FEHILY TIMONEY

DESIGNING AND DELIVERING
A SUSTAINABLE FUTURE

SHANCLOON WIND FARM RESPONSE TO THIRD-PARTY SUBMISSIONS

AN COIMISIÚN PLEANÁLA (ACP-323699-25)

Prepared for:
RWE Renewable Ireland Limited

RWE

Date: **February 2026**

Document No:
P25357-FT-XX-XX-RPT-PL-0001

Core House, Pouladuff Road, Cork, T12 D773, Ireland
T: +353 21 496 4133 | E: info@ftco.ie
CORK | DUBLIN | CARLOW
www.fehilytimoney.ie

SHANCLOON WIND FARM RESPONSE TO THIRD-PARTY SUBMISSIONS

REVISION CONTROL TABLE, CLIENT, KEYWORDS AND ABSTRACT

User is responsible for Checking the Revision Status of This Document

Rev. No.	Description of Changes	Prepared by:	Checked by:	Approved by:	Date:
1	Final Issue	AR/ER	RM/JH	RM	01/01/2026

Client: RWE Renewable Ireland Limited

Keywords: Wind, Shancloon Wind Farm, An Coimisiún Pleanála (ACP), Response Report.

Abstract: Fehily Timoney and Company is pleased to submit this Appeal Response Report to An Coimisiún Pleanála (ACP) for planning application ACP Ref. No. 323699-25, as issued by An Coimisiún Pleanála on 11th December 2025 to RWE Renewable Ireland Limited.

TABLE OF CONTENTS

LIST OF FIGURES

1. INTRODUCTION

1.1 Background to Response Report

On the 11th December 2025, An Coimisiún Pleanála (ACP) issued correspondences relating to Third Party and Prescribed Body submissions and observations pertaining to the Shancloon Wind Farm development proposed by RWE Renewable Ireland Limited (the Applicant).

Fehily Timoney and Company (FT), Core House, Pouladuff Road, Cork, has been engaged by RWE Renewable Ireland Limited, to make a response to the submissions and observations which were included with the ACP correspondence dated 11th December 2025.

2. RESPONSE CONTEXT

The Applicant seeks to respond to the submissions and observations which were submitted to An Coimisiún Pleanála regarding the proposed Shancloon Wind Farm. We respectfully request An Coimisiún Pleanála to review the documentation contained within the application in tandem with our considered response to all Third Party submissions.

The observations and submissions contained a number of core issues which are discussed in detail in this response document It is expected that these core issues will sufficiently address the issues in all of the submissions. These core issues are the umbrella topics which cover all aspects and concerns highlighted within the submissions.

A response is also given to each issue raised by the prescribed bodies and community groups who lodged a submission, noting that the response to individual Third Party submissions are also addressed by these responses insofar as they align.

2.1.1 Prescribed Bodies

- Department of Defence
- Irish Aviation Authority
- Inland Fisheries Ireland
- National Health Service Executive
- Transport Infrastructure Ireland

2.1.2 Community Groups

- Friends of Kilconly Wetlands CLG.
- North East Galway Environmental Protection CLG.
- Shancloon Windfarm Action Group

2.1.3 Community & Individual Core Issues

- Alignment with Policy
- Community Engagement
- Human Health and Wellbeing
- Landscape and Visual and Amenity Value
- Shadow Flicker
- Noise, including Wake Effect and Amplitude Modulation (AM)
- Property devaluation, mortgage and insurance eligibility and impact on future planning potential
- Effects on Livestock and Equine
- Fire Risk
- Air Quality
- Traffic and Damage to Roads

- Effects on Peatlands
- Carbon Losses
- Karst Environment and Effects on Groundwater
- Hydrology and Flooding
- Water Pollution
- Effects on Groundwater Wells, Springs, Groundwater Levels and Recharge
- Effects on Ornithology
- Effects on Biodiversity including:
    - Loss of Habitat
    - Effects on Raised Bog
    - Effects on Marsh Fritillary
    - Effects on Cloonbar East Wetland (Commonage)
    - Spread of invasive species
- Effects on Archaeology

3. PRESCRIBED BODIES

3.1 Department of Defence and Irish Aviation Authority

3.1.1 Issue: Matters raised regarding Irish Air Corps Activities and Obstacle Lighting

Observations by the DoD and IAA relate to the following, and are addressed hereunder:

- Irish Air Corps Activities
- Irish Air Corps low level route
- Obstacle Lighting
- Future military radar systems

3.1.2 Response

Consultation was undertaken with the Department of Defence (DoD) and Irish Aviation Authority (IAA) as part of an assessment of potential effects on aviation and Air Corps activities in the region as detailed in Chapter 5 and Chapter 17 of the EIAR, and it is recognised that any Irish Air Corps (IAC) requirements are separate to Irish Aviation Authority requirements. As part of the assessment, specialist technical studies were carried out by aviation experts AiBridges which determined that the project would not adversely impact aviation (see Appendix 17.1 of the EIAR).

Air Corps Activities

The DoD submission notes that the N84 route is identified as an Irish Air Corps low level route.

As referred to in Appendix 17.1 of the EIAR (Aviation Review Statement), the Critical low level flying routes in support of Air Corps operation requirements are prescribed in the 'Air Corps Wind Farm/Tall Structures Position Paper' (Defence Forces Ireland, 2014) and do not specifically call out the N84 (see extract from position paper in Figure 1, which is also included in Appendix 17.1 of the EAIR, which sets out the low level routes).

