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The Secretary

An Coimisiun Pleanala

64 Marlborough Street

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D01V902

Case Reference: PAX91.323780

Date: 14/11/2025

Re: 10 year planning application for Ballinlee wind farm consisting of 17 wind turbines (of 160m height and 136m wide), a permanent 110KV substation and associated infrastructure including Grid Connection Route and Turbine Delivery route. Located in Ballincurra, Ballinagour, Ballinlee North, Ballinlee South, Ballinrea, Balyreesode, Camas North, Camas South, Carrigeen, Knockuregare, Ballybane and associated town lands in County Limerick.

I, Sue O'Donnell, write to formally state my objections and observations in connection to the above listed planning application.

1. Introduction

While there are many grounds to object to this proposed wind farm development, I am focusing my objections and observations specifically on the many significant deficiencies in the developer's biodiversity assessment as it relates to **Bat species**, during the survey, construction and operational phases of the project.

The review draws on the Environmental Impact Assessment Report (EIAR), Chapter 6 (Biodiversity), together with its supporting Appendices — the Bat Survey (Appendix 6), the

Construction and Environmental Management Plan (Appendix 2A), and the Grid Connection Route Report (Appendix 2D), Habitat Species Management Plan (Appendix 6I), Land and Soils (Chapter 8), Schedule of Mitigation (chapter 19).

Across all of these documents within the planning application, the same pattern emerges: an absence of professional competence, a disregard for statutory requirements under Irish and EU law, and a failure to meet even the most basic ecological standards.

The evidence set out below demonstrates that the Bat Survey (from the very outset) and its supporting ecological documentation are so technically and legally flawed that the conclusions they present are invalid. Therefore, the proposed development cannot lawfully proceed.

2. Legislative and Policy Context

All bat species occurring in Ireland are protected under both European and National legislation.

The **EU Habitats Directive (92/43/EEC)** requires strict protection of all bat species listed in **Annex IV**, and the establishment of Special Areas of Conservation for those in **Annex II**, including the **Lesser Horseshoe Bat (*Rhinolophus hipposideros*)**. Article 12 prohibits the deliberate disturbance, killing, or destruction of bats or their roosts, while Article 6(3) requires that no project likely to have a significant effect on a protected species or its habitat can proceed unless it is proven, beyond reasonable scientific doubt to have no adverse effect.

These requirements are transposed into Irish law under the **European Communities (Birds and Natural Habitats) Regulations 2011** (as amended) and the **Wildlife Acts 1976–2018**. Together, they establish a clear legal duty to ensure that protected species, including bats, are safeguarded against both direct and indirect impacts.

Further obligations arise under the **EIA Directive (2014/52/EU)**, which demands that mitigation measures be fully defined before planning consent is granted; and under the **EU Nature Restoration Regulation (EU 2024/1991)**, which requires the maintenance and restoration of ecosystems essential to long-term species survival.

At a national and local level, the **Limerick County Development Plan (2022–2028)** and the **Limerick Biodiversity Action Plan (2025–2030)** commit the local authority to protect dark skies, hedgerows, and wildlife corridors — features fundamental to the survival of bat populations.

The **Lesser Horseshoe Bat Action Plan (2022–2026)**, led by the Vincent Wildlife Trust and National Parks and Wildlife Service (NPWS), further identifies County Limerick as a vital ecological link to connect current sub-populations in Kerry, Cork, Clare, and Galway.

Potential connectivity pathways have been identified within County Limerick as part of this plan.

Taken together, these legislative and policy frameworks impose binding obligations on both the developer and the planning authority. Any project that cannot demonstrate compliance must be refused.

3. Non-Compliance with Legislative Requirements regarding Bat Species

The Ballinlee Wind Farm proposal fails every key test set out in the legislation above. The developer's environmental documentation does not provide reliable or scientifically defensible data to demonstrate that no adverse effects will occur.

Critical mitigation is deferred to post-consent design stages, a practice explicitly prohibited under European law. No Appropriate Assessment (AA) has been completed for the 27.6 km grid connection route, despite its proximity to SACs and its evident ecological connectivity via the Morningstar River and tributary systems.

Moreover, the Wildlife Acts prohibit any disturbance, destruction, or interference with roosts. Yet, the proposal entails the felling of over 30% of identified potential roost trees, extensive removal of mature hedgerows, and the introduction of artificial lighting near known foraging habitats. The cumulative effect of these actions would be to fragment, degrade, and in some cases destroy critical bat habitats across the site.

