RE: Proposed Dyrick Hill Wind Farm

An Coimisiún Pleanála Case Reference: ACP-324420-26

SUBMISSION BY: Gerard and Ann Commins. Doon, Ballinamult, Co. Waterford. E91DK72.

Date: 6th Augst 2026

STATUS: Original Observer

To Whom It May Concern,

Pursuant to the invitation for **further submissions** regarding the reactivated/remitted application for the Dyrick Hill Wind Farm, I write to formally update my planning objections.

We explicitly maintain, restate, and incorporate all planning, technical, and environmental grounds raised in our original observation. We request the Commission to read our previous submission in direct tandem with these critical, net-new technical updates which demonstrate that the application remains fundamentally flawed and legally unsafe to approve.

We are the residents and property owners of the designated Noise Sensitive Location (NSL) at **E91 DK72**, listed as **H60** in the applicants' files. While the need for renewable energy is recognized, this specific location and layout represent an unacceptable imposition on the residential amenity and environment of this community. We request that the Board **refuse permission** based on the following severe technical, regulatory, and spatial deficiencies.

1. Fundamental legal and ecological invalidity of outdated baseline environmental data within Chapters 6 (Biodiversity) and 7 (Ornithology) of the EIAR.

The Environmental Impact Assessment Report (EIAR) re-lodged by the applicant upon reactivation of this case following the High Court order relies entirely on baseline environmental surveys that are chronologically stale and ecologically obsolete. Under the *EIA Directive (2014/52/EU)* and EPA Guidelines on the Information to be Contained in an Environmental Impact Assessment Report, an EIAR must accurately describe the ***current*** state of the environment.

By utilizing ecological field data that is over three to six years old, the applicant fails to present an accurate baseline, masking critical environmental shifts in the Knockmealdown mountain range.

A. Stale Ornithological Baseline vs. Dynamic Upland Habitat Shifts

As explicitly stated in Appendix 7.1 (Baseline Ornithological Surveys), the avian survey data used to evaluate collision risks and habitat displacement was captured between 2020 and 2022. This data is over four years old.

Avian population dynamics, foraging flight paths, and nesting site selections in upland environments change significantly over multiple seasons due to climate variance, localized forestry felling, and shifting prey availability. An assessment of collision risk for massive 162-metre rotor diameter turbines calculated on 2020 bird-use patterns does not reflect the 2026 reality. The competent authority cannot legally conclude a lack of significant effects based on historical, non-current avian tracking data.

B. Total Invalidation of Bat Risk Assessments via Outdated Analytics

The bat activity data presented in Appendix 6.2 (Bat Survey Report) was compiled in early 2023 or prior and evaluated using obsolete risk assessment versions of the ECOBAT analytical platform. Crucially, the Bat Conservation Ireland Onshore Wind Guidelines require transparent data interpretation that accounts for high-risk species in proximity to massive blade-tip heights.

Because the applicant's raw data has not been re-evaluated against current 2026 ECOBAT reference datasets and percentile metrics, the EIAR's entire risk classification matrix for high-altitude barotrauma and collision (affecting species like Leisler's bats) is mathematically flawed and scientifically invalid.

C. Erroneous Omission of Peatland Status and Soil Dynamics

The Irish Peatland Conservation Council (IPCC) has formally contested the applicant's baseline claim that there is no sensitive peatland in the development footprint. In the years since the original EIAR soil cores were evaluated, upland moisture dynamics and slope stability profiles have shifted due to documented patterns of intense, localized weather events.

Relying on an older, static 2022/2023 geomorphological evaluation to approve massive infrastructure foundations—each supporting an overall 185-metre tip height structure—ignores the current ecological vulnerability of the local bog and heath ecosystems.

The environmental baseline of the Dyrick Hill site has fundamentally changed since the applicant gathered field data years ago. Under EU and Irish planning law, *An Coimisiún Pleanála* cannot perform a lawful Appropriate Assessment or Environmental Impact Assessment using stale data. The application must be refused, or the developer must be forced to halt proceedings to execute entirely new, up-to-date winter and summer multi-disciplinary ecological surveys.

