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**RE: Strategic Infrastructure Development (SID) Application – Case Reference:
ABP-324279-26**

Proposed Ballincor Wind Farm and all associated infrastructure located within the townlands of Cloonaheen, Ballincor Demesne, and Curralanty, Co. Offaly, and Clonfree, Castletown, and Cronekill, Co. Tipperary.

Date: 30-June-2026

Statement of Authority: Qualification in mathematics and sciences, with many years of experience as an active member of various environmental non-governmental organisations (NGOs).

Dear Sir/Madam,

I am writing to formally submit an observation regarding the 10-year planning application submitted by RWE Renewables (Ireland) Ltd for the proposed Ballincor Wind Farm development.

While the imperative for renewable energy infrastructure under national and European frameworks is acknowledged, such developments must not bypass strict compliance with EU environmental directives, county development plan frameworks, and robust technical methodologies. This planning application suffers from severe omissions, localized ecological threats, and fatal procedural gaps across multiple criteria.

The Board is respectfully urged to refuse permission based on the comprehensive planning, legal, and environmental arguments detailed by these following chapters:

1. Microclimatic Impacts and Habitat Degradation on Active Raised Bog (Turbine 4)

Active raised bog is classified as a priority habitat under Annex I of the EU Habitats Directive. As demonstrated in **Figure 1**, the physical sweep of the turbine blades directly encroaches upon this fragile ecosystem.

- The Environmental Impact Assessment Report (EIAR) fundamentally fails to address the downstream microclimatic wake alterations created by large-scale rotating blades. Operating turbines increase vertical air mixing. At night, they draw warmer, drier air down to the ground surface, and during the day, they accelerate localized evaporation rates. Raised bogs rely entirely on a delicate, rain-fed acrotelm (surface layer). Even minor microclimatic increases in evapotranspiration risk drying out the bog surface, permanently compromising its carbon-sequestering and ecological functionality.
- The spinning blades subject the priority habitat to structural shadow flicker and physical air-pressure waves. Research demonstrates that the severe aerodynamic wake and acoustic masking force local avifauna to drastically alter their behavior, with some species forced to sing louder to be heard over wind-energy infrastructure. This acoustic and physical disturbance directly drives habitat fragmentation, deterring vulnerable species from navigating or utilizing the adjacent bog.
- Please investigate for yourselves the effect this motion and wake will have on bird species such as Curlew and Snipe and I ask your ecologist to look into this.

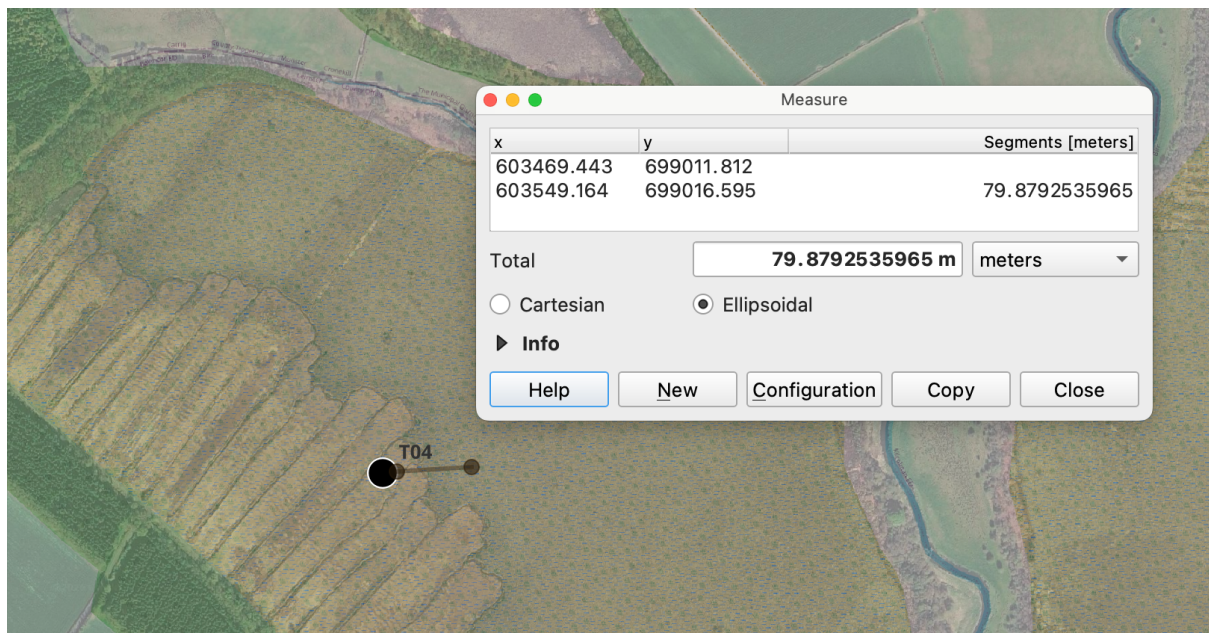


Figure 1: T4 Blades extending over raised bog.

