OBSERVATION TO AN COIMISIÚN PLEANÁLA

An Coimisiún Pleanála - Case reference: PAX91.324164

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in the townlands of Carrow, Moheragh, Gortaderry, Co. Tipperary; Toomaline Lower, Toomaline Upper, Doon South, Lisgaugh, Cooga Upper, Coolyhenan, Milltown and Killonan, Co. Limerick.

Proposed Carrow Wind Farm Development – Dundrum / Hollyford Area, Co. Tipperary

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Observer Details

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E34WC99

Date: 20/05/2026

Introduction

I wish to submit the following observation in relation to the proposed Carrow Wind Farm development located within the Dundrum / Hollyford area of County Tipperary.

While I recognise the importance of renewable energy development and Ireland's climate obligations, such development must not come at the expense of protected habitats, critically endangered species, river systems, biodiversity, and ecological integrity.

Having reviewed the Environmental Impact Assessment Report (EIAR), Natura Impact Statement (NIS), and associated documentation, I have serious concerns regarding:

- the adequacy of the ecological and hydrological assessment,
- the treatment of protected species,
- cumulative impacts within the catchment,
- sedimentation and hydrological risks,
- and the apparent failure to apply the precautionary principle.

These concerns are particularly significant given the sensitivity of the Aughnaglanny and Multeen (East) catchments and the known presence of highly protected and endangered species within the wider Lower River Suir SAC.

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1. Failure to Adequately Assess Sensitive and Protected Habitats

The proposed development is located within a highly sensitive upland catchment which drains into river systems supporting protected Annex II species and SAC qualifying interests.

The EIAR acknowledges that the project lies within the Suir–Multeen catchment, which contains extant populations of Freshwater Pearl Mussel (Margaritifera margaritifera). Despite this acknowledgement, the level of ecological assessment undertaken appears wholly inadequate given the conservation sensitivity of the receiving environment.

The River Multeen forms part of the Lower River Suir SAC, which supports protected habitats and species including:

- Freshwater Pearl Mussel,
- Brook Lamprey,
- River Lamprey,
- Sea Lamprey,
- Atlantic Salmon,
- Otter,
- and associated riverine habitats.

These species and habitats are protected under the Habitats Directive and Wildlife Act.

The EIAR appears to place considerable reliance on limited survey results and mitigation assumptions while failing to sufficiently assess worst-case scenarios involving sediment release, hydrological alteration, drainage failure, peat instability, or cumulative catchment pressures.

The precautionary principle must apply where river systems are already under ecological stress.

River Lamprey Habitat within the Carrow / Aughnaglanny Catchment

I also have serious concerns regarding the potential impact of the proposed development on River Lamprey habitat within the Carrow / Aughnaglanny catchment.

A small stream within the proposed development area, which ultimately flows into the Aughnaglanny River, supports River Lamprey habitat and forms part of the wider hydrological network connected to the Lower River Suir SAC.

River Lamprey (Lampetra fluviatilis) is a protected species listed under Annex II of the EU Habitats Directive and is also a qualifying interest of the Lower River Suir SAC. The species is therefore afforded strict protection under European environmental legislation.

Lamprey species are highly dependent on:

- clean river systems,
- stable hydrology,
- unpolluted spawning gravels,
- and suitable sediment conditions during key stages of their life cycle.

Juvenile lampreys (ammocoetes) live buried within fine sediment in river and stream substrates for prolonged periods and are highly vulnerable to:

- sediment disturbance,
- pollution events,
- drainage alteration,
- channel modification,
- and excessive siltation.

I am particularly concerned about proposed construction works involving the development of access roads and associated infrastructure through farmland in close proximity to this watercourse and River Lamprey habitat.

Construction activities of this nature have the potential to:

- alter local drainage patterns,
- increase sediment runoff into adjacent streams,
- disturb riverbanks and spawning habitat,
- increase turbidity downstream,
- and damage the ecological integrity of the watercourse.

Even relatively minor sediment-release incidents during periods of rainfall can transport suspended material downstream into sensitive aquatic habitat.

The risk is especially significant because the receiving stream forms part of a connected catchment ultimately flowing into the Aughnaglanny River and wider Lower River Suir SAC system supporting protected aquatic species.

The proposed road infrastructure could also contribute to:

- long-term hydrological alteration,
- increased runoff rates,
- habitat fragmentation,
- and chronic sedimentation pressure over time.

Given the protected status of River Lamprey under the Habitats Directive, the ecological sensitivity of the receiving environment, and the cumulative pressures already affecting local river systems, I believe the precautionary principle should apply in full.

In my opinion, the EIAR and Natura Impact Statement do not appear to adequately assess:

- the full ecological importance of this stream,
- the cumulative impacts of sedimentation and drainage alteration,
- or the long-term risks posed by construction works adjacent to sensitive lamprey habitat.

Where uncertainty exists regarding the potential impact on protected Annex II species and SAC-connected watercourses, development should not proceed unless it can be demonstrated beyond reasonable scientific doubt that no adverse effect on site integrity or protected species habitat will occur.