2. Disproportionate Scale, Visual Intrusion, and Contravention of the Waterford County Development Plan

The developer proposes structures with a 104-meter hub height and a 162-meter blade diameter, culminating in an overall tip height of **185 meters per turbine**. Structures of this industrial scale are entirely incompatible with a designated high-value landscape. We strongly endorse the consistent, formal opposition of **Waterford City and County Council**, which voted to oppose this development due to its catastrophic visual impact on the Knockmealdown Mountains. The erection of 12 industrial structures of this magnitude represents a severe visual scarring of the topography. The developer's insistence on an unoptimized, massive physical footprint—rather than deploying compact, modern technological solutions—directly results in a material contravention of local democratic planning protections. These objections were also supported by Tipperary County Council which has borders approximately 2 km from the site.

3. **Hydrological Vulnerability of Local Domestic Water Infrastructure**

The extensive excavation, blasting, and deep piling required to construct foundations for 12 massive turbines, alongside associated access tracks, pose an immediate and unmitigated threat to subterranean hydrology. My property relies entirely on a private well supply for domestic use.

We are located directly downhill from Broe mountain, and in particular turbines T06, T08 and T13 are significantly uphill from our home. Our water source is clearly affected by groundwater feeding into aquifers from this higher ground. The EIAR fails to provide localized geological profiling to guarantee that heavy groundworks uphill from Doon will not cause structural fracturing, permanent siltation, or chemical/hydrocarbon contamination of my essential private water source.

4. Severe Risks to Residential Safety: Structural Blade Failure and Ballistic Debris Trajectory

Insufficiency of standard planning setbacks against peer-reviewed trajectory data for modern turbine components.

The applicant's Environmental Impact Assessment Report (EIAR) relies on a generalized rule-of-thumb setback buffer (typically modeled as 4× tip height) as an assumed safety zone to mitigate risks to surrounding properties and public rights of way. However, given that the proposal features massive turbines with a 162-metre rotor diameter and an overall ground-to-tip height of 185 metres—peer-reviewed aerodynamic trajectory models demonstrate that standard default setbacks are structurally insufficient to isolate the impact zone during critical mechanical anomalies.

The empirical science modeling these risks establishes three distinct tiers of public safety exposure that contradict the applicant's safety layout:

A. High-Mass Structural Fragment Glide (200m to 700m Risk Zone)

When a major section of an 81-metre turbine blade shears off during standard wind or high-rotation operations, its heavy structural mass does not drop vertically; it acts as a partial airfoil.

Dynamic trajectory modeling by **Sarlak and Sørensen (2018)** (*"Analysis of detached objects from horizontal axis wind turbines"*) demonstrates that due to the immense mass of multi-megawatt components, heavy structural segments can glide or travel between 200 and 700 metres before grounding under typical operational velocities. For a 185m tip-height turbine, a major failure could drop heavy industrial debris directly onto the outer margins of the developer's primary buffer zone.

B. Aerodynamic Shrapnel and Delamination Field (800m to 1,000m+ Risk Zone)

If a turbine blade delaminates, cracks, or shatters under intense mechanical load, the resulting debris consists of lighter composite fragments made of glass-reinforced plastic (GRP) and carbon fibre. Probabilistic Monte Carlo simulations conducted by **Larwood and van Dam (2018)** (*"Analysis of Blade Fragment Risk"*), alongside foundational risk models by **Rogers and Slegers**, reveal that fragments with high lift-to-weight ratios function as highly effective flat-plate airfoils. These smaller ballistic pieces easily bypass standard linear planning buffers, scattering debris over a field radius extending from **800 to more than 1,000 metres** depending on local crosswind velocities in upland environments like the Knockmealdowns.

C. Catastrophic Extreme Ballistic Range during Uncontrolled Overspeed (Up to 2,000m/ 2km)

The most severe threat arises during high-wind gale events if a turbine's primary aerodynamic blade pitching controls and its secondary mechanical braking systems fail simultaneously, sending the rotor into an uncontrolled "overspeed" spin. Trajectory equations published by **Sarlak and Sørensen (2018)** establish that if a component detaches at a critical angle during peak terminal overspeed (where tip speeds accelerate past normal limits toward extreme mechanical failure thresholds), the fragment can be slung ballistically up to **2,000 metres (2 km)** from the base.