These failures collectively breach the **Habitats Directive (Articles 6 and 12)**, the **Birds and Natural Habitats Regulations**, and the **Wildlife Acts**, as well as the biodiversity and ecological connectivity objectives of both the **Limerick County Development Plan** and **Limerick Biodiversity Action Plan**.

4. Deficiencies in the Bat Survey

Critical Failures in Survey Methodology

The Ballinlee Wind Farm Bat survey, as submitted by the developer (Woodrow Ecology), contains systemic methodological failings that render its conclusions entirely invalid. These errors begin at the planning stage and extend throughout survey execution, data handling, and interpretation. Each failure represents not a mere technical oversight, but a breach of professional ecological standards as defined by **CIEM**, **EUROBATS** and **Bat Conservation Trust (BCT)** guidance.

4.1. Inadequate Surveyor Competency

The individuals undertaking and signing off on the bat survey lack demonstrable qualifications or professional accreditation in bat ecology. No surveyor is listed as holding certification under the **CIEEM Professional Competency Framework** or the **Bat Conservation Trust Training Standards** (Collins, 2023) or **verifiable Irish bat experience/training equivalents**.

The EIAR chapter 6 (Biodiversity) and Appendix 6E (Bat survey) names 10 “bat specialists/data analysts/ecologists” involved in the Bat survey and data analysis. These all possess only general environmental or unrelated qualifications (marine biology, digital illustration, law, history/English, environmental management), none of which confer professional competence in bat surveying. Some qualification details differ for the same individuals within Chapter 6 and Appendix 6.

Under the **EU Habitats Directive Article 12** and **Irish EIA Regulations**, assessments must be prepared by “qualified and competent experts.” This requirement is not met.

4.2. Deficient Desk Study

The desk-based assessment, which is the foundation of any ecological survey, was completed *after* field deployments had begun. This sequencing breaches **NatureScot (2021)**, **Collins (2023)**, **Bat Conservation Ireland (BCI, 2012)** and **Marnell et al (2022)** protocols, which require that the desk study inform survey design.

No results were provided of the desk study other than a **Bat Conservation Ireland (BCI)** roost list of a radius of 10 km of from the centre of the proposed site rather than site boundary (and scope of all related infrastructure) as recommended in best practice guidelines. The planning application states, according to the BCI roost list, that the nearest known Lesser Horseshoe site is 7.5km from the proposed development. It is worth noting that the National Parks and Wildlife service (NPWS) and Vincent Wildlife Trust are the owners of all current records of Lesser Horseshoe bats.

No details are provided of BCI local bat surveys or recorded bat sightings. Additionally, BCI were only contacted in August 2023 following static detector deployment at the proposed site.

No further desk study information is evidenced with

- **Local volunteer bat groups** or **Vincent Wildlife Trust** records.
- Checks on **local or regional planning applications** detailing roost locations or bat surveys.
- **Limerick County Council Biodiversity Officer** or **NPWS District Wildlife Ranger** for information on local bat species or known roosts despite the known importance of the **Morningstar River corridor** as a connective foraging route for multiple bat species, including the **Lesser Horseshoe Bat**, which was also identified within the proposed development site (D2).

This failure has resulted in the omission of multiple *known* roost sites within the 10 km buffer — a fact corroborated by NPWS datasets, which identify Lesser Horseshoe sites at **Lough Gur (4.6 km)** and **Glen Bog (5 km)**, **Grange, Adare Woodlands, Tory Hill (7km)**, **Skool Hill (7.4km)** all within the effective foraging and migratory range of the species. Locally, **Lesser horseshoe bat** sites are known within the **Bruff** area, a fact corroborated by the findings of the static detector survey (Appendices 6 E and 6 I) completed by Woodrow Ecology consultants.

Details of Bat roosts within private/domestic property are often not listed on public records or bat datasets due to GDPR. Such is the case with the long term Pipistrelle Species Maternity bat roost within my own property, which is 1km from the proposed development.

I have, many times over the years engaged with NPWS local Wildlife Ranger and BCI in relation to this roost and support for displaced bats. While I needed to gain a derogation licence to complete essential work to my roof space in 2020, I am delighted that, following this, Pipistrelle Species continue to use my roof space as an on-going maternity roost each year.

4.3. Spatial and Temporal Inadequacy

No clear rationale is provided of the methodology and survey steps that informed the static detector locations. It is not clear how these locations were chosen, or if they were random locations. There are no weighting places on the importance of the static detectors locations on site. This makes it difficult to know if the data was gathered at this location or not. No habitat suitability map is provided.