2. Disruption of Courtship and Nesting of the Common Snipe (*Gallinago gallinago*)

The development site hosts an established breeding and nesting population of the Common Snipe, a wading bird of conservation concern.

- The male snipe performs a high-altitude courtship display known as drumming or bleating. The bird dives steeply at speeds exceeding 40 km/h, utilizing extended outer tail feathers to mechanically generate its distinct vocalization.
- This aerial behavior frequently positions the birds at or above the height of the lower blade tip, forcing them to fly through the turbine wake. A turbine's wake is characterized by heavily turbulent, chaotic, and slowed-down air. This turbulence disrupts the stable airflow needed to vibrate the tail feathers, distorting the sound production mechanics. Furthermore, it undermines the bird's lift-to-drag ratio, forcing severe aerodynamic instability that strains flight mechanics and leads to documented long-term avoidance and steep drops in breeding density.

3. Peat Slide Risk and Downstream Hydraulic Linkages to Protected Sites

The topography and soil profile of the development site pose catastrophic risks concerning slope stability and water quality.

- The EIAR notes that numerous minor streams and artificial drains cross-cutting the site empty directly into the Little Brosna River. The documentation acknowledges that a localized slope failure or peat excavation collapse could rapidly escalate into a major peat slide event feeding into a watercourse. For Turbine 8, Turbine 9, and Peat Deposition Area 1, the distance to mapped active watercourses is less than 10 meters. Because of this extreme proximity, initial pre-control exposure impacts are rated as "Very High."
- The eastern boundary of the development is delineated by the Little Brosna River, establishing a direct, unbroken hydraulic linkage to European protected sites, including the Little Brosna Callows Special Protection Area (SPA) and the Sharavogue Bog Special Area of Conservation (SAC). Under established CJEU case law (e.g., *Waddenzee*), if an EIAR or Natura Impact Statement (NIS) contains any residual scientific ambiguity, data gaps, or unproven assumptions regarding downstream siltation and runoff, the Board is legally prohibited from granting permission.
- Heavy engineering work including massive excavations, deep-set foundations, and heavy piling risk severing critical subsurface hydrological pathways feeding the river system. The resultant construction noise, piling vibrations, and compromised water clarity threaten to permanently degrade downstream spawning beds for protected salmonids (salmon/trout) and disrupt the foraging corridors of the protected European Otter (*Lutra lutra*).

4. Telecommunications and Material Assets: Technical Interference and Unresolved Consultation

The site layout directly challenges critical scientific and utility infrastructure in the region.

- **Turbine 1 (T1)** is located at 4.96 km from the highly sensitive Birr I-LOFAR radio telescope array, breaching the strictly mandated 5 km exclusion zone. The application explicitly admits that at the time of final compilation, no response or clearance had been received from the observatory regarding the Ballincor Wind Farm. Proceeding with a development that risks severe electromagnetic interference to an international scientific instrument without formal clearance constitutes an incomplete assessment of Material Assets.
- Independent of the radio telescope, the physical mass and rotational sweep of the turbines pose a clear risk of Fresnel-zone clipping and signal degradation to critical telecommunication and wireless links routing across the site. The application lacks fully verified, closed-loop technical mitigation approvals from relevant network operators, leaving a material asset vulnerably exposed.

5. Legal Liabilities Regarding Biosecurity and Non-Native Invasive Species

Biosecurity controls within the planning application are legally deficient.

- Section 6.2.6.4 establishes that the non-native, highly invasive Alpine Newt was recorded on-site in 2022 and confirmed via environmental DNA (eDNA) sampling in 2024.
- Under Regulation 49 of the *European Communities (Birds and Natural Habitats) Regulations 2011*, it is a strict criminal offense to allow, cause, or accelerate the dispersal of a Third Schedule invasive species. Given that the construction phase requires extensive site clearance, heavy plant movement, excavation, and massive drainage modifications, the risk of further spreading this species across catchment areas is immense. The absence of a fully compiled, legally binding, species-specific Invasive Species Management Plan for the Alpine Newt prior to determination invalidates the robustness of the application's ecological mitigation framework.

6. Project Splitting and Inadequate Transboundary Risk Frameworks

The structural framing of the planning application introduces fatal procedural errors.