The EIAR fails to properly address the direct physical hazard that a catastrophic structural component or blade failure poses to my home at Eircode E91 DK72. At 185 metres in total height, these massive industrial structures are positioned high on the upland ridge line, physically elevated directly up-wind and uphill from my property in Doon.

Furthermore, and probably more significantly, the proposed development footprint directly interfaces with and is bisected by the **local L-road network** running alongside Dyrick Hill, Broemountain and Doon. This introduces an unmitigated risk to public health and safety. While a turbine's mathematical "topple distance" may clear the physical surface of the local L-road, it fails to account for ballistic debris fields or ice throw from 185-metre components overhanging a public transport corridor. Vehicles, cyclists, local farmers, and pedestrians use this road on a daily basis and it is a very popular scenic walking route. Anyone traversing these shared routes will be placed in an active ballistic strike zone if a blade undergoes structural failure or system malfunction. Permitting structures of this magnitude immediately adjacent to public roads creates an unacceptable public safety hazard. In particular, T06, (located at very close proximity to road side), T08 (tip-height of over 530m above sea level versus nearest road height of 230m above sea level) and T13 (tip-height of 610m+ above sea level).

5. Failure to Consider Reasonable Local Alternatives Within County Waterford

Under Chapter 3 of the applicant's EIAR ("Consideration of Reasonable Alternatives"), EMPower fails to demonstrate any rigorous spatial analysis or site selection filtering within County Waterford itself. Rather than identifying alternative local sites that align with the spatial zoning of the Waterford County Development Plan, the applicant compares Dyrick Hill to alternative project proposals in County Kerry.

The applicant's failure to evaluate reasonable alternative locations within Waterford's designated 'Preferred' or 'Open for Consideration' zones represents a fundamental systemic flaw in their environmental assessment. The Board should refuse permission on the grounds that the application materially contravenes Policy Objective UTL 13 and Appendix 7 (Wind Energy Strategy) of the Waterford City and County Development Plan 2022-2028, which explicitly designates this steep topographical landscape as a Wind Energy Exclusion Zone.

6. Non-Compliance with the EU Nature Restoration Regulation (2024/1991)

The proposed development directly undermines Ireland's binding statutory obligations under the **EU Nature Restoration Law**, which entered into force in August 2024. The site layout sits within a highly sensitive upland terrain, and will have a severe, permanent, and unacceptable ecological impact on European dry heath, a habitat explicitly protected under Annex I of the EU Habitats Directive. The applicant's layout establishes that the construction of this industrial energy infrastructure will result in the direct, irreversible destruction of approximately 3.5 hectares of dry heath on Broemountain and the surrounding upland ecology. This loss directly contradicts the strict conservation objectives established by An Bord Pleanála's previous assessments of this site. Furthermore, following the enforcement of the landmark EU Nature Restoration Regulation, Ireland is under an immediate, legally binding obligation to not only prevent the deterioration of such habitats but to actively restore at least 30% of poor-condition heaths by 2030. Permitting the permanent removal of high-quality, sensitive upland dry heath for commercial infrastructure runs entirely counter to Ireland's statutory international restoration targets, undermines regional biodiversity frameworks, and violates the Waterford County Development Plan's designation of this precise area as a "most sensitive," non-strategic landscape completely unsuitable for wind energy development.

7. Unacceptable Nocturnal Visual Impact and Strobe Glare at E91 DK72

Due to the 185-metre tip height of the proposed turbines, the installation of statutory medium-intensity (2,000 candela) red aviation warning lights is required on the 104-metre hubs. The applicant's landscape assessment fails to adequately address the severe visual degradation this infrastructure will impose on my property (E91 DK72) given our localized topography.