Location of river lamprey inside the proposed windfarm development zone. This stream continues up hill towards Carrow and is a tributary of the Aughnaglanny river system.

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2. Freshwater Pearl Mussel Concerns

Additional serious concerns arise regarding the apparent lack of adequate assessment and observation of Freshwater Pearl Mussel within the wider Carrow Wind Farm study area and associated catchments.

Direct correspondence from National Parks and Wildlife Service (NPWS) Divisional Ecologist Brian Duffy confirmed the existence of a Freshwater Pearl Mussel population within the River Multeen near Dundrum.

In April of 2026 during a site inspection, Mr. Duffy confirmed that at last count approximately 400 mussels had previously been counted within the river system. However, he also confirmed:

- the population largely consisted of ageing adults,

- there was no evidence of juvenile recruitment,
- and river conditions showed excessive siltation.

This is extremely concerning.

Freshwater Pearl Mussels are categorised as critically endangered in Ireland and across Europe. NPWS notes that approximately 90% of European populations disappeared during the twentieth century.

The species is exceptionally sensitive to:

- sedimentation,
- nutrient enrichment,
- hydrological disturbance,
- drainage alteration,
- forestry impacts,
- and deterioration in water quality.

NPWS guidance specifically warns that even temporary sedimentation events can eliminate juvenile recruitment and permanently damage habitat quality.

The NPWS also notes that juvenile mussels remain buried within river gravels for several years and require clean, highly oxygenated substrate conditions to survive.

Despite the acknowledged presence of Freshwater Pearl Mussels within the wider catchment, the project documentation appears to rely heavily on limited eDNA sampling which produced no positive detections.

The absence of positive eDNA results cannot reasonably be treated as evidence of absence where:

- a known population already exists,
- the species is in catastrophic national decline,
- surviving colonies are fragmented,
- and river systems are already stressed by sedimentation.

The contradiction between NPWS-confirmed populations and the limited survey conclusions raises serious concerns regarding the adequacy of the ecological assessment.

Photo taken on site in the East Multeen, shows a small portion of the 400 recorded individual freshwater Pearl mussels with in an estimated 2km to 3km radius of the proposed wind farm development site.

Also noted in the picture is the level of silt already in existence .

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3. Sedimentation and Construction Risk

Given the known sensitivity of Freshwater Pearl Mussels to sedimentation and hydrological disturbance, it is entirely reasonable to question whether even a single pollution or sediment-release incident during construction of the proposed Carrow Wind Farm could have catastrophic consequences for the downstream population identified within the Aughnaglanny/Multeen catchment.

Construction of large-scale wind farm infrastructure within upland peat and forestry environments carries recognised risks including:

- sediment release,
- peat instability,
- drainage alteration,
- forestry disturbance,
- road runoff,

- concrete contamination,
- excavation impacts,
- and accidental pollution events.

Environmental guidance documents consistently recognise that suspended sediment can travel considerable distances downstream, particularly during periods of heavy rainfall or flood conditions.

This issue is especially important given that:

- a known Freshwater Pearl Mussel population exists within approximately 2 km of the proposed development,
- the river system already exhibits excessive siltation,
- and the mussel population appears to be ageing and under ecological stress.

Even a single sediment-release incident could potentially:

- smother spawning gravels,
- reduce oxygen exchange within river substrates,
- destroy juvenile mussel habitat,
- interrupt reproduction,
- or directly stress and kill adult mussels.

The precautionary principle exists precisely for situations where ecological damage may be irreversible.

The EIAR appears to focus heavily on standard mitigation measures while insufficiently addressing:

- worst-case construction scenarios,
- extreme rainfall events,
- cumulative sedimentation impacts,
- or long-term hydrological consequences.

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4. Declining River Quality within the Aughnaglanny and Multeen (East) Catchments

There are serious concerns regarding the ecological condition of the Aughnaglanny River and Multeen (East) catchments over the last decade.

EPA Water Framework Directive records indicate reductions and fluctuations in ecological quality status over successive monitoring cycles.

Sections of the catchment have moved between High, Good and Moderate ecological status classifications.

This decline is particularly concerning given the known presence of protected aquatic species requiring exceptionally high water quality.

Freshwater Pearl Mussels are especially vulnerable to:

- sedimentation,
- nutrient enrichment,
- hydrological instability,
- and habitat degradation.

The NPWS has already confirmed excessive siltation within the Multeen River system.

While national EPA reports identify multiple pressures affecting Irish river systems generally, there has also been a significant increase in upland wind energy and associated infrastructure development within the wider region over the same period.