Additionally, 5 static detectors were positioned to North of the site where 5 turbines are proposed and only 9 static detectors to the South of the site, where a further 12 turbines are proposed and is a much larger site area. The rationale for this is not provided.

Static detectors were deployed for only three short periods in 2023 (Spring 18/5/23-2/6/23, Summer 18/7/23-8/8/23, Autumn 28/9/23-12/10/23), each lasting approximately ten days.

Further, the April activity period which is crucial for early-season foraging and migration was entirely missed as Spring recording began mid-May. No swarming survey was completed in Autumn despite all best practice highlighting the need for this.

Consequently, early emergent, swarming and migratory species such as *Myotis daubentonii* and *Plecotus auritus* were under-recorded or omitted.

Collins (2023) and **EUROBATS Publication No. 8** advise that full active season (April-October) monitoring, often over multiple years, is required to capture temporal variability, accurate activity levels and detect migratory or swarming behaviour.

4.4. Equipment and Calibration Failures

The use of multiple detector models (SM4BAT-FS, SM Mini Bat, SM2Bat+, Batlogger M) directly contravenes guidance from **NatureScot 2021 and Collins 2023** which warns that using mixed hardware introduces significant bias in detection sensitivity and frequency response. This has serious implications for the accuracy of data analysis.

Four static detectors failed to record data during survey periods

D8 failed to record in Spring

D9 recorded for 1 night only in Spring

D14 failed to record in Summer

D9 failed to record in Autumn

D10 failed to record in Autumn

Failed static detectors meant significant survey gaps within site locations, especially the South of the site.

Despite repeated static detector malfunctions, this failed data was still used in survey results to determine Bat species activity within the overall site, subsequent risk assessments and formulate mitigation proposals. This constitutes fabrication of results and seriously undermines risk assessments and mitigation design.

Lesser Horseshoe bat was detected at D2 in Autumn 2023. This received no further investigation, despite being an **Annex II** species. This is a serious breach of professional ethics and legislative protection of an **Annex II** protected species, which is afforded the same protection levels both within and outside of Special area's of Conservation.

Other bat species detected include Common Pipistrelle, Soprano Pipistrelle, Nathusius' Pipistrelle, Leisler's bat, Brown long Eared bat and Myotis Species (which weren't clarified and likely include Daubenton's bat, Natterer's bat, Whiskered bat). Despite acknowledging high risk potential to all these species, static detector surveys were not repeated (following static detector malfunctions) to determine accurate data results.

No calibration logs, service records, or maintenance verification were provided for any equipment used, in breach of **BS 42020:2013** and **CIEEM's Code of Professional Conduct**. No rationale is provided for why the static detector malfunctions were not noticed and rectified during each survey period. Yet, Appendix 6, Bat Survey and Chapter 6, Biodiversity EIAR states that all equipment is rigorously tested before and monitored during each survey period. This is clearly untrue.

This also raises the question of when data analysis was completed. **Collins (2023)** states the importance of completing data analysis immediately after each survey period for data and site assessment accuracy.

4.5 Detector Positioning

10 out of 14 static detectors were incorrectly placed (see Appendix A: Detector locations). They were positioned within dense vegetation, thus seriously impacting accuracy in recording bat species type and activity.

No detectors were placed above canopy level within wooded areas to identify bat activity above canopy level. These flaws in static detector positioning also reduce accurate data collection for bat species with short or lower echolocation calls (Lesser Horseshoe bat, Brown long eared bat, Natterer's bat, Whiskered bat)

Overall, this contravenes best practice guidelines for static detector positioning (**Collins 2023**) and further invalidates the accuracy and reliability of survey results.

4.6 Invalid Data Analysis

Two different data analysis software systems were used to analyse static detector data collected. **NatureScot (2021)**, **Collins (2023)**, **Marnell et al (2022)** all state that the use of different static detector models, and the subsequent use of different data analysis software systems creates significant flaws and bias in survey results.

Woodrow Ecology claim to have developed an “in-house analysis script” or “internal comparative analysis” to measure “geographical and temporal context for activity levels” within the proposed site. This is used for risk assessment purposes. They state this system compares bat activity within the site against its own database of wind farm projects. This methodology is entirely unverified, unpublished, and lacks any peer-reviewed scientific basis. The practice of comparing the Ballinlee dataset to unspecified “other wind farm projects” introduces significant developer funded bias and fails to reflect local habitat characteristics, contravening **CIEEM Technical Guidance Note 2019-1** on ecological impact assessment.