Because my residence sits on an elevated valley slope, our direct line of sight aligns horizontally with the turbine nacelles, exposing us to the maximum directional beam intensity of the warning lights. Under the frequent misty and low-cloud conditions characteristic of the Waterford mountain uplands, the automated visibility sensors will trigger these lights to operate at 100% capacity (2,000 cd), resulting in an intrusive 'sky glow' diffusion across the valley moisture. Furthermore, the continuous flashing/flickering effect caused by the 81-metre long rotor blades intermittently screening the nacelle lights across the 162-metre rotor diameter will create a severe, continuous night-time strobe disturbance that destroys the rural tranquility protected under local zoning policy.

8. Failure of ISO 9613-2 Framework to Account for Complex Topographical Turbulence

The applicant's reliance on SoundPLAN software implementing the ISO 9613-2:1996 standard is fundamentally flawed due to the unique topographical constraints of the site. The ISO 9613-2 model mathematically assumes a simplified, uniform downwind propagation in all directions simultaneously over a stable ground plane. In reality, the steep, undulating, and hilly terrain surrounding Doon, Ballinamult creates significant aerodynamic turbulence, micro-climate wind variations, and localized wind shear as air currents accelerate over the mountain ridges. The software algorithms are incapable of simulating these multi-directional aerodynamic wakes, meaning the Environmental Impact Assessment Report (EIAR) severely underestimates the real-world operational noise impact and resulting loss of residential amenity at my property.

9. Lack of Transparency and Verification of the IOA GPG Concave Terrain Penalty (+3 dB)

The Ballinamult and Knockmealdown foothills experience frequent low-lying mist, heavy fog, and high humidity. Under these common microclimatic conditions, downward acoustic refraction occurs. The moisture-laden air traps aerodynamic sound waves, bending them downward toward the valley floor and significantly enhancing the propagation efficiency of low-frequency "thumping" and amplitude modulation. The EIAR noise assessments are deficient because they assume standard dry atmospheric conditions. During high-humidity and misty conditions, the operational noise will cause an unacceptable, amplified loss of residential amenity at my property.

Under Section 4.3.4 of the Institute of Acoustics Good Practice Guide (IOA GPG) (and further supported by The Assessment and Rating of Wind Turbine Noise (ARWTN) framework —the mandatory regulatory baseline for wind energy acoustic assessments in Ireland—a +3 dB propagation penalty must be strictly applied to any turbine-to-receptor path where the terrain profile is concave or spans a steep valley. Because my property (E91 DK72) sits within a complex valley slope relative to the 185-metre blade tip turbine layout, sound waves will "skip" across open air gaps, completely bypassing ground absorption.

I request that An Coimisiún Pleanála mandates the applicant to submit the explicit geometric terrain cross-sections for every individual turbine-to-E91 DK72 propagation path. If the applicant has omitted the +3 dB concave terrain penalty on *any* line of sight to lower the cumulative decibel reading below the statutory 43 dB night-time limit, the entire acoustic model must be deemed legally invalid and non-compliant with best practice.

Furthermore, as established by the landmark Irish High Court precedent ***Webster v Meenaclogher Wind Limited***, strict adherence to automated planning conditions does not insulate a project from causing an actionable private nuisance. The Board must recognize that the specific combination of this terrain and microclimate will cause a severe, continuous noise nuisance to my household.

Technical and Scientific References

We request the Board to cross-examine the developer's EIAR against the following peer-reviewed baselines:

1. **Technological Alternatives (Noise Mitigation):**
    - *Study:* Subramanian et al., *"Energy enhancement through noise minimization using acoustic metamaterials inside a wind farm,"* Renewable Energy (Elsevier).
    - *Relevance:* Proves that advanced physical phase-cancellation structures yield up to 91% acoustic reduction, highlighting the developer's failure to assess modern alternative mitigation technologies.
2. **Amplitude Modulation & Irish Regulatory Deficiencies:**
    - *Study: "Wind Sense: Generating Wind Turbine Noise Annoyance Maps for Ireland,"* University of Galway / Environmental Protection Agency (EPA).
    - *Relevance:* Demonstrates that standard time-averaged dB(A) models used by developers fail to account for rhythmic pressure pulses and low-frequency amplitude modulation, which are the primary drivers of residential sleep disturbance.