- **Project Splitting:** The current application excludes necessary, extensive roadworks and structural modifications required within the public road corridor along the designated Turbine Delivery Route (TDR). Isolating the primary wind farm application from the essential infrastructure updates required to physically deliver it constitutes "project splitting" a direct violation of the EIA Directive designed to prevent the compartmentalization of a project's full environmental footprint. This attempt to compartmentalize the development directly conflicts with established Irish jurisprudence regarding the indivisibility of wind energy projects. In the landmark case *O'Grianna v. An Bord Pleanála* [2014] IEHC 632, the High Court firmly established that interdependent components of a wind energy development specifically the turbine site and its connection

infrastructure constitute a single project that cannot be severed to avoid a cumulative Environmental Impact Assessment (EIA). This principle was further reinforced in *Daly v. Kilronan Wind Farm Ltd* and *Sweetman v. An Bord Pleanála & Ors* [2023] IEHC, where the courts reiterated that treating essential enabling infrastructure as separate or exempted development undermines the legal integrity of the EIA process. By omitting the extensive physical works required along the TDR from the baseline assessment of this application, the developer has engaged in the exact type of piecemeal assessment that Irish courts have repeatedly quashed.

- **Transboundary Coordination Failure:** The site straddles the Offaly and Tipperary county border. Any failure to explicitly implement a dual-county, unified planning framework to assess transboundary risks represents a fatal flaw. This is most evident in the assessment of the Battery Energy Storage System (BESS). The application artificially restricts the potential impact zone of a BESS thermal runaway event, treating it as a minor, localized asset.
- **The Cumulative Effluent Threat:** In the event of a catastrophic BESS chemical fire, huge volumes of toxic firewater will be generated. Because the wind farm's massive physical footprint will have already stripped the natural topsoil, altered natural drainage, and laid down fast-flowing gravel access tracks, any toxic chemical escape will travel rapidly with zero natural soil filtration straight into the Little Brosna River and the adjacent Sharavogue Bog SAC. Failing to explicitly integrate a pre-agreed, cross-boundary emergency framework between both local authorities fails the completeness test demanded under EU environmental law.

7. Explicit Conflict with County Development Plans

The layout fundamentally breaches local planning policy guidelines.

- **Offaly County Development Plan:** The proposed development site falls squarely within zones designated as "Areas Not Deemed Suitable for Wind Energy Development" under Map No. 10 of the Offaly County Development Plan.
- **Tipperary County Development Plan:** Mirroring this conflict, the southern portions of the site infringe upon areas explicitly designated as unsuitable for new wind development within the Tipperary County Development Plan framework. A grant of permission here would completely subvert the democratically adopted, evidence-based spatial planning policies of both local authorities.

8. Direct Degradation of Strictly Protected Bat Populations

The scale of habitat destruction required for construction directly threatens local bat species.

- **Felling and Foraging Loss:** The layout requires 7.2 hectares of tree felling and 1 kilometer of continuous hedgerow removal.
- All bat species in Ireland are strictly protected under the Wildlife Act (1976) and Annex IV of the EU Habitats Directive. Eliminating these landscape features

directly strips out verified commuting corridors and foraging grounds. Given that project surveys identified numerous individual trees with potential roost features (PRFs), including a high-maternity potential feature, clearing these areas without a prior, fully granted Regulation 54 Derogation Licence from the National Parks & Wildlife Service (NPWS) creates a profound risk of committing a statutory offense during site preparation.

9. Fundamental Conflict with the EU Nature Restoration Law (Bog Restoration Targets)

The physical placement of infrastructure over and adjacent to active raised bog runs directly counter to Ireland's incoming statutory obligations under the EU Nature Restoration Law.

- This legislation establishes legally binding targets forcing Member States to actively restore at least 20% of the EU's land and sea areas by 2030, scaling up to all ecosystems in need of restoration by 2050. Given that Ireland's National Restoration Plan must be formally finalized for submission to the European Commission, the state is under immense legal pressure to safeguard and rewet degraded peatland systems to reverse biodiversity loss and meet critical carbon-sequestration goals.
- Permitting a heavy-industry project complete with massive concrete foundations, altered surface hydrology, and microclimatic drying effects directly on or adjacent to these core peatland assets permanently compromises their restorability. Instead of assisting the long-term ecological integrity and resilience of these habitats, the construction effectively locks in localized degradation. This introduces a significant compliance conflict, as the state cannot realistically achieve its strict, mandatory 2030 and 2050 ecosystem recovery targets if local planning boards approve the long-term industrial fragmentation of the very bog networks earmarked for national restoration

10. Biodiversity Enhancements Used to Mask Real Damage

The applicant's reliance on the **Biodiversity Enhancement and Management Plan (BEMP)** to claim net gains or no adverse effects on the environment introduces a fatal legal flaw under European Court of Justice (CJEU) case law. The application attempts to use habitat creation elsewhere on the site such as planting 1.3 km of new hedgerows or off-site tree planting to offset the permanent physical destruction of 7.2 hectares of forestry and 1 km of mature hedgerow.