Senior fisheries officer , Inland Fisheries Ireland

Of particular significance is correspondence issued by Oliver McGrath, Senior Fisheries Environmental Officer with Inland Fisheries Ireland, confirming that there is an estimated population of approximately 400 Freshwater Pearl Mussels located upstream of Dundrum. This population represents one of the remaining significant clusters of Freshwater Pearl Mussels in the country. The Freshwater Pearl Mussel is an internationally protected species and is extremely sensitive to changes in water quality. Its survival depends upon exceptionally clean, well-oxygenated rivers with stable substrate conditions. Siltation, sediment runoff, nutrient enrichment and hydrological disturbance are recognised as major threats to the species, particularly during construction activities involving excavation, drainage works, road construction and large-scale earth movement. The concerns raised by Inland Fisheries Ireland are highly significant in the context of this proposed development. Mr. McGrath notes that: - the Aughaglanny river is currently classified as “At Risk” under EPA monitoring and has deteriorated from “Good Status” over the last decade; - the East Multeen waterbody is also classified as “At Risk”; - and that Freshwater Pearl Mussels are highly vulnerable to siltation and declining water quality. This is critically important when considering the scale of excavation, access road construction, drainage alteration, turbine foundation works and associated infrastructure proposed within the upland catchments feeding these river systems. The proposed development has the potential to generate: - sediment mobilisation during construction; - peat instability and erosion; - increased runoff rates due to hardstanding and road networks; - hydrocarbon and concrete contamination risks; - and long-term alteration of natural hydrological pathways. Even temporary sediment release

events during heavy rainfall could have severe consequences for downstream aquatic habitats and protected mussel populations. Fine sediment can smother river gravels and juvenile mussels, impair spawning habitat and reduce ecological quality within already vulnerable river systems. Under the EU Water Framework Directive, Ireland is legally obliged to prevent deterioration in water quality status and to achieve and maintain Good Ecological Status in all water bodies. Given that both the Aughaglanny and East Multeen systems are already identified as being “At Risk,” any additional pressure from major upland construction activity must be assessed under the strict application of the precautionary principle. The concerns expressed by Inland Fisheries Ireland demonstrate that these watercourses are already environmentally sensitive and under pressure. In such circumstances, the burden rests firmly with the applicant to demonstrate beyond reasonable scientific doubt that the proposed development will not result in: - deterioration in water quality, - increased sedimentation, - impacts on protected freshwater pearl mussel populations, - or cumulative hydrological impacts within the catchment. In the absence of robust, independently verified hydrological and ecological evidence demonstrating that these impacts can be fully avoided, the proposed development should not be permitted. The protection of one of the remaining significant freshwater pearl mussel populations in Ireland must be treated as a matter of overriding environmental importance.

Wind farm construction within upland peat and forestry environments can generate significant hydrological disturbance through:

- excavation works,
- road construction,
- drainage modification,
- forestry felling,
- soil destabilisation,
- and sediment mobilisation.

The cumulative impact of existing and proposed developments within the wider catchment does not appear to have been adequately assessed.

Irish Hare Habitat in the Vicinity of Turbine T1

I have significant concerns regarding the potential impact of the proposed Turbine T1 and associated infrastructure on Irish Hare habitat within the development area.

The habitat surrounding T1 consists of open upland terrain with a mixture of rough grassland, peatland/heath habitat, forestry edge, and transitional vegetation. These habitat types are recognised as suitable habitat for Irish Hare and provide important:

- feeding areas,
- sheltering habitat,
- breeding cover,

- and movement corridors.

I have personally observed Irish Hare activity within the vicinity of the proposed turbine location and hold photographic/evidential records of hare presence within the area.

The construction phase of the proposed development would involve:

- excavation works,
- increased heavy machinery activity,
- vegetation disturbance,
- road and hardstanding construction,
- and long-term habitat alteration.

Such disturbance has the potential to negatively impact local hare populations through habitat fragmentation, displacement, disturbance during breeding periods, and loss of cover.

Given the suitability of the habitat surrounding T1 and the confirmed presence of hares within the area, I believe the EIAR should have provided a more detailed assessment of:

- local hare usage,
- breeding activity,
- habitat connectivity,
- and cumulative disturbance impacts associated with the proposed development.

I also believe precautionary measures and more detailed field surveys should be required before any determination is made regarding this aspect of the development.

Trail camera in forestry area looking directly onto proposed location of Turbine T1.

Photo above and below, shows the Irish hare moving through the site,

On the bottom picture, the pine marten observed at night in the same area, and also observed at my own residence in Carrow.

Scientific studies have shown that hares are negatively affected by wind turbine developments due to disturbance, habitat fragmentation, turbine noise, and interference with predator detection.

A peer-reviewed study examining mammal activity within operational wind farms found that European hares actively avoided areas close to turbines, with disturbance effects extending up to approximately 700 metres from turbine locations. Researchers concluded that turbine noise likely impaired the hares' ability to hear approaching predators such as foxes.

The study stated:

"Herbivorous mammals (roe deer and European hare) less frequently visited wind farm areas and areas close to wind turbines, probably due to both the physiological effects of excessive noise and their impaired ability to hear approaching predators."