Additionally, no formal training in bat survey analysis and software systems are detailed for surveyor's/analysts.

4.7 Roost assessments

The bat survey details habitat and roost assessment surveys within the site, and winter roost inspections. Despite best practice guidelines (**BCI 2012, Eurobats, Collins 2023, NatureScot 2021**) of a site wide assessment being required, the surveyors focused for less than 300m of each turbine location.

50 potential roost features are identified within 300m of turbine locations, yet only 10 confirmed roosts. Even this information varies within the Bat survey results. Table 8, Appendix 6 details 10 confirmed roosts, yet Table 9, Appendix 6, states 5 confirmed roosts.

Woodrow's analysis of habitat suitability is stated as 'high'. Knowing the richness of this landscape and its high suitability for bat habitat, it seems highly unlikely to me that there are so few roosts. The planning application states that the site was only surveyed for potential Winter/Hibernation or Maternity/Summer roosts. This fails to take into account the various roost types of Bat species and that these are also protected, whether bats are present or not.

Insufficient details and results are provided on the methodology and effort level used for building and tree assessments. While **Bat key Habitat Key (BTHK 2018)** and **Collins (2016 and 2023)** guidelines are referenced, no clear, factual information is evidenced on how this informed survey methodology in practice. No results are provided for faecal analysis, thermal inspection cameras or endoscopes. The timelines which are provided for completion of each roost assessment does not evidence robust, comprehensive tree and building surveys were completed to the depth required by best practice guidelines.

Woodland and forestry area's which are proposed for felling remain unsurveyed in any capacity. In fact, details of woodland removal are entirely omitted in the instance of **"approximately" 14.4 ha of conifer forestry** that is planned to be felled.

Chapter 8 (section 8.4.1.6) states "Felling of approximately 1,900m of hedgerows, 922m of treelines and 14.4 hectares of overall forestry removal is required within and around windfarm infrastructure to accommodate the construction of the turbine foundations and associated hard stands, access tracks, turbine assembly and deposition area's. Forestry and trees in a radius of 73.9m to 97.1m around each turbine will be felled as part of the project...Additional treeline and hedge removal will be needed in some area's for the new access tracks and construction areas."

Levels of proposed woodland, tree line and hedgerow removal greatly differ within the planning application. Proposed treeline removals range from **922m to 8.8 km** in the report. Broadleaved and conifer woodland removal range from **2.6 ha to 2.9 ha** in the report and is likely underestimated. Similar inconsistencies are detailed throughout the report in proposed hedgerow removal amounts. This makes it impossible to have any clear indication of accurate habitat removal.

The failure to survey these vast area's of the site which are proposed for woodland/treeline removal is entirely unacceptable, illegal and poses detrimental risks to tree roosting bats and their roosts. It suggests a breach of the **EU Habitats Directive (92/43/EEC)** which requires

strict protection of all bat species listed in **Annex II and Annex IV**, and prohibits the deliberate disturbance, killing, or destruction of bats or their roosts.

Vague dates are given for Bat Preliminary Roost Assessments (PRAs). These are simply dated as “August 2023”. Further roost assessment dates are cited as 12-14th February 2024, which then coincides and conflicts with the dates for the Hibernation surveys of 12th-15 February 2024.

Dates, timelines and methodology in practice should be clearly evidenced and transparent.

This applies also to the GCR and TDR survey of potential roosts. Again, dates for this are vague within the report, recorded as “March 2024”. This survey involved driving at a slow pace of 10km on these routes and stopping to inspect potential tree roosts with binoculars from ground level. As a local person it seems unbelievable that it is possible to fully drive these two routes at only 10km per hour. The maps provided for these are inadequate and factually inaccurate in reflecting the true habitat suitability and roost potential.

No results are provided for the 50m radius that was claimed to be surveyed along the GCR and TDR routes, despite recorded **Lesser Horseshoe bat** sites in direct proximity of these routes. One wonders how a 50m radius could be surveyed when this would entail entering private property.

Overall, an excessive number of trees (over 40) are categorised as Further assessment required (FAR) on both routes. No bat survey is evidenced for the temporary access tracks proposed as part of the TDR, which requires significant bat habitat removal and most likely, roosts.

4.8. Transect walks

These took place on 17/8/2023, 21/9/2023 and 28/9/2023. These are disproportionate temporally and spatially to the overall site and appear to only cover within 300m of some (not all) of the proposed turbine locations.