10. Inappropriate Ground Factor (G) Selection for Upland Terrains

The EIAR utilizes a generalized, mixed ground factor of G = 0.5. While standard for flat farmland, this factor is entirely inappropriate for the specific geological and topographical constraints of the Dyrick Hill site. The steep, rocky inclines and high-moisture, weather-saturated upland soils characteristic of this mountain region behave acoustically as a hard, reflective surface (G = 0.0) rather than a porous, absorbing one. By failing to model the terrain with a hard ground factor, the software has generated artificially depressed noise contours that do not reflect the true acoustic exposure at my home.

11. Failure to Investigate "Best Available Techniques" (BAT) and Technology Alternatives (EIA Directive 2014/52/EU)

Under *EIA Directive 2014/52/EU*, an EIAR must comprehensively evaluate reasonable design and technological alternatives studied by the developer, offering an objective justification for the chosen design.

In Chapter 2 (Alternatives) and Chapter 10 (Noise), the developer establishes the Vestas V162 as their chosen model. The V162 relies entirely on industry-standard, passive Serrated Trailing Edges (STE). While STE addresses generic high-frequency aerodynamic turbulence, it does not incorporate active acoustic metamaterial barriers or orbital angular momentum phase-nullification technology.

To suppress low-frequency sound field propagation, the V162 relies on basic software curtailment ("Sound Power Optimization Mode"). This requires mechanically slowing the blade rotation speeds during critical wind phases, inherently reducing the overall energy efficiency and viability of the site. Emerging environmental engineering frameworks demonstrate that traditional geometric setbacks and software throttling are no longer the exclusive or most efficient baselines. Modern material science features highly effective Acoustic Metamaterials (AMMs) capable of achieving a 68%–91% reduction in low-frequency propagation without throttling production or expanding the visual footprint. By ignoring advanced technical interventions, the developer's design represents a material failure to explore less invasive technological alternatives, unnecessarily compromising both grid yield and local residential amenity.

Scientific Support: A landmark study published in *Renewable Energy* (Elsevier) titled *"Energy enhancement through noise minimization using acoustic metamaterials inside a wind farm"* proves that engineered AMM layouts utilizing evolutionary genetic algorithms can achieve up to a 91% reduction in acoustic noise levels via phase cancellation principles. Because the developer has ignored these proven, non-invasive acoustic boundaries, their EIAR fails to properly evaluate the modern evolution of "Best Available Techniques" .

12. Inadequacy of Haul Route and Construction Traffic Safety

The delivery of 81-metre long turbine blades and multi-tonne abnormal components requires the navigation of narrow local roads (such as the R672 and minor connecting routes). These rural roads feature structural stone ditches, soft verges, and historic stone bridges completely unsuited to industrial transport logistics. The EIAR does not demonstrate how these specialized vehicles can safely traverse tight local bends without compromising private boundaries, causing severe traffic gridlock, or blocking emergency vehicle access to residential homes in Doon.

13. Cumulative Impact of proposed wind farms

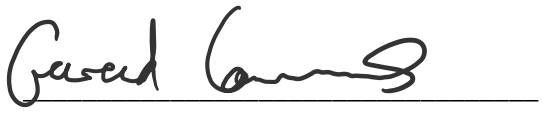
Since the original application from Dyrick Hill Windfarm was made, a further application has been made for a 15 turbine windfarm at Scart mountain which is immediately adjacent to Dyrick Hill. Also, to the east the proposed Coumnagappul Wind Farm was refused planning as it contravened the Waterford Development plan and it was deemed to have too great a visual impact on the area. Should Dyrick Hill Windfarm receive permission this could materially strengthen the case for these other projects leading to the potential for a significant negative impact on the visual amenity of the overall area.

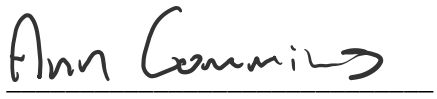
Conclusion

For the reasons outlined above, both individually and in particular cumulatively, we respectfully urge An Coimisiún Pleanála to uphold the protection of local residents, ecology, and landscape, and **REFUSE** planning permission for Case 324420.

Thank you most sincerely for taking the time to consider our submission.

Yours faithfully,





Gerard Commins

Ann Commins

Date: 6th August 2026