This research is highly relevant to the proposed Carrow Wind Farm, particularly in relation to Turbine T1

The habitat surrounding T1 consists of suitable upland Irish Hare habitat including:

- rough grassland,
- peatland/heath habitat,
- forestry edge,
- and transitional upland vegetation.

These habitats provide important:

- feeding areas,
- breeding cover,
- sheltering habitat,
- and movement corridors for Irish Hare populations.

I have personally observed hare activity within the vicinity of these proposed turbine locations and hold evidential records of their presence within the area.

Irish Hares rely heavily on:

- acute hearing,
- open visibility,
- camouflage,
- and rapid escape behaviour

to avoid predators such as foxes within upland landscapes.

The construction and operation of large wind turbines, together with associated roads, excavation works, heavy machinery activity and habitat disturbance, may therefore:

- reduce habitat suitability,
- fragment movement corridors,
- increase disturbance levels,

- alter predator-prey dynamics,
- and increase vulnerability to predation.

Given the ecological suitability of the habitat surrounding T1 and T2 and the confirmed presence of hare populations within the area, I believe the EIAR should have carried out a much more detailed assessment of:

- local hare populations,
- breeding activity,
- habitat connectivity,
- disturbance impacts,
- and cumulative ecological effects associated with the proposed development.

Pine Marten Ecology and Protected Species Concerns

Photographic evidence exists of Pine Marten activity within the vicinity of proposed Turbine T1 and within the surrounding local residential area. This raises significant concerns regarding the adequacy of ecological assessment undertaken for the proposed Carrow Wind Farm development.

The European Pine Marten (Martes martes) is a protected species under:

- the Wildlife Act 1976 and Wildlife (Amendment) Act 2000;
- the EU Habitats Directive (Council Directive 92/43/EEC);
- and the Bern Convention on the Conservation of European Wildlife and Natural Habitats.

Under this legislation, it is an offence to:

- intentionally disturb Pine Martens,
- damage or destroy breeding or resting sites,
- or interfere with habitat areas essential to their survival and movement.

The proposed development involves extensive turbine construction, excavation works, access road development, forestry disturbance, increased traffic movement and significant long-term habitat alteration within an area known to support Pine Marten activity.

Pine Martens are highly dependent upon connected woodland, scrub, hedgerow and upland habitat corridors for foraging, denning and movement. Habitat fragmentation and increased disturbance associated with wind farm infrastructure can negatively impact these ecological functions.

Given the confirmed local presence of this protected species, serious questions arise regarding:

- the adequacy and duration of mammal surveys undertaken;
- whether seasonal surveys were sufficiently comprehensive;
- whether denning or resting sites were identified;
- and whether habitat connectivity impacts have been fully assessed.

The applicant must demonstrate beyond reasonable scientific doubt that:

- no breeding or resting sites will be disturbed or destroyed;
- habitat fragmentation will not adversely affect local Pine Marten populations;
- and that the proposed development will not result in significant disturbance impacts during either construction or operational phases.

In light of the photographic evidence available, further independent ecological assessment and targeted Pine Marten surveys should be required prior to any determination of this application. The precautionary principle must apply where protected species may be adversely affected.

5. Hen Harrier Concerns

Hen Harrier Sightings and Records in Relation to the Proposed Carrow Wind Farm Development

The EIAR for the proposed Carrow Wind Farm confirms that Hen Harriers were observed within and adjacent to the proposed development area during both winter and breeding season surveys.

Section 7.3.8.2 of the EIAR states that:

- Hen Harriers were recorded during breeding and winter surveys,
- three observations occurred within 500 metres of proposed turbine locations,
- and one individual carrying prey was observed approximately 100 metres from a proposed turbine location during June 2021.

The EIAR also acknowledges the existence of a known Hen Harrier nest site north of the proposed development area.

These observations are highly significant.

A Hen Harrier carrying prey during the breeding season is strongly indicative of breeding-related activity and demonstrates active use of the surrounding habitat for hunting and foraging purposes.

The EIAR further records that several observations involved birds:

- hunting,
- commuting,
- or actively using habitat within or partially within the proposed wind farm site.

Despite these observations, the species was ultimately excluded as a Key Ornithological Receptor (KOR) within the assessment.

This conclusion appears inconsistent with:

- the direct observations recorded,
- the proximity of activity to proposed turbines,
- the existence of a known nest site nearby,
- and the severe national conservation concerns surrounding the species.

BirdWatch Ireland and the National Parks and Wildlife Service have documented catastrophic declines in Hen Harrier populations nationally. The 2024 national survey recorded only 85 confirmed breeding pairs remaining within Ireland, representing the lowest national population recorded to date.

Birdwatch Ireland has warned that:

- Hen Harrier populations have declined dramatically since the first national survey,
- SPA populations have declined by more than 50%,
- and the species could face national extinction within decades if current trends continue.

The organisation has specifically stated that:

“All national Hen Harrier breeding and wintering sites must be protected from afforestation, forest management activities and wind energy development.”