No transect walk was completed for proposed turbine locations T6 to T12. The South of the proposed site was completely ignored within this. Why was T6 to T12 not covered? Why were no additional transect walks taken at other times in the active bat season to gain deeper seasonal insight and context into bat activity within the overall site?

4.9. Emergence and re-entry survey

As noted in Appendix 6, Bat survey, re-entry surveys are no longer considered best practice due to the high unreliability of data gained from these, and so these need to be discounted from survey results.

Emergence surveys appear to be completed within a very limited 300m of each proposed turbine location and provide inadequate active season coverage (18/7/23, 17/8/23, 21/9/2023, 12/10/2023). Best practice (**Collins 2023, BCT**) recommends multiple emergence surveys for each potential roost, from multiple emergence points and over the full active bat season.

Inadequate (to none) emergence surveys were undertaken for potential tree roosts despite conflicting amounts of proposed treeline removal ranging from 922m to 8.8km as sited in the report. No bat studies of any kind are evidenced for area's proposed for broadleaved and conifer woodland/forestry removal considering "approximately" 14.4 ha of conifer and additional other estimates stated of 2.6 to 2.9 ha of woodland removal.

This is a serious breach of professional ethics and a breach of all bat protection legislation of **Annex IV and Annex II species** within Irish and EU law. As noted within the planning application documents, **Annex II, Lesser Horseshoe bat** was detected within the proposed development site.

Ireland is also considered to have international importance and responsibility in the conservation of **Leisler's bat** due to their extremely limited numbers outside of Ireland. To ensure legally binding protection to the **Lesser Horseshoe bat** and **all** bat species, intensive and comprehensive assessment was required.

5. Ecological and Conservation Implications

Habitat Loss and Fragmentation and inaccuracies in amounts stated

The development will result in the permanent felling of significant levels of conifer and broadleaf forestry, and the additional removal of significant amounts of hedgerows and treelines. Overall, the exact specifics of amounts are vague and contradictory within the planning application and should be clearly and accurately documented throughout.

Table 6-42 states the proposed levels of habitat removal. These levels are consistently contradicted with different levels sited for habitat loss within the planning application.

Amounts of proposed hedgerow removal vary from 1.5 km to 1.9 km within the report.

Hedgerow height reductions proposed range from 230m to 1,280m in length and varied heights of 0.8m to 0.89m within the planning documents.

Tree line removal ranges from 922m to 8.8 km within the reports.

Broadleaved and conifer woodland removal figures range from 2.6 ha to 2.9 ha within the reports.

The felling of “approximately” 14.4 ha is briefly mentioned in Appendix 6 (1.3), and further in Chapter 8 (8.4.1.6). It is omitted entirely from any assessment of bat species, potential impacts and bat species risk assessments. The exact level of overall hedgerow, treeline and woodland removal requires independent verification.

These hedgerows, treelines and conifer and broadleaved woodlands provide essential roosting habitat and commuting and foraging corridors for **multiple bat species**. They deeply interconnect with rich bat habitat within the wider site and outside the planning boundary. The developer acknowledges that the site contains a “mosaic of well-connected habitats,” yet paradoxically downplays their ecological value.

Hedgerow, treeline and woodland removal will massively fragment dark corridors linking foraging, migratory and roost sites, directly contravening the **Lesser Horseshoe Bat Action Plan (2022–2026)**, which identifies the maintenance of dark, continuous flight paths as vital to population connectivity in Limerick and surrounding counties.

5.1 Land Boundary Issues

Issues such as proposed turbine location proximity to **non-participating landowner** and **townland boundaries** are not clearly identified and addressed. While these boundary issues are clearly evident on site maps it remains very unclear on how the developer can commit to hedgerow height reductions and potentially hedgerow removal when these boundaries are shared with non-participating landowners/townlands.

This has legal implications for both landowner issues, and the ability to commit to realistic, enforceable, effective and legally binding bat buffer features. The amounts of hedgerow being removed varies (1.5km to 1.9km) within the planning documents, as does the amounts proposed for height reductions (230m to 1,280m).

Proposing reduced hedgerow height of 0.8m to 0.89m while ensuring it is in line with local and national biodiversity plans is at best contradictory as a bat buffer feature and contravenes local and national biodiversity plans. The seasonal time periods stated for hedgerow/treeline/woodland removal/reduction differ throughout the planning documents, at two points (chapter 6 and chapter 19) stating this will happen outside of active bat and hibernation seasons, which left the month of April in their monthly citation.

