniskillen, 10 October 2025).
- **Incident Summary:** On 10 October 2025, the Northern Ireland Fire and Rescue Service (NIFRS) responded to an emergency call on Makenny Road, Ballinamallard, where a wind turbine caught fire, sending toxic black smoke across adjacent agricultural fields.

3. The Tursillagh, Co. Kerry Blade Detachment (2015)

- **Public Reporting / Source:** '30-metre blade plunges from wind-farm turbine' *The Irish Independent* (Dublin, 7 January 2015) <The Irish Independent>; Dáil Éireann Debate, 'Wind Energy Generation – Written Answers' (29 January 2015) Vol 866 No 3, Question 1 <Oireachtas Debates>.
- **Incident Summary:** In early January 2015, a 30-metre, 4.5-tonne fiberglass rotor blade completely detached from a Vestas V47 turbine and plummeted to the ground at the Tursillagh Wind Farm near Tralee, Co. Kerry. The event prompted an official investigation by the Department of Communications, Energy and Natural Resources.

4. The Cork "Flaming Blade Throw" Incident (2014)

- **Public Reporting / Source:** 'This wind turbine caught fire and threw a flaming blade dozens of metres' *The Journal* (Dublin, 6 July 2014) The Journal

- **Incident Summary:** In July 2014, a turbine operating in West Cork caught fire during hot, calm weather conditions. The mechanical failure caused the turbine to structural collapse, ultimately throwing a burning, flaming blade dozens of metres into adjacent flammable gorse and commercial forestry, which took the Bantry Fire Service hours to suppress.

5. Wind Energy Ireland Major Accident Statistics

- **Public Reporting / Source:** Coolglass Wind Farm Limited, 'Chapter 16: Major Accidents and Disasters' in *Coolglass Windfarm Environmental Impact Assessment Report (EIAR) Volume 2* (Prepared by SLR Environmental Consulting Ireland, 27 June 2023)

Published Studies

1. Sarlak H and Sørensen JN, 'Characterization of blade throw from a 2.3MW horizontal axis wind turbine upon failure' (2015) American Institute of Aeronautics and Astronautics, AIAA 2015-1494

2. Palmer WKG, *Wind Turbine Public Safety Risk, Direct and Indirect Health Impacts* (Independent Research Report, November 2018) DOI: 10.13140/RG.2.2.19049.75362

#	Date	Project	Type	Equipment	Age at Failure
1	April 2007	Port Burwell	Blade Failure	GE 1.5	11 months
2	January 2008	Prince Wind	Blade Failure	GE 1.5	2.1 years
3	April 2013	Kingsbridge 1	Fire	Vestas V80	7 years
4	August 2015	Goshen	Blade Failure	GE 1.62	6 months
5	April 2017	Bornish	Blade Failure	GE 1.62	3 years
6	January 2018	Raleigh	Tower Collapse	GE 1.62	7 years
7	May 2018	Huron Wind	Blade Failure	Vestas V80	15.4 years
8	April 2019	Sumac Ridge	Blade Failure	Senvion MM92	1.3 years
9	June 2021	Skyway 8	Blade Failure	Vestas V100	6.9 years*
10	August 2021	Bow Lake	Tower Collapse	GE 1.62	6 years

*100 days after secondary blades installed.

Debris Analysis:

- No debris from the tower to a distance 150 m from the tower.
- Debris 1.2 m x 3.6 m at a distance 150 m from the tower.
- Debris 1 m x 3.6 m at a distance 170 m from the tower.
- Debris 1.2 m x 3.0 m at a distance 210 m from the tower.

- Debris 1.2 m x 3.0 m at a distance 280 m from the tower.
- Debris 1.0 m x 0.15 m at a distance 560 m from tower.
- Minor debris pieces (smaller than about 0.2 m x 0.2 m) were seen scattered throughout the debris field at distances from 150 m out to about 600 m.

The link filestream.ashx shows pictures of each of the failures but in the case of Huron Wind, *"Immediate access to the site allowed full documentation of the debris created by this blade failure. The map below compares the limit of the protected area of 50 m with the actual locations of debris from the blade failure. Large pieces of debris found 280 m from the tower.*

- *Debris at 150m from tower - 1.3m X 3.6m*
- *Debris at 170m from tower*
- *Debris at 210 m from tower 1.2m X 3.0m*
- *Debris at 280m from tower 1.2m X 3.0m*