The upland habitats surrounding the proposed Carrow Wind Farm, including the areas around Turbines T1 and T2, appear to provide suitable:

- foraging habitat,
- hunting corridors,
- transitional upland habitat,
- and connectivity between nesting and feeding areas.

Given:

- the confirmed sightings within the development area,
- the known nest site nearby,
- the breeding season activity recorded,
- and the critically declining conservation status of the species,

I believe the EIAR fails to adequately assess the true ecological importance of the site for Hen Harrier activity.

The apparent reliance on relatively low sighting frequency to minimise the significance of the species fails to recognise that scarcity of observations is itself symptomatic of the species' severe national decline.

In my opinion, the precautionary principle should apply in full, and the potential impacts of turbine construction and operation on Hen Harrier habitat usage, disturbance, displacement, and foraging behaviour require much greater scrutiny before any permission could reasonably be considered.

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6. Cumulative Impact Concerns

A significant concern throughout the EIAR is the apparent underassessment of cumulative ecological and hydrological impacts.

The wider area has already experienced substantial forestry activity, drainage modification, peat disturbance, and wind energy development.

The cumulative impact of:

- existing wind farms,
- proposed wind farms,
- forestry operations,
- road infrastructure,
- drainage alteration,
- and peatland disturbance

within the same interconnected catchment does not appear to have been comprehensively addressed.

Particularly concerning is the potential for cumulative sedimentation impacts within already stressed river systems supporting critically endangered and protected aquatic species.

The receiving environment cannot be viewed in isolation.

The combined pressure of multiple developments over time may ultimately exceed ecological thresholds even where individual projects claim compliance in isolation.

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7. Wildlife Act and EU Environmental Obligations

The Wildlife Act 1976, as amended, provides legal protection for fauna and flora including prohibitions on disturbing protected species, destroying nests, and damaging breeding sites.

Ireland also has binding obligations under:

- the EU Habitats Directive,
- the EU Birds Directive,
- the Water Framework Directive,
- and the precautionary principle embedded within European environmental law.

The presence of:

- critically endangered Freshwater Pearl Mussels,
- protected lamprey species,
- Hen Harrier activity,
- sensitive peatland habitats,
- and declining river quality

requires the highest standard of ecological assessment and protection.

Where uncertainty exists regarding the potential for irreversible ecological harm, the precautionary principle requires that doubt be resolved in favour of environmental protection.

Hydrology, Water Quality and Aquatic Ecology

The proposed development raises serious concerns regarding hydrology, surface water quality, sediment mobilisation, peat stability and downstream ecological impacts within the Aughnaglanny catchment and associated tributary network.

The eastern and south-eastern turbine cluster, particularly Turbines T1, T3, T10, T12 and T14, appears hydrologically connected to streams and drainage channels flowing toward the Aughnaglanny watercourse and associated tributaries. These locations involve substantial new access infrastructure, excavation works, hardstandings and drainage interventions on sloping terrain with evident surface-water connectivity.

The proposed works present a significant risk of:

- silt and sediment release into watercourses,
- peat instability and peat slide events,
- hydrocarbon contamination from construction machinery,
- concrete and alkaline runoff during turbine foundation works,
- increased surface-water runoff rates,
- and long-term alteration of natural drainage patterns.

The risk is particularly acute where:

- new access roads intercept natural drainage pathways,
- culverts are proposed across existing streams or drains,
- excavation occurs on peat or peaty soils,

- and runoff is directed downslope toward receiving waters.

The southern and eastern sections of the site appear especially sensitive due to:

- proximity to tributaries feeding the Aughnaglanny system,
- topographic gradients directing runoff downslope,
- the density of proposed new roadway infrastructure,
- and the cumulative concentration of construction activity in these catchments.

Of particular concern is the potential for cumulative sediment loading during periods of heavy rainfall. Fine sediment release from peat and exposed soils can significantly degrade downstream water quality, smother spawning gravels, reduce aquatic invertebrate diversity, and damage sensitive aquatic habitats. If salmonid species or spawning habitat are present downstream, these impacts may be particularly severe and long-lasting.

The proposed substation and associated infrastructure located in the southern-central portion of the site also warrants particular scrutiny, as multiple drainage pathways appear to converge downslope from this area before entering local streams.

In addition, insufficient consideration appears to have been given to the cumulative hydrological impacts arising from existing forestry drainage, land drainage modification, track construction and ongoing upland land management practices within the wider catchment. The cumulative interaction of these disturbances may significantly increase runoff velocity, erosion potential and downstream sediment transport.

The applicant must demonstrate, beyond reasonable scientific doubt, that:

- all watercourses, drains and hydrological pathways have been comprehensively mapped,
- groundwater and surface-water interactions are fully understood,
- proposed drainage measures are robust under extreme rainfall conditions,
- no deterioration in water quality status will occur under the EU Water Framework Directive,
- and that downstream aquatic habitats and ecological receptors will not be adversely affected.

Particular attention should be paid to compliance with the objectives of the:

- EU Water Framework Directive (2000/60/EC),
- European Communities Environmental Objectives (Surface Waters) Regulations,
- and the precautionary principle established under EU environmental law.