As such, whereby low-level Military flight activity is operated on the N84 route, this is required to be in accordance with the designation of a temporary restricted area (TRA) in accordance with the Irish Aviation Authority (Standardised Rules of the Air) Order, 2019 (S.I. No. 266 of 2019). Such TRAs identify control, danger, restricted and prohibited areas which can include the location of the wind farm.

The position paper also identifies the following Low Flying Areas (LFTA West) in the west of Ireland:

- Area contained within the following grid L6972; L6945; M0745; M0772

These grid references are located to the west of the N84 road, with L6972; L6945 located towards the Galway coast, and M0745; M0772 located west of Lough Corrib and Lough Mask respectively (see Figure 2 which is an extract from Appendix 17.1 of the EIAR showing the LFTA West area relative to the wind farm). The closest grid reference of the LFTA West (M0772) to the proposed Shancloon Wind Farm is located 31km (16NM) to the northwest, and as such will not affect operations in this area.

c. The following routes are identified as critical low level routes in support of Air Corps operational requirements and the Air Corps is opposed to the erection of wind farms or tall structures within 3NM of the route centerline which could affect Air Corps' ability to access regional areas.

(a) N/M1
(b) N/M2
(c) N/M3
(d) N/M4
(e) N/M6
(f) N/M7
(g) N/M8
(h) N/M9
(i) N/M11
(j) N25
(k) N17 between Sligo and Knock
(l) N15/N13 between Sligo and Letterkenny
(m) N14 from Lifford to Letterkenny and R245 and R247 from Letterkenny to Fanad Head.

Applications or proposals for structures in these areas of a height greater than 45m above ground level at the site of the object must be referred to Irish Air Corps for assessment of potential impact on flight operations.

Figure 1 Extract from Defence Forces Ireland (2014)

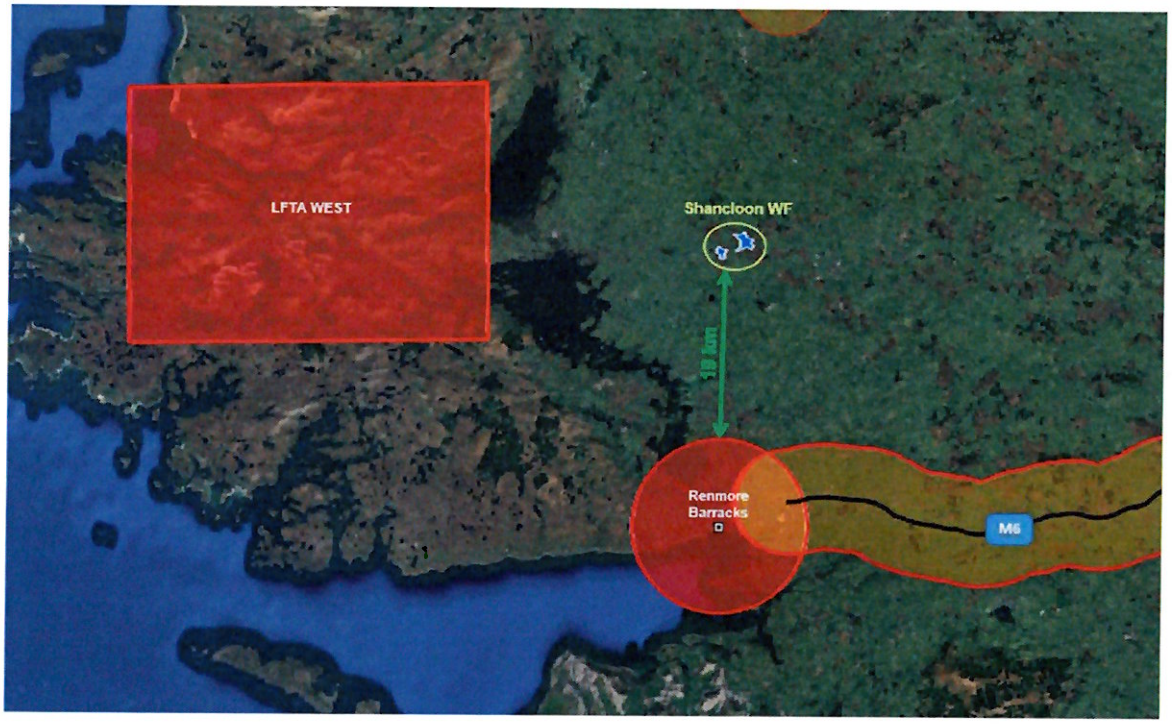


Figure 2 Extract from Appendix 17.1 of the EIAR

Irish Air Corps access regional areas to the north in poor weather conditions

Annex C of the Air Corps Wind Farm/Tall Structures Position Paper identifies the 'Designated Airspace/Restricted Areas/ Danger Areas / Military Operating Areas' in Ireland.

As set out in the Aviation Review Statement presented in Appendix 17.1, the nearest of the Air Corps restricted areas to the proposed wind farm is the 5 NM restricted Zone around the Army Barracks at Renmore, Co Galway (the Galway Zone). The proposed wind farm site is 19 km from the restricted area around Renmore Barracks. As the proposed wind farm is located outside the restricted area, there will be no impacts on Irish Air Corps activities.

The Connaught Zone is located 36km to the north of the proposed wind farm. In the unlikely event that that Air Corps aircraft are flying in the Shancloon area as part of movements between the Galway Zone and the Connaught Zone, it should be noted that all modern aircraft are equipped with a range of Global Navigation Satellite Systems (GNSS), e.g. GPS, GLNASS, Galileo, etc. These GNSS systems provide pilots with accurate navigation information including data to avoid obstacles during VFR operations. Should the proposed wind farm at Shancloon be permitted the turbine locations will be submitted to the IAA and aviation charts and GNSS databases will be updated accordingly.