The planning application suggests that 12 possible roosts are removed. Given the rich landscape of the proposed development, this is a gross underestimation of the numbers of potential roosts that will likely be removed and is based on totally inadequate surveying.

Large volumes of treeline received no assessment and none of the woodland area's were assessed in any capacity.

This is in direct breach of **EU Habitats Directive (92/43/EEC), Article 12** which prohibits the deliberate disturbance, killing, or destruction of bats or their roosts, while Article 6(3) requires that no project likely to have a significant effect on a protected species or its habitat can proceed unless it is proven, beyond reasonable scientific doubt, to have no adverse effect. Under the **Wildlife Acts 1976–2018**, it is a criminal offence to disturb, damage, or destroy a bat roost.

Bat buffer distances within, or at edges of woodlands are vague and again, are contradictory (**Table 6-43**). This introduces serious risks of attracting bat species to removed woodland areas, thus, creating 'new forest edge habitat' or 'key holing' within site. This furthers potential bat mortality rates.

3.5.1.3 'Bat Ecology' seems to suggest a 25m bat buffer for forestry. Clarity is required on this. **NatureScot (2021)** advise a bat buffer distance of 50m between turbine blade tip and forest edge (and any bat habitat feature). **EUROBAT 2018** strongly advises a minimum 200m bat buffer distance from turbine blade tip to nearest woodland edge. It strongly advises against placing turbines within wooded areas. As we are part of the EU and bound by its Bat protection legislation it seems appropriate to follow these guidelines to conserve Irish and migratory bat populations.

The removal of significant levels of linear habitat as detailed above, would fragment ecological connectivity across the site, contrary to **Objective ENO 17 and ENO 18** of the **Limerick County Development Plan 2022–2028**, which seek to maintain continuous ecological networks and dark-sky corridors.

The developer's assertion that impacts are "local and temporary" lacks ecological and scientifically validated basis.

Linear features cannot regenerate within the lifespan of the project (25+ years), and fragmentation effects are cumulative and irreversible at a landscape scale. Newly planted hedgerow and woodland cannot replicate hedgerow that is potentially hundreds of years old and even "immature woodland" which is still, at a bare minimum 15 to 20 years old.

5.2 Cumulative Effects

The EIAR identifies six operational wind farms and ten planned projects within 20 km but concludes that "no cumulative effects are expected."

This statement disregards **Article 3(1)** of the EIA Directive, which requires assessment of cumulative effects with other existing and planned projects.

Limerick County hosts a growing cluster of wind and solar developments within a single ecological region. Fragmentation of foraging grounds and increased mortality across multiple

projects could lead to regional population decline, particularly for **Annex II** species with restricted ranges.

NatureScot (2021) asserts that the cumulative impacts of a proposed development, such as Ballinlee Windfarm, (and the cumulative effects of other planned infrastructures) must be seriously assessed, as what may seem like local level impacts can quickly become significant bat conservation issues at regional, national and international levels.

5.3 Mitigation Measures for Bat Species

Effective and appropriate mitigation measures cannot be designed and implemented when baseline site surveys and risk assessments are deeply flawed. This is the case with the entire suite of bat surveys which fall short of any best practice and legislative guidelines. Vast areas within the proposed development site remain unsurveyed in any capacity. Indeed, it remains unclear and needs independent verification how much habitat removal exactly is planned within the proposed development.

Appropriate mitigation fundamentally has to be based on accurate, appropriate and comprehensive risk assessment. This is a legislated requirement within Irish and EU law. On this basis, the proposed mitigation fails miserably.

The mitigation measures described for roost losses and tree removal include “soft felling,” and “bat box installation.” In the operational phase, carcass searches, lighting plans, hedgerow management and adaptive/smart curtailment. These are vaguely defined and are largely unenforceable.

The report states it will place 10 static detectors for 15 nights in years 1, 2, 3 within the site and then states this includes 5 static detectors at the north of the site and 3 in the south of the site. This doesn't even add up in basic maths!

If serious errors, significant flaws and omissions of vital site information are lacking at pre-planning stage, it does not suggest a thoroughly considered mitigation plan in practice. The mitigation relies wholly on post-consent surveys and developer-led monitoring. EU case law (*People Over Wind, Holohan*) makes clear that such deferred or uncertain measures cannot be used to justify a finding of no significant effect.