The EIAR should also be critically examined regarding:

- adequacy of baseline hydrological surveys,
- peat depth probing density and methodology,
- flood risk assessment,
- downstream sediment transport modelling,
- private well and groundwater vulnerability assessment,

- and the cumulative effects of forestry clearance, road construction and turbine excavation on runoff behaviour.

There is also a concern that private water supplies, springs or groundwater-fed sources within the surrounding area may be vulnerable to sedimentation, turbidity or hydrogeological disruption during the construction phase. The EIAR should clearly identify all potentially affected receptors and provide independently verified mitigation measures.

Given the scale of earthworks proposed within an upland catchment area, there remains a credible risk of significant adverse impacts on:

- local streams and tributaries,
- aquatic ecology,
- salmonid habitat where present,
- private water supplies,
- downstream habitats,
- and overall ecological integrity within the receiving catchment.

Historic peat instability events associated with Irish upland wind farm construction demonstrate that such risks cannot be treated as theoretical or negligible, particularly where extensive excavation and drainage alteration are proposed on sloping peatland terrain.

In the absence of comprehensive, independently verified and precautionary hydrological evidence demonstrating that these impacts can be fully avoided, the proposed development fails to satisfy the requirements of proper planning and sustainable development and should not be permitted.

Under the EU Water Framework Directive (Directive 2000/60/EC), Ireland is under a legally binding obligation to prevent deterioration in the ecological status of surface waters. Article 4 of the Directive requires competent authorities to:

- prevent deterioration of all water bodies,
- protect and restore aquatic ecosystems,
- and ensure achievement of "good ecological status."

These obligations are not discretionary. The Court of Justice of the European Union confirmed in the *Weser* judgment (Case C-461/13) that development consent must be refused where a project may cause deterioration of a water body or jeopardise the achievement of Water Framework Directive objectives.

Noise, Shadow Flicker and Residential Amenity

The proposed development raises serious concerns regarding noise disturbance, shadow flicker, visual dominance and cumulative residential amenity impacts on nearby dwellings in the Carrow, Scart, Barraderry and Carrigadoo areas.

Based on the turbine layout and proximity to residential receptors, Turbines T1, T3, T10, T12 and T14 appear most likely to generate significant adverse impacts due to their relative closeness to occupied dwellings, downslope positioning and cumulative interaction with one another.

These turbines may give rise to:

- excessive operational turbine noise,
- cumulative amplitude modulation ("blade swish"),
- low-frequency noise,
- tonal noise characteristics,
- prolonged shadow flicker,
- visual overbearing effects,
- and nighttime sleep disturbance.

Particular concern arises from the concentration of turbines in the southern and eastern portions of the site where several residential receptors appear located within close proximity and may experience simultaneous exposure to multiple turbines.

The cumulative operational effect of T1, T3, T10, T12 and T14 may result in a persistent and intrusive alteration of the existing rural sound environment, particularly during nighttime periods and stable atmospheric conditions when turbine audibility is often greatest.

The applicant's Noise and Shadow Flicker Assessment should therefore be critically examined regarding:

- the adequacy and representativeness of background noise monitoring locations,
- whether monitoring was undertaken during appropriate seasonal and meteorological conditions,
- whether nighttime low-background conditions were adequately assessed,
- whether amplitude modulation impacts were fully assessed,
- whether low-frequency noise was considered,
- and whether cumulative impacts from simultaneous turbine operation were properly modelled.

There is also concern that standard predictive modelling may underestimate actual operational impacts due to the upland topography and valley characteristics surrounding the site. Downslope noise propagation, atmospheric inversion conditions and terrain channelling effects may significantly increase turbine audibility at nearby dwellings, particularly during evening and nighttime conditions.

The EIAR should also be carefully assessed to determine whether overly optimistic assumptions have been made regarding:

- forestry screening,
- vegetation retention,

- seasonal leaf cover,
- and the long-term effectiveness of landscape buffering.

Forestry felling, thinning or future land-use changes could substantially increase both visual exposure and shadow flicker effects over the operational lifetime of the development.

Shadow flicker impacts are of particular concern for residential properties located south, south-east and east of the turbine array, especially in relation to T1, T10, T12 and T14. These receptors may experience repeated low-angle sunlight interruption during morning and evening periods, particularly during winter months when solar angles are lower.

The assessment should also be examined regarding:

- the maximum predicted annual shadow flicker hours per dwelling,
- whether cumulative flicker from multiple turbines was considered,
- and whether mitigation measures are enforceable and realistic in practice.

The rural character of the area is currently defined by relatively low ambient noise levels and limited industrial activity. The introduction of multiple large-scale turbines in close proximity to residential receptors would fundamentally alter the existing residential environment and may materially diminish the reasonable enjoyment of nearby homes and properties.

In the absence of robust, independently verified and precautionary evidence demonstrating that unacceptable residential amenity impacts can be fully avoided, the proposed development should not be permitted.