Obstacle Lighting and Wind Farm Co-ordinates

In their respective submissions, the DoD and IAA have specified the requirements for obstacle lighting, the provision of provide as-constructed turbine coordinates, and notice of crane operations. It is noted that the commitments of the Applicant in relation to these matters are set out in section 17.7.2.1 Aviation of Chapter 17 of the EIAR, and fully align to the requirements of the DoD and IAA in their submissions. The Applicant fully commits to the specific requirements of the DoD and IAA.

Future military radar

In response to the DoD's request that 'in the event of negative impacts on future military radar systems, the owner will engage with the Department of Defence and will provide suitable mitigations as soon as practical', the Applicant confirms that this will be the case.

3.2 Inland Fisheries Ireland

3.2.1 Issue: Matters raised regarding Fisheries and Water Quality

Inland Fisheries Ireland made observations and recommendations pertaining water quality and protection of fisheries in relation to the proposed planning application.

3.2.2 Response

The Applicant acknowledges IFI's statutory responsibility under the provisions of the Fisheries Acts for the management, conservation and protection of Ireland's fishery resource. The wind farm design, construction methodology and mitigation set out in the EIAR has been devised to ensure no deterioration in the ecological and hydromorphological condition of the Togher River, the Black River and Lough Corrib and accord with the IFI (2016) publication 'Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites'.

Compliance with Water Framework Directive (WFD)

Section 9.10.4.2 of the Biodiversity Chapter and Section 12.12.3 of the Hydrology Chapter of the EIAR sets out the standards and guidance documents that will be adhered to for the protection of the aquatic and fishery environments so as to ensure no deterioration in ecological status of the receiving aquatic environment, as per the requirements of the WFD.

As acknowledged by IFI, the 33kV cable crossing of the Black River will be by HDD, negating the need for instream works, thereby avoiding the potential for hydromorphological effects. Similarly, the crossing of the Togher River will be by clear span bridge, with no permanent in-stream structures proposed. All other crossings will be by piped culvert and are associated with land drains. IFI will be consulted in advance in relation to all crossings of any watercourse and in relation to flow diversion or fluming.

As set out in the Hydrology chapter of the EIAR, in addition to the standard water quality monitoring, re-confirmatory biological water quality assessment (Q-value methodology) and hydromorphological baseline (RHAT assessment) will be carried out at the proposed watercourse crossings within the wind farm site at pre-construction, during construction and post construction.

The wind farm drainage and watercourse crossings design will ensure that natural flow paths are not interrupted or diverted. The baseline river hydromorphological condition derived from the RHAT assessment will not be altered such that it would impact the derived WFD hydromorphology classification or inhibit the restoration to Good Status.

Surface Water Management / Protection of Water Quality

Chapter 12 of the EIAR as submitted with the original planning application outlines the mitigation measures relating to Hydrology and Water Quality.

A Surface Water Management Plan (SWMP) has been submitted and can be found in Appendix 12.2 of the EIAR. This document contains methodology for drainage, water quality management and silt control. The proposed surface water drainage system utilises sustainable drainage devices and methods, incorporating the main components of Sustainable Drainage Systems (SuDS). A fundamental principle of the drainage design is that clean water flowing in the upstream catchment, including overland flow and flow in existing drains, is allowed to bypass the works areas without being contaminated by silt from the works. This will be achieved by intercepting the clean water and conveying it to the downstream side of the works areas either by piping it or diverting it by means of new drains.

The number and location of diffuse overland outfalls have been specifically designed to maintain normal flow patterns such that flows are to the same surface catchment area as under pre-construction conditions. The drainage design is shown on Planning Drawings Series 0100 and Series 500.

The roadside drains (swales) will capture 'dirty' water from the construction (and operation) site and will divert these flows to settlement ponds followed by diffuse overland flow. The sizing of the settling ponds will be in accordance with Stoke's Law to provide sufficient retention time to allow suspended solids of a very small particle size to fall out of suspension prior to allowing the water to outfall via overland diffuse outfalls. Flow rates for storm events will be maintained at or below greenfield run-off rates.

The measures contained within the SWMP will be implemented in full during construction, operation and decommissioning.

In addition to the drainage design, the EIAR, CEMP and SWMP also prescribe comprehensive mitigation measures for pollution control to protect water quality in downstream receptors. Surface water quality monitoring is also prescribed in Chapter 12 of the EIAR. Monitoring will be undertaken at least 12 months prior to construction commencing to confirm baseline conditions of surface water quality locally on the surface water receptors. This will be undertaken in co-ordination with aquatic ecology surveys to confirm the baseline biodiversity. An Ecological Clerk of Works will be appointed for the construction stage of the project who will compare the results with the pre work levels and ensure that prescribed mitigation measures are working.

Protection of the Fisheries

Specific mitigation is prescribed in Section 9.10.4.3 of the Biodiversity Chapter for the protection of lamprey and salmonids including their spawning and nursery habitats.

The EIAR commits that in-stream works will be carried out outside of the salmonid spawning season. The Applicant notes IFI's definition of this period in their submission as 1st July to 30th of September and commits to adherence to same.

Waste Management and Construction Material

A Construction and Environmental Management Plan (CEMP) is contained in Appendix 2.1 of the EIAR.

The CEMP sets out the key environmental management measures associated with the construction, operation and decommissioning of the Proposed Development, to ensure that the environment is protected, and any potential impacts are minimised. The CEMP will be developed further at the construction stage, on the appointment of the main contractor to the Proposed Development to address the requirements of any relevant planning conditions, including any additional mitigation measures that are conditioned.