- **The *Briels* Principle (Case C-521/12):** Under the landmark CJEU ruling in *T.C. Briels and Others v Minister van Infrastructuur en Milieu*, the European Court firmly established that **compensatory measures cannot be used to support a conclusion of "no adverse effect on site integrity"** at Stage 2 of an Appropriate Assessment. The Court ruled that positive environmental enhancements aimed at creating new habitats or upgrading adjacent land to offset the direct loss of an existing habitat are legally classified as *compensation*, not *mitigation*.

- The CJEU explicitly held that the positive effects of future habitat enhancements are "highly difficult to forecast with any degree of certainty" and cannot be verified until years into the future. Because the applicant is permanently destroying established bat foraging corridors, bird nesting habitats, and microclimatic zones around the active raised bog, they cannot legally use the promise of future, unproven habitat "enhancements" to bypass the strict precautionary principles of the Habitats Directive.
- This legal boundary was further reinforced in ***Grace & Sweetman v An Bord Pleanála (Case C-164/17)***, which established that active management of alternative land parcels to maintain overall habitat area constitutes compensation. By treating transactional, post-consent biodiversity offsets as "mitigation" to mask the raw, unmitigated damage of site excavations and felling, the baseline assessment of the EIAR and NIS is legally compromised. Because true mitigation must prevent or reduce the impact *at the point of destruction*, the Board cannot legally accept the BEMP as a valid mechanism to clear Stage 2 compliance.

11. Specific Layout and Civil Engineering Vulnerabilities of Turbine 4 (T4)

Beyond the severe microclimatic drying effect caused by its overlapping blades, the actual construction of Turbine 4 poses localized environmental and civil engineering threats that have not been adequately mitigated in the application files.

- **Floating Road and Peat Stability Failures:** As acknowledged in Section 8.4.2.4 (Page 8-35) of the EIAR, the development relies on "floating roads" over low-bearing-capacity soils to avoid deep-draining the peat matrix. However, the immense structural loads required to erect a 180-meter turbine including the transport and pouring of an estimated \$10,000m³ of compacted foundation material (Footnote 11) will place severe shear stress on the surrounding peat slopes. If a localized slope failure occurs during the construction of the T4 hardstanding or its floating access track, it will trigger an immediate, cascading peat slide directly into the active drains feeding the Little Brosna River.
- **The Problem with Layout Evolution Gaps:** As explicitly noted in the project's technical appendices, minor amendments were made to the wind farm layout *after* the baseline passive ecological and environmental monitoring surveys were completed. Consequently, several monitoring points do not align with the finalized turbine bases. Building T4 on a sensitive peat boundary using baseline data collected away from its exact finalized center point introduces technical ambiguity, failing the strict precautionary "certainty test" required under Irish planning law.
- **Sub-Surface Hydrological Severance:** Active raised bogs rely on a critical, intact sub-surface hydrological equilibrium to keep the water table within centimeters of the surface. Excavating a massive, deep-set structural concrete foundation for T4 acts as a permanent sub-surface dam. This foundation physically severs the natural lateral movement of groundwater, causing localized pooling on one side of the turbine and severe, irreversible structural drawdown (drying out) on the other.

References:

Peatland Microclimates & Bog Preservation

- **Armstrong, A., et al. (2014).** Wind farm and solar park effects on plant–soil carbon cycling: Uncertain impacts of changes in ground-level microclimate. *Global Change Biology*, 22(3), 1099–1110.
 - Documents how wind turbine arrays alter the atmospheric boundary layer, causing vertical air mixing that changes ground temperatures and soil moisture levels on delicate peatland environments.
- **Armstrong, A. (2012).** *The effect of wind turbine-induced microclimates and plant functional types on peatland greenhouse gas emissions and pore water dissolved organic carbon concentrations.* 14th International Peat Congress Proceedings.
 - Field research from the Black Law Wind Farm in Scotland showing real-world shifts in moisture, water table depths, and carbon fluxes along turbine-induced microclimatic wake gradients.
 - Available from the International Peatland Society.