Assessment of Hydrological and Cumulative Impact Gaps

Carrow Wind Farm EIAR / Natura Impact Statement

1. Introduction

This report evaluates the Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS) submitted in support of the proposed Carrow Wind Farm development in the Dundrum / Hollyford area of County Tipperary.

The assessment focuses specifically on hydrology, water quality, cumulative environmental effects, and compliance with EU environmental law, including the Water Framework Directive (2000/60/EC), the Environmental Impact Assessment Directive, and the Habitats Directive.

Particular attention is given to the Aughnaglanny and East Multeen river catchments, where concerns already exist regarding siltation and ecological deterioration.

2. Existing Catchment Concerns

The Aughnaglanny and East Multeen rivers already exhibit indicators of water quality deterioration and sediment-related pressures. Farming practices in the surrounding catchments have remained broadly unchanged over the past 10–15 years, with no major agricultural intensification identified that would reasonably explain the observed decline in river condition.

Over the same period, extensive upland wind energy development has occurred across the Carrig, Rathmore and Dundrum areas. This raises a credible concern that cumulative upland industrial disturbance may be contributing to ongoing degradation within downstream aquatic systems.

3. Scale of Proposed Development

The proposed development includes substantial upland infrastructure works, including:

- 14 wind turbines;
- Approximately 12.9 km of new access roads;
- 2.6 km of upgraded roads and tracks;
- Extensive excavation and turbine foundations;
- Underground electrical and communications cabling;
- Two borrow pits;
- Forestry clearance;
- Drainage infrastructure;
- Temporary construction compounds;
- Hardstanding and assembly areas;
- Spoil management and excavation works.

The development footprint occupies elevated upland terrain hydrologically connected to downstream river systems.

4. Key Assessment Deficiencies

The review of the EIAR and NIS identifies several significant concerns:

- Limited long-term hydrological assessment;
- Lack of robust cumulative catchment analysis;
- Inadequate assessment of existing river deterioration;
- Insufficient modelling of sediment transport and runoff;
- Heavy reliance on mitigation measures without demonstrated effectiveness;

• Limited storm-event or seasonal aquatic monitoring;
• Inadequate consideration of forestry removal impacts;
• Lack of a clear standalone Water Framework Directive compliance assessment.

The EIAR/NIS appears to assess impacts largely on a project-by-project basis rather than evaluating the cumulative effect of repeated upland industrial development within the same catchment.

5. Forestry Removal and Hydrological Risk

The documentation confirms that approximately 51.6 hectares of forestry are proposed for permanent felling. Forestry clearance within upland catchments can significantly alter hydrology through increased runoff rates, destabilisation of soils and peat, and increased sediment mobilisation.

The EIAR/NIS does not appear to adequately quantify the downstream hydrological consequences of this level of forestry removal when combined with extensive road construction, excavation and drainage alteration.

6. Borrow Pit and Excavation Concerns

The project includes borrow pit extraction involving substantial excavation and rock-breaking activities. Potential downstream impacts associated with sediment release, erosion, runoff and hydrological alteration do not appear to be comprehensively quantified.

Given the upland topography and proximity of infrastructure to receiving watercourses, the absence of robust sediment transport modelling raises significant concern.

7. EU Environmental Law and Compliance

Under Article 4 of the EU Water Framework Directive (2000/60/EC), competent authorities are legally obliged to prevent deterioration in the ecological status of water bodies and to protect and restore aquatic ecosystems.

The Court of Justice of the European Union confirmed in the Weser judgment (Case C-461/13) that development consent must be refused where a project may cause deterioration of a water body or jeopardise the achievement of Water Framework Directive objectives.

Relevant legal obligations also arise under:

• Environmental Impact Assessment Directive 2011/92/EU as amended by 2014/52/EU;
• Habitats Directive 92/43/EEC;

• Article 191 TFEU (Precautionary Principle).

The documentation reviewed does not clearly demonstrate compliance with these obligations in relation to cumulative hydrological impacts and downstream water quality protection.

8. Conclusion

The available evidence suggests that the EIAR and Natura Impact Statement contain significant deficiencies regarding cumulative hydrological assessment, sedimentation risk, downstream ecological protection, and Water Framework Directive compliance.

Given the existing deterioration concerns within the Aughnaglanny and East Multeen catchments, it cannot presently be concluded beyond reasonable scientific doubt that the proposed Carrow Wind Farm would avoid contributing to further deterioration of downstream water quality and ecological status.

Accordingly, the precautionary principle requires that these deficiencies be fully addressed through comprehensive cumulative hydrological assessment and Water Framework Directive analysis before development consent could reasonably be considered.

Land Acquisition in relation to Carrow Wind farm

Concerns also arise regarding landownership transparency and property acquisitions connected to the proposed development.

It is understood that properties associated with Folios 34735 and 34736 were purchased by Thomas Dorney, Mountshannon Road, Lisnagry, Co. Limerick, in advance of the formal planning application process for the proposed Carrow Wind Farm development.