The CEMP document is divided into six sections:

- Section 1: Introduction provides details on the existing site and the Proposed Development.
- Section 2: Existing Site Environmental Conditions provides details of the main existing geotechnical, hydrological, ecological and archaeological conditions onsite. These conditions will be considered by the Contractor in the construction, operation and decommissioning of this Proposed Development and the prescribed measures complied with.
- Section 3: Overview of Construction Works, this section provides an overview of the construction works proposed and drainage and sediment controls to be installed.
- Section 4: Environmental Management Plan (EMP), this section outlines the main requirements of the EMP and outlines controls for the protection of the environment for example soil management, waste management, traffic management, site drainage management, site reinstatement & decommissioning, habitat and archaeology management etc.

- Section 5: Safety & Health Management Plan, this section defines the work practices, procedures and management responsibilities relating to the management of health and safety during the design, construction and operation of the Proposed Development.
- Section 6: Emergency Response Plan contains predetermined procedures to ensure the safety, health and welfare of everybody involved in the Proposed Development and to protect the environment during the construction phase of the Proposed Development.

A Peat and Spoil Management Plan is contained in Appendix 11.4 of the EIAR which sets out how peat and spoil, which will be excavated from infrastructure locations such as turbine bases and roads, will be handled and placed onsite in an appropriate manner to ensure the protection of the environment and the stability of stored/stockpiled material.

The CEMP and Peat and Spoil Management Plan fully address the matters raised by IFI in relation to:

- disposal of all waste materials generated onsite
- drainage from disturbed and stockpiled soils
- prevention of water pollution from site offices and construction activities
- waste management

Section 12.10.3.2 of the Hydrology Chapter confirms that sedimentary rocks, such as shale, will not be used for road and hardstanding construction.

3.3 National Health Service Executive (NHSE)

3.3.1 Issue: Matters raised relating to protection of human health

The NEHS made a submission, the objective of which is to inform the Planning Authority on any likely significant effects on Public or Environmental Health and give an opinion on any proposed mitigation to protect Public and Environmental Health.

3.3.2 Response

The Applicant notes that the submission made by the NEHS is based on the submitted planning application and the accompanying Environmental Impact Assessment Report coupled with a visit to the site of the proposed development by the NEHS on the 10th November 2025.

The Applicant notes the NEHS's observations are made in the context of their remit in relation to Public or Environmental Health and that a Population health approach is followed. In that regard, the Applicant notes that the EIAR has been compiled to allow for impact assessment at a population scale and sensitive receptor scale using the source-pathway-receptor approach.

Population and Human Health

The Applicant notes that the HSE 'Position paper on wind turbines and public health' referenced in the EIAR has been withdrawn by the HSE and is under review. We understand that this was withdrawn in October 2025 which followed the submission of the EIAR to the Consenting Authority. We note that this position paper was specifically referred to in the EIAR in relation to EMF. However, the subsequent withdrawal of the position paper does not affect the findings of the EIAR in this regard, given that other relevant guidelines are also referred to and applicable e.g. The EirGrid document 'EMF & You: Information about Electric & Magnetic Fields and the electricity transmission system in Ireland' (EirGrid, 2014). Additionally, the EIAR commits that all electrical elements of the Project are designed to ensure compliance with EMF standards for human safety.

Ground and Surface Water

The Applicant acknowledges that the NEHS concurs with the conclusions that there is adequate protection of surface and ground water during construction and operation of the proposed development if all the mitigation identified is implemented in full.

Shadow flicker

The Applicant notes the recommendations of the NEHS for the adoption of the recommendation of the 2019 draft Wind Energy Guidelines that "...no existing dwelling or other affected property will experience shadow flicker..." and confirms that shadow flicker control modules can be used to ensure that a near zero level of shadow flicker is achieved, allowing for the reaction time of the shadow flicker control modules and also allowing for a short period of time for the turbine blades to slow down to a stop.

During operation of the Proposed Development, any complaints relating to shadow flicker will be fully investigated by the developer and the shadow flicker control system updated accordingly.

Likely Significant Effects from Noise and Vibration

2006 WEDGs & Low Background Noise Criteria

The wind farm operational noise criteria used in the assessment is detailed in Section 8.4.3.2. As detailed, the noise criteria used to assess operational noise from the proposed development is based on a best practice approach. This best practice approach is based on the following best practice acoustic guidance:

- Wind Energy Development Guidelines published by the Department of the Environment, Heritage and Local Government (2006);
- ETSU-R-97, The Assessment and Rating of Noise from Wind Farms (1996);
- Institute of Acoustics' A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, (May 2013).

It is important to note recent Parliamentary questions regarding the current wind turbine guidelines, (34th Dail, Houses of the Oireachtas, 15th October 2025), which stated the following in response to the question " if his Department will update the wind turbine guidelines; and when it is expected they will be published." The response was:

"The current 2006 Wind Energy Development Guidelines remain in force, pending the finalisation of the review."

Wind turbines are unusual as a noise source, as the noise emissions increase with windspeed up to the maximum sound power output of the wind turbine, at mid windspeeds (typically around 8m/s). Above the this wind speed, the background noise is determined by wind induced noise. As the turbine noise changes with windspeed, applying a different noise limit at different windspeeds is required by best practice guidance, due to the nature of the noise source and increasing background noise levels. ETSU-R-97 details that noise from a wind farm should be limited to 5dB(A) above background for both day and night-time, and highlights that the background level of each period may be different. The IOA GPG outlines that the day amenity noise limits have been set in ETSU-R-97 on the basis of protecting the amenity of residents whilst outside their dwellings in garden areas.