Monitoring must be **independent**, continuous, and linked to enforceable thresholds for remedial action.

None of these conditions are specified.

6. Artificial Light at Night (ALAN)

Artificial lighting from turbine infrastructure, substation security systems, and night-time construction poses severe risks to all bat species. **Lesser Horseshoe Bats** are notably **photophobic** and have been identified within the proposed development. Even low-intensity lighting can lead to complete avoidance of foraging areas for this species. Other species (Pipistrelle) can be attracted to turbine lighting leading to further casualties. While the developer claims compliance with **ILP 08/23 lighting guidance**, the measures proposed (use of LED luminaires and “directional lighting”) are non-committal and unenforceable.

The **EUROBATS Resolution 8.7 (2022)** explicitly identifies light pollution as a significant conservation threat. The proposal fails to demonstrate compliance with this resolution or with the **Limerick County Development Plan Objective EH O13** and **The lesser Horseshoe bat Action Plan 2022-2026**, which mandates protection of nocturnal species and dark-sky environments.

Cumulative impacts of construction and machinery noise, construction and machinery lighting, dust pollution, use of pesticides, risk of water pollution and the direct and indirect impacts of these on bat species and the invertebrates they feed on, are insufficiently addressed and minimised. Unenforceable suggestions for mitigation are, for example, silencers on machinery, slow speeds within site and access tracks, work one night at a time, cutting hedgerows in the month of April, etc.

6.1 Operational Phase Mortality

All risk assessment for the operational phase of the proposed site is based on inaccurate and flawed bat survey findings. This has been clearly detailed and evidenced.

The combination of high-risk turbine siting (adjacent to/within linear features and woodland), land boundary issues, known roost proximity, and inadequate curtailment thresholds (stating bat activity peaks at wind speeds of 3 m/s) creates a high certainty of **collision and barotrauma fatalities**. It additionally fails to consider bat species which are particularly wind tolerant to speeds of 8 m/s. It fails to consider bat species with higher flight patterns such as Leisler’s bat and Nathusius’ bat.

Research (Voigt et al., 2015; Rydell et al., 2020) shows that curtailment thresholds must exceed 5.5 m/s to effectively reduce mortality, particularly for *Nyctalus leisleri* and *Pipistrellus nathusii*. Leisler’s bat within Ireland are considered of international importance due to their rarity in Britain and Europe. Ireland has an international responsibility to maintain and promote this species conservation status.

The developer’s mitigation proposals fall below this standard, rely on invalid data and are not site specific.

7. Legal and Procedural Implications

Given these multiple systemic flaws, the bat survey does not meet the evidential threshold required under **Article 6(3) of the Habitats Directive**, which requires that conclusions be based on “complete, precise, and definitive findings.” The Court of Justice of the European Union (CJEU) has repeatedly ruled (Cases C-127/02 *Waddenzee*, C-258/11 *Sweetman*) that consent authorities may not rely on uncertain or incomplete data when protected species may be affected.

The Ballinlee application relies on deficient and misleading ecological evidence, making any grant of permission legally unsound. Moreover, under the **EU Nature Restoration Regulation (2024/1991)**, Ireland is obligated to prevent further deterioration of habitats crucial to Annex II species. Approval of this project would constitute a breach of that obligation.

8. Conclusion

In summary, the Ballinlee Wind Farm biodiversity assessment, specifically its Bat survey, fails to comply with the legal, scientific, and ethical standards required under Irish and European law and the biodiversity commitments articulated in national and local policy frameworks.

The defects identified in the Bat Survey are not peripheral or remediable, they strike at the very heart of the Environmental Impact Assessment process. As such, the assessment cannot be relied upon by An Coimisiun Pleanála in reaching its determination.

The methodology is unprofessional, the data unreliable, and the conclusions invalid. The proposal threatens internationally significant bat populations, including the **Lesser Horseshoe Bat**, and would fragment vital ecological corridors in County Limerick for all bat species.

On these grounds, and consistent with the precautionary principle under **Article 191 of the Treaty on the Functioning of the European Union (TFEU)**, the only lawful and scientifically defensible outcome is **refusal of planning permission**.

9. Conflict with Statutory Obligations

Under **Article 6(3) of the EU Habitats Directive (92/43/EEC)**, any project that may have a significant effect on an **Annex II or IV species**, such as all Irish bat species, may only proceed where it can be established *beyond reasonable scientific doubt* that it will not adversely affect their conservation status.