Given the scale and strategic nature of the proposed development, clarification should be provided regarding:

- whether these lands or properties are connected directly or indirectly to the proposed development footprint;

- whether all landownership and beneficial interests associated with the proposed project have been fully disclosed;
- whether any directors, associated entities or connected persons acquired lands or properties connected to the proposed development area prior to lodgement;
- and whether such interests were appropriately declared within the planning application documentation.

Transparency in relation to land acquisition and associated interests is essential in maintaining public confidence in the integrity of the planning process, particularly in the context of large-scale Strategic Infrastructure Development applications.

• DOCUMENTED FAMILY HEALTH ISSUES

Observation Regarding Human Health, Noise Sensitivity and Residential Amenity

I wish to make an observation regarding the proposed Carrow Wind Farm development and the potential impacts it may have on my family home and our health and wellbeing.

Our dwelling is located within close proximity to the proposed turbines, including T1 and T12, and within the wider proposed wind farm zone. We have serious concerns regarding the likely effects of both the construction phase and operational phase of the proposed development, particularly in relation to noise disturbance, vibration, sleep disruption and loss of residential amenity.

I, Martin Barry, together with my wife and our 11-year-old son William, have suffered from long-term sleep deprivation and sleep disturbance for a number of years. This is not a recent or minor issue. We have been under medical care and on medication for approximately five years in relation to these conditions. A letter from our doctor outlining these medical concerns is attached in support of this observation.

Our son William is particularly sensitive to external noise and vibration. Even minor disturbances, such as a single passing vehicle on the road outside our home, can wake him immediately during the night. This has had a significant impact on his sleep quality, daily wellbeing and family life generally. We are deeply concerned that the proposed wind farm construction works, including heavy goods vehicles, excavation, road works, machinery and associated activity, would substantially worsen these conditions.

We are also extremely concerned about the operational impacts of the wind farm once constructed. These concerns include:

- continuous turbine noise,

- low frequency sound,
- amplitude modulation,
- intermittent night-time noise,
- vibration,
- and cumulative noise impacts from existing and proposed turbines in the wider area.

Given our family's documented medical sensitivity to noise disturbance and sleep disruption, we believe that standard noise assessments and generic modelling may not adequately reflect the real impact this development could have on our household.

We respectfully submit that the planning authority must fully consider the human health and residential amenity implications of this development, particularly in circumstances where there is already significant wind turbine development within the area and where cumulative effects may arise.

We also ask that consideration be given to the rights of residents to reasonable peace, quiet, sleep quality and enjoyment of their home environment. The proposed development has the potential to materially and negatively affect our family's health and quality of life.

In light of the above, and having regard to the documented medical evidence being submitted, we request that the planning authority carefully assess the cumulative noise and health impacts associated with the proposed development and refuse permission unless it can be conclusively demonstrated that no adverse effects on our family's health, sleep and residential amenity will occur.

KYLECOURT CLINIC

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28/04/2026

To whom it may concern,

Re: MARTIN BARRY,CARHUE CROSS, TIPPERARY, CO. TIPPERARY.

DOB: 07/08/1978TEL: 0852241203

To whom it may concern,

Martin has asked me to draft this letter to outline his longstanding issues with insomnia. He tells me that there are plans to locate a wind turbine close to his home. He tells me that background environmental noise is the chief trigger to his insomnia, and that his 11 year old son, William, is afflicted with the same condition. His wife Bernadette also a patient of mine, as is William, suffers from environmental noise-related insomnia also.

I can confirm that Martin is currently taking Zopiclone as a sleeping tablet to help with the condition. His wife Bernadette is taking Zolpidem for her insomnia. Thank you for taking this into consideration.

Yours sincerely,

Dr. Chris Ryan

Conclusion

In conclusion, I believe the proposed Carrow Wind Farm development raises serious and unresolved concerns regarding:

- sedimentation risk,
- hydrological disturbance,
- protected habitats,
- critically endangered species,
- river water quality,
- ecological connectivity,
- and cumulative environmental impact.

The information available, including correspondence from NPWS, strongly indicates that the receiving environment is already ecologically vulnerable and under pressure.

The apparent inadequacies within the EIAR and Natura Impact Statement, particularly in relation to Freshwater Pearl Mussel, sedimentation risk, cumulative impacts, and Hen Harrier assessment, are deeply concerning.

Given the potentially irreversible nature of ecological damage within this catchment, I believe An Coimisiún Pleanála must apply the precautionary principle in full when assessing this application.

I respectfully request that these concerns be given substantial weight in the decision-making process.

Supporting Documentation

The following supporting material may be attached to this observation:

- Photographs of river conditions
- Photographs of sedimentation and drainage features
- Photographs of habitat areas
- NPWS correspondence
- EPA river status information
- BirdWatch Ireland reports
- Relevant extracts from EIAR documentation
- Maps and catchment information

Signature

Signed: Martin Barry

Date: 20/05/2026