1. Low background noise areas have been considered in the assessment in accordance with current best practice. A detailed baseline noise survey has informed the assessment and has allowed an accurate characterisation of current baseline noise levels in the vicinity of the proposed development, in the absence of wind turbine noise.
2. Where low background noise levels are found, the 2006 WEDG recommend a limit of 35 to 40 dB LA90. In section 8.5.2 of Chapter 8 of the EIAR, reference is made to these limits and ETSU-R-97, which recommends that the following three factors be considered when determining the fixed limit within the range 35 to 40 dB:
    - Number of dwellings in neighbourhood of the wind farm.
    - The effect of noise limits on the kWh.
    - Duration and level of exposure.

Using these criteria, the EIAR recommended that a 40 dB LA90 noise limit for low background conditions applies, as it represents an appropriate balance between power generation and noise impact, as well as allowing consistency with limits applied to other windfarms in the area.

WHO Guidelines 2018

The World Health Organization (WHO) document 'Environmental Noise Guidelines for the European Region' (2018) were considered in 8.4.3.2 of Chapter 8 of the EIAR prepared for the proposed development.

The WHO guidelines make recommendations in relation to each of the noise sources considered and each recommendation is rated as either 'strong' or 'conditional'. The Guidelines provided three strong recommendations for each of the transportation noise sources (road traffic, railway and aircraft), one strong and two conditional recommendations for leisure noise and two conditional recommendations for wind turbine noise. Accordingly, the recommendations for Wind Turbine Noise should not be given the same weight as other recommendations detailed within the document and such recommendations: *"requires a policy-making process with substantial debate and involvement of various stakeholders"*.

It should be noted that the metrics used for quantifying noise levels throughout the Guidelines are L_{den} and L_{night}, which are different from those used in best practice wind farm guidance including WEDG 2006 and ETSU-R-97. There are considerable practical difficulties involved with the use of L_{den} for wind farm noise and accordingly, it is very rarely used for wind turbine noise assessment. The L_{den} metric is not currently used in Ireland for the prediction, measurement or assessment of wind turbine noise and this is also highlighted in Table 42 of the WHO Guidelines, which states (in relation to additional considerations or uncertainties) that: "There are serious issues with noise exposure assessment related to wind turbines." This is consistent with earlier text in the Guidelines (on page 84), which notes that: "Based on all these factors, it may be concluded that the acoustical description of wind turbine noise by means of L_{den} or L_{night} may be a poor characterization of wind turbine noise and may limit the ability to observe associations between wind turbine noise and health outcomes."

Whilst the WHO Guidelines provide a useful overview of the information available relating to health effects at the time of the WHO review, the recommendations need to be considered in the context of the entire document and the Guidelines note that the quality of evidence upon which the recommendations are based is low quality. This is reflected in the fact that the recommendation is conditional, and the Guidelines note that the recommendation should be subject to a policy-making process with substantial debate and involvement of various stakeholders.

In relation to wind turbine noise assessment, no formal changes have been made to the 2006 WEDG. Similarly, the UK continues to rely on ETSU-R-97 and the Institute of Acoustics (IOA) Good Practice Guide on Wind Turbine Noise (GPG) as an appropriate method of assessment. It is also noted that the IOA has not made any changes to the good practice guidance set out in the GPG to incorporate the 2018 WHO guidelines.

With due regards to the above, assessment of operational wind turbine noise against the levels presented in the 2018 WHO document is not considered to be appropriate or necessary.

Assessment of Noise by Relative Level; BS4142

The proposed substation has been assessed using the methodology outlined in BS4142:2014+A1:2019 *Methods for rating industrial and commercial sound*, based on the difference between rating level and background sound level (i.e., assessment by relative level). However, the assessment methodology outlined in BS4142 is not considered appropriate for wind turbine noise, and the change in relative noise level is not considered suitable for the prediction of adverse effects or the likelihood of complaints relating to wind turbines for the following reasons:

- BS4142 is a method for rating and assessing industrial sound by relative level and is not considered an appropriate assessment method for evaluating wind turbine noise.
- BS4142 details that the standard should not be used if more appropriate source specific guidance is available. Wind farm specific guidance has been used in the impact assessment undertaken for the proposed development.
- BS4142 only addresses noise at low windspeeds (<=5m/s). This is not appropriate for wind turbine noise emissions, which increase with wind speed, and wind turbine noise needs to be considered at windspeeds above 5m/s.
- BS4142 is not appropriate for low background noise areas and suggests that absolute limits are more appropriate. The standard states that '*Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night*'. However, the 1997 version of BS 4142 defined very low background sound levels as being less than about 30 dB L_{A90}, and low rating levels as being less than about 35 dB $L_{Ar,Tr}$. This is also stated in the Association of Noise Consultants BS 414:2014+A1:2019 Technical Note (March 2020). As the background and turbine noise levels are low, it is not considered appropriate to directly compare predicted turbine noise levels with background noise measurements.

Noise Nuisance & Webster/Rollo V Meenaclogher (Wind) Limited (2024 IEHC 136)

The Applicant is aware of the judgement in Webster/Rollo V Meenaclogher (Wind) Limited (2024 IEHC 136) 8th March 2024.

Nuisance from noise is subjective, and must be determined on a case by case basis, therefore there is no criteria for defining a level where no nuisance can occur. The best practice noise criteria used in the noise assessment are determined to protect against sleep disturbance and annoyance, and protect amenity with regard to the specific types of noise sources proposed. As the 2006 WEDGs state "an appropriate balance must be achieved between power generation and noise impact."