Aerodynamic Impacts on Bird Flight

- **Scientific Reports (2025).** Effects of wind turbine wakes on bird gliding aerodynamic performance. *Scientific Reports*, 15, Article No. 39888.
 - Large-Eddy Simulation (LES) data proving that a bird's lift-to-drag ratio drops by up to 30% when flying near upper and lower blade tips due to wake turbulence, inducing severe flight instability.
- **Marques, A. T., et al. (2021).** An assessment of bird displacement effects around wind energy facilities. *Birds*, 2(2), 185–201.
 - Global systematic review proving that over 40% of studied bird species experience significant behavioral macro and meso-avoidance displacement, leading to permanent functional habitat loss.

Environmental Noise & Habitat Disruption

- **National Wind Watch (2026).** *Wind turbines are getting so loud that some birds are being forced to sing louder just to be heard.*
 - Public record and ecological review detailing how industrial acoustic masking from expanding turbine footprints alters native avian vocalization patterns and nesting site choices.

Key Legal Precedents (Irish & European Case Law)

- **O'Grianna & Ors. v. An Bord Pleanála [2014] IEHC 632**
 - Established the definitive legal precedent in Ireland that grid connections and auxiliary components are an indivisible part of a wind farm project, making "project splitting" an absolute statutory failure.
- **T.C. Briels and Others v Minister van Infrastructuur en Milieu (Case C-521/12)**
 - Landmark European Court of Justice (CJEU) ruling confirming that localized biodiversity enhancement or habitat creation schemes elsewhere on a site cannot be legally classified as mitigation to bypass strict assessment thresholds.
- **Edel Grace and Peter Sweetman v An Bord Pleanála (Case C-164/17)**

- Reaffirms that environmental management plans designed to sustain habitat integrity during development are compensatory in nature and do not clear the scientific certainty test required to rule out adverse effects.

Conclusion

The proposed Ballincor Wind Farm development presents an unacceptable level of risk to priority Annex I habitats, protected fauna, and regional water quality. The application relies on incomplete consultations regarding critical scientific material assets, risks severe transboundary pollution, utilizes project splitting along its delivery route, and operates in direct violation of both the Offaly and Tipperary County Development Plans.

Given these deep ecological, structural, and legal issues, I respectfully request An Coimisiún Pleanála to uphold the integrity of local planning policy and European environmental law by refusing planning permission for this development.

Yours faithfully,

Signed



Enda Mannion

Appendix I: Sub-Surface Hydrological Severance and the Layout Evolution Gap

This appendix outlines the core scientific framework supporting the engineering and ecological objections raised in Section 11 of this submission. The technical realities of peatland degradation highlighted below are grounded in the peer-reviewed methodologies established in the 2024 study, *"Quantifying peatland land use and CO2 emissions in Irish raised bogs: mapping insights using Sentinel-2 data and Google Earth Engine,"*.

1. Mechanistic Realities of Sub-Surface Hydrological Severance

When heavy wind farm infrastructure and access tracks fragment a raised bog, the impact extends far beneath the surface. As established in modern peatland emission frameworks, the compression and cutting of the peat matrix permanently severs the natural lateral flow of water through the living, rain-fed top layer (*acrotelm*).

- This physical interruption causes a persistent drawdown of the localized water table.
- As the peat dries out from the severed water flow, oxygen penetrates the deeper layers, accelerating decomposition and triggering massive releases of dissolved and particulate organic carbon (DOC and POC).
- This structural disruption permanently shifts the ecosystem from a vital carbon sink into an active net carbon emitter. The data indicates that built-up areas and infrastructure account for roughly 1,358 hectares of degraded Irish raised bog footprints, directly encroaching upon sensitive, protected ecosystems.

2. The Flawed Baseline: Addressing the "Layout Evolution Gap"

The applicant's reliance on outdated or coarse-resolution baseline data ignores what is scientifically recognized as the "Layout Evolution Gap" the severe spatial and temporal discrepancies between historical land-use records and modern, high-resolution ecological reality.

Peatlands are highly dynamic, changing rapidly over decades of human intervention and domestic extraction. The mapping insights from the *Scientific Reports* study expose a massive data deficit in traditional tracking, revealing that national inventories underreport managed wetlands at ~70,020 hectares, whereas high-resolution remote sensing proves that active peat extraction actually covers closer to 119,000 hectares—a staggering 70% discrepancy.

Abandoned cutover areas frequently evolve into complex, shifting mosaics of scrub, heath, and revegetated patches. By utilizing outdated mapping baselines, the developer's EIAR misclassifies these highly sensitive, evolving boundary zones around **Turbine 4**. Because the applicant has failed to account for these layout evolution gaps using precise cloud-mosaic baseline tracking, the environmental impact assessment is fundamentally incomplete and fails the strict certainty thresholds demanded under Irish planning law.