The documentation submitted by the developer fails to meet this test. On the contrary, it

presents data that are incomplete, contradictory, and in many cases fabricated through the use of failed detectors and uncalibrated recording devices.

The **European Communities (Birds and Natural Habitats) Regulations 2011** (as amended) transpose this Directive into Irish law. Regulation 42(12) explicitly prohibits the granting of consent for any plan or project unless the competent authority is satisfied that the project will not adversely affect the integrity of a European Site or the conservation status of protected species.

Given the known presence of **Lesser Horseshoe Bat roosts within the proposed development site and the 10 km zone of influence**, the **absence of adequate survey data**, and the **failure to address connectivity impacts**, any consent would contravene this regulation.

Under the **Wildlife Acts 1976–2018**, it is a criminal offence to disturb, damage, or destroy a bat roost. The planned mass felling of trees and woodland, removal of hedgerows, and introduction of artificial lighting adjacent to potential roosts constitutes such disturbance.

The **EIA Directive (2014/52/EU)** further requires that all mitigation measures be detailed, specific, and enforceable before consent is granted. The Ballinlee proposal defers critical measures, such as curtailment thresholds, lighting design, and roost monitoring, to post-consent implementation. This approach is explicitly prohibited under EU law and confirmed by multiple rulings of the **Court of Justice of the European Union**.

9.1. Incompatibility with National and Local Biodiversity Policy

At national level, the **Fifth National Biodiversity Action Plan (2025–2030)** commits Ireland to “halt and reverse biodiversity loss” and specifically references the need to protect pollinators, dark skies, and flight corridors for nocturnal species such as bats. The Ballinlee proposal directly conflicts with these commitments through large-scale habitat clearance, lighting disturbance, and long-term fragmentation of woodland and hedgerow networks. Indeed, it clearly omits planned habitat removal levels in an unethical and unprofessional manner.

At county level, the **Limerick County Development Plan (2022–2028)** includes multiple objectives to conserve and restore ecological networks. In particular:

- **Objective EH O10** requires protection of dark-sky areas from light pollution;
- **Objective EH O13** mandates conservation of habitats supporting protected species, including bats; and

- **Objective EH O19** requires maintenance of habitat connectivity across rural landscapes.

The Ballinlee site, encompassing mature treelines, woodland, and hydrological corridors along the **Morningstar River**, functions as an ecological nexus for bat species traversing Limerick, Clare, and Cork.

Its destruction or modification would permanently sever these linkages — a direct violation of the Council’s biodiversity objectives.

9.2. Application of the Precautionary Principle

The **Precautionary Principle**, embedded in **Article 191 of the Treaty on the Functioning of the European Union (TFEU)**, requires that where there is scientific uncertainty regarding potential adverse effects on the environment, the decision-making authority must err on the side of environmental protection.

In this case, uncertainty is pervasive and unavoidable:

- Survey data are incomplete and methodologically unsound.
- The presence of Annex II species, **Lesser Horseshoe bat**, is confirmed within the proposed development site but unexplored with due diligence.
- Mitigation measures are undefined, unverified, and unenforceable.

On these grounds alone, the project fails the precautionary test. Granting consent under such conditions would not only breach EU and Irish law but would expose the State to potential infringement proceedings under the Habitats Directive and the Nature Restoration Regulation.

9.3. Final Recommendation

For the reasons set out above, it is the clear and substantiated position of this submission that:

1. The Ballinlee Wind Farm biodiversity assessment and bat survey are **scientifically invalid** and **legally non-compliant**.
2. The project would result in **irreversible harm to Annex II and IV bat species**, including the **Lesser Horseshoe Bat**.
3. The proposal is in direct conflict with the **Habitats Directive, Wildlife Acts, EIA Directive**, and **national and local biodiversity policies**.
4. The only lawful outcome consistent with Irish and EU obligations is the **refusal of planning permission**.

10. Summary Statement

In accordance with the **EU Habitats Directive**, the **Precautionary Principle**, and the **Limerick Biodiversity Action Plan 2025–2030**, An Coimisiun Pleanála must conclude that the Ballinlee Wind Farm, cannot proceed.

The deficiencies in the bat survey are of such magnitude that they invalidate the ecological assessment in its entirety.

To approve this development would be to endorse a manifest breach of European and Irish conservation law, to disregard local policy commitments, and to set a dangerous precedent for the treatment of protected species in renewable energy development.

Accordingly, it is respectfully submitted that the **Ballinlee Wind Farm application should be refused in full**.

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