Under section 108 off the Environmental Protection Agency Act 1992, an individual has a right to complain of a noise nuisance *"Where any noise which is so loud, so continuous, so repeated, of such duration or pitch or occurring at such times as to give reasonable cause for annoyance to a person in any premises in the neighbourhood or to a person lawfully using any public place, a local authority, the Agency or any such person may complain to the District Court and the Court may order the person or body making, causing or responsible for the noise to take the measures necessary to reduce the noise to a specified level or to take specified measures for the prevention or limitation of the noise and the person or body concerned shall comply with such order."*

The act states:

"(2) It shall be a good defence, in the case of proceedings under subsection (1) or in a prosecution for a contravention of this section, in the case of noise caused in the course of a trade or business, for the accused to prove that—

(a) he took all reasonable care to prevent or limit the noise to which the complaint relates by providing, maintaining, using, operating and supervising facilities, or by employing practices or methods of operation, that, having regard to all the circumstances, were suitable for the purposes of such prevention or limitation, or

(b) the noise is in accordance with—

(i) the terms of a licence under this Act, or

(ii) regulations under section 106 ."

An individual will have an option to complain under Section 108 of the Environmental Protection Agency Act. Until the time that the noise limits specified under current guidance change, the assessment methodologies in Chapter 8 of the EIAR are considered current best practice. Appropriate mitigation measures have been specified in section 8.7.2 of Chapter 8 of the EIAR for the operational phase of the proposed development, including an operational noise survey to ensure the project complies with the noise limits.

It is further noted that the reference made in the judgement is UK Guidance on 'Wind Farm Noise Statutory Nuisance Complaint Methodology' which is specifically developed as a noise Statutory Nuisance complaints investigation methodology for wind farm installations. The Judgement clearly recognises that this is 'not planning guidance'.

Consideration of the predicted noise exposure from construction of the proposed development

The Applicant acknowledges that the NEHS is of the opinion that there is no requirement for additional noise mitigation measures during the construction phase providing those measures identified in the in the EIAR are implemented in full.

In relation to the recommended hours of construction set out in the NEHS submission, the Applicants notes that the proposed development lands are located in a remote rural setting and as such, the CEMP sets out that the hours of construction will be restricted to between 07:00 - 19:00 hours Monday to Friday and 07:00 - 1300 on Saturday.

It should be noted that it will be necessary to commence turbine base concrete pours earlier due to time constraints incurred by the concrete curing process. Foundation pours will likely extend beyond normal working hours also. Turbine component deliveries will be caried out at night in accordance with abnormal licenses and permits from An Garda Síochána and the local authority as appropriate. Consultation will be carried out with the local community in advance of out of hours working. Work on Sundays or public holidays will only be conducted in exceptional circumstances and subject to prior consultation and notification insofar as possible with the local authority.

We would respectfully ask that An Coimisiún Pleanála would see fit to permit the above hours of operation.

CEMP/Mitigation & Monitoring

The Applicant acknowledges that the NEHS is of the opinion that if the mitigation measures set out in the CEMP are implemented in full there is adequate protection of Public and Environmental Health during the proposed construction phase.

The Applicant confirms that the additional considerations set out by the NEHS in the interest of the protection of Public Health can be complied with and are as follows:

- All drinking water and water used for the preparation of food in the temporary construction compounds will meet the requirements of S.I. No. 122/2014 - European Union (Drinking Water) Regulations 2014.
- There will be no direct emission to ground or surface water of any foul wastewater. All wastewater will be contained and taken off site to a licensed treatment facility.
- Site drainage will protect surface and ground water during the construction phase.
- Dust minimisation will be implemented, and any complaints investigated and responded to.

3.4 Transport Infrastructure Ireland

3.4.1 Issue: Concerns raised regarding National Transport Infrastructure

TII noted their statutory remit to protect the safety and capacity of the national road network.

3.4.2 Response

The Applicant acknowledges TII's statutory remit to protect the safety and capacity of the national road network, specifically the N17, N83, and N84 for this project. The following technical clarifications are provided to alleviate TII's concerns:

Compliance with Standards:

The Traffic and Transport Chapter of the EIAR was prepared in strict accordance with TII Publication **PE-PDV-02045** (Traffic and Transport Assessment Guidelines) and **DN-GEO-03060** (Geometric Design of Junctions) among other relevant guidance and legislation.

Please refer to section 14.3.2 for the full list of standards and guidance documents adhered to in the preparation of the Traffic and Transport Chapter of the EIAR.

Protection of National Assets:

As requested by TII, no part of this application shall be construed as gaining consent to alter national road infrastructure without a separate, specific agreement. The developer commits to **pre- and post-construction structural and road condition surveys** of the delivery route. Any damage to the national road network or associated assets (drainage, safety systems) will be remediated to TII Publications standards at the Applicant's expense.

Abnormal Load Management:

Turbine components (blades up to 77.5m) are classified as abnormal loads. These will be transported via specialised convoys under An Garda Síochána escort during off-peak hours (night/early morning) to ensure minimal impact on the capacity of the national road network. A trial run with an unloaded vehicle will be conducted prior to the first delivery to identify any site specific issues on the ground.

Grid Infrastructure:

The 110kV loop-in connection to the Cashla-Dalton line has been designed to comply with DoT Circular RW 07 of 2025. The grid connection infrastructure will be designed and constructed in line with ESB and EirGrid standards and specifications. Trenching within public roads for this project is limited to local roads only, totalling less than 495m. Cable ducting will be installed at a minimum depth of 1500mm to ensure no conflict with existing or future road drainage and pavement strengthening works.

Utility Service Coordination:

Formal consultation has been completed with Gas Networks Ireland (GNI) regarding the Mayo-Galway high-pressure gas main and Uisce Éireann (UE) regarding the 250mm water trunk main. Both authorities have confirmed the feasibility of the proposed crossings subject to supervised open-cut trenching and specific separation distances (600mm from GNI tape). The applicant is committed to liaising with GNI and UE throughout the detailed design and the construction phases of the development.

4. COMMUNITY GROUPS

4.1 Friends of Kilconly Wetlands CLG.

4.1.1 Issue: Matters relating to Ecology of Peatlands / Wetlands

Friends of Kilconly Wetlands is a voluntary group dedicated to the protection, restoration, and celebration of the local wetlands.

Friends of Kilconly Wetlands is concerned that construction and operation of the turbines could destroy sensitive habitats, displace wildlife, and fragment populations of species dependent on the peatland ecosystem. In addition, they are concerned that the proposed development could disrupt the community's ongoing relationship with the bog, including recreational, educational, and cultural activities.

4.1.2 Response

Cloonbar East Wetland (The Commonage)

Friends of Kilconly Wetlands query the robustness of the ecology survey at The Commonage given that certain species which are known to be present were not recorded and have specifically listed Marsh Fritillary butterfly and Autumn Gentian.

The importance of the Cloonbar East Wetland and the Cloonbar Bog complex are recognised in the EIAR and have been afforded due consideration through project design. It follows that the design / layout of the proposed wind farm took cognisance of these habitats, resulting in a development layout which aligns to areas of lower habitat value within these land boundaries. The proposed floated road will be located within the northernmost area of the Cloonbar East Wetland and is proximal to existing turbary roads with deep parallel drains. This existing infrastructure has historically impacted the habitats within the wetland. Similarly, the route along the periphery of Cloonbar Bog parallels the arterial drainage channel, where significant drying out and scrubbing up of the bog has occurred. It stands to reason therefore that what the Friends of Kilconly Wetlands submission refers to as 'more notable species' are not present within the proposed development boundary, given the more suitable habitats for these species are not within the boundary.

The submission specifically refers to Marsh Fritillary butterfly and the plant species Autumn Gentian as notably not having been recorded within the proposed development boundary. We refer to Figure 3, which is a copy of Plate 9-13 in the Biodiversity chapter of the EIAR which shows the lands proposed for development within Cloonbar East Wetland. These lands have been assessed as not having the suitability to support Marsh Fritillary, and several years of survey have confirmed Autumn Gentian to be absent from the proposed development boundary.

As set out in Section 9.5.4.1 of the Biodiversity chapter, for each successive year of habitat survey, the habitats were evaluated for their suitability to support protected species, which includes Marsh Fritillary. Contrary to the Friends of Kilconly Wetlands submission which states that "the EIAR reports that there was no record of this species in the area", the findings of EIAR survey correlates with the Friends of Kilconly Wetlands submission that Marsh Fritillary are present in the locality, and indeed the EIAR found larval webs for this species at one location: Tonacooleen West wetland (outside of the development boundary). While the suitability of the broader area to support Marsh Fritillary is recognised in the EIAR, it is also shown in the EIAR that the habitats within the footprint of the proposed development have lower value for this species. Accordingly, the Biodiversity Enhancement and Management Plan presented in Appendix 9.1 of the EIAR includes extensive areas to be managed to promote the foodplant (Devils-bit scabious) for Marsh Fritillary.

In relation to Autumn Gentian, the submission states that 'this also went unnoticed in the EIAR vegetation report for that area'. It is noted that the submission does not provide clarity on where within the c.35ha area of The Commonage these flowers are growing, however it is shown in the EIAR that they are not present within the 5ha area of the development boundary within The Commonage. Indeed, as outlined in Section 9.5.4.1 of the Biodiversity Chapter of the EIAR, a full botanical survey of the entirety of Cloonbar East Wetland was not carried out, rather botanical survey was focussed to within the zone of influence of the proposed development. While the habitat within the development boundary within Cloonbar East Wetland is suitable for Autumn Gentian in terms of sward height and soil type, the lands were subject to several years of survey and Autumn Gentian was not recorded. Along this vein also the submission states that the Commonage hosts "up to three potential EU annex habitats" but raises concerns that none of them were recorded in the EIAR. The proposed development boundary within the Commonage does not host any Annex I habitat as evidenced habitat survey and by geotechnical assessment.

Figure 3 Cloonbar East Wetland

The moths, bees and butterflies associated with Cloonbar Bog and Cloonbar East Wetland as recorded by Friends of Kilconly Wetlands are noted, noting however that records of same do not appear to have been submitted to NBDC, they are not available in the public domain and the locations of same have not been provided as part of the submission. Notwithstanding, it is important to note that the works in Cloonbar Bog and Cloonbar East Wetland are along the periphery of these habitats within marginal habitats or lower value to pollinators as evidenced in Table 9.3 of the Biodiversity Chapter and Plate 9-13 in the Biodiversity chapter. As such there will be no significant effects on the habitats that support these pollinator species.

Turloughs and Waterbirds

In their submission, Friends of Kilconly Wetlands highlight the ephemeral and often unpredictable nature of turloughs and by association the varied way in which wetland birds are associated with these habitats. The submission contends that that the bird surveys undertaken for the EIAR are not sufficient to determine potential impacts of the proposed wind farm on these birds which use a turlough landscape where feeding resources are constantly changing.

The EIAR has had full regard to the changing turlough landscape of the area, and as per Section 10.5.3 of the Ornithology Chapter, desktop assessment included a review of the OPW drainage and flood maps. These flood maps include not only surface water flood models but also the Geological Survey of Ireland (GSI) historic groundwater flood maps along with the predictive groundwater flood mapping which presents the probabilistic flood extents for locations of recurrent karst groundwater flooding i.e. from turloughs. The predictive groundwater mapping was created using groundwater levels measured in the field, satellite images and hydrological models. The probabilistic flood extents are presented as high, medium and low probability, and as such account for the variability in turlough flooding. This historic flood data and predictive flood data was reviewed in the context of available bird usage data (iWeBS data, bird atlases, NBDC and NPWS data) to allow a picture of bird landscape usage to be formed. This desk-based study informed the scope of ornithology surveys carried out as part of the EIAR, which are appropriate to the zone of influence of the proposed development.

Informed by the desk-based study, the EIAR survey area for wintering waterbirds was extended from the recommended 5 km buffer of the proposed development (SNH, 2017) to 6 km in order to cover turloughs and loughs in the wider area which were considered suitable for foraging and roosting wintering waterbirds, refer to EIAR Appendix 10.1, Section 3.6.

Surveys were undertaken over three winters (non-breeding 2019-2020, non-breeding 2020-21 and non-breeding 2023-24) which exceeds the recommended two years of ornithology surveys (SNH, 2017). Surveys were undertaken in line with standard best practice guidance for wind farm developments (SNH, 2017). The extended survey area and survey period has ensured a robust picture of bird movements and patterns between turloughs in the wider area and across the lands where the proposed wind farm is planned to be located, and represents a period of time where feeding resources were constantly changing due to changes in turlough inundation. The survey coverage was sufficient to capture accurately the baseline ornithology conditions at the proposed development and wider area, refer to EIAR Appendix 10.1, Figure 2 to 7.

The submission contends that the change in turlough inundation means that "birds are frequently on the move with species like Snipe, Curlew, Golden Plover (all Red-Listed species) and Annex I species such as Whooper Swan and Greenland White-fronted Goose flying between turloughs across the bog where the proposed wind farm is planned to be located". It is of note that during the three winters of surveys carried out for the EIAR, while Greenland White-fronted Goose was recorded in the wider hinterland / iWeBS survey locations, no observations were made for this species passing through the proposed development lands. Similarly, many waterbird species such as pochard and tufted duck were recorded at turloughs within the 6 km buffer, however no usage of habitats within the proposed development was recorded (refer to EIAR Appendix 10.1, Section 4.5) indicating that the proposed development lands are not a key corridor for movements of waterbirds between the turloughs in the wider environment. Whooper swan were recorded flying through the proposed development lands. A total of 26 flights were recorded over the three-year period, with the maximum number of birds recorded in a single flight being 14, refer to EIAR Appendix 10.1. this equates to a small number of bird movements and bird numbers given the populations recorded in the hinterland and iWeBs sites in the wider environment, which are in the hundreds.

It is recognised that these wetland birds frequently fly at night-time. As such the CRM model includes a nocturnal activity factor as part of the projection of the number of rotor transits for such birds in order to account for such night time flight behaviour. Additionally, the CRM includes an expression of uncertainty factor to account for uncertainty or variability in flight activity data to account for where there may be a gap in knowledge about night-time behaviour of species. The output of the CRM concluded that collisions arising from the proposed development would not affect species at a population level such that it would cause a significant effect, refer to EIAR Appendix 10.1, Section 4.7.

In terms of other survey types such as thermal imaging and acoustic monitoring to determine bird activity, these were not required given the low level of wintering waterbird activity recorded in any year over the three years of bird survey. Significant activity by wintering waterbirds that are active during the day and at night were not recorded within the collision risk zone (i.e. 500 m turbine buffer) of the proposed development and therefore did not trigger the need for further surveys. For wintering waterbirds that were recorded during VP watches, transects and dusk surveys (including curlew, golden plover, lapwing, mallard, snipe, and whooper swan), a nocturnal score of at least 2 (equal to 25% of diurnal activity) was applied in the CRM model to account for nocturnal flight activity. This is considered sufficient for the species and level of activity recorded within the proposed development and 500 m turbine buffer and accords with the latest guidelines: Band, B. 2024. Using a collision risk model to assess bird collision risks for onshore windfarms, NatureScot Research Report.

Peatlands / Raised Bog

It is noted that Friends of Kilconly Wetlands state that they are committed to protecting the bogs through restoration with active community engagement and have provided with their submission their 'Mission Statement' roadmap for potential peatland restoration along with an ecological survey of the Cloonbar Bog[1] dated December 2024 (nothing that field survey informing this report was carried out on 28th March 2024, outside of the optimal botanical survey season, and the ecotope points presented as Appendix A to that report do not extend in to the development boundary of the proposed wind farm).

[1] Smith, G (2024) Cloonbar Bog Ecological Survey. Commissioned by Friends of Kilconly Wetlands. Blackthorn Ecology. 21 pp.

The submission states that Friends of Kilconly Wetlands is currently working with local landowners to restore sections of the bog, with a view to expanding these efforts once successful, and contends that the proposed wind farm would directly impact this restoration work. It is not clear from the submission exactly where these restoration measures are taking place, however it is noted that the ecology report provided focusses on the raised/high bog habitat at the bog while the Mission Statement mentions cutover and high bog. Notwithstanding, it is unclear how exactly the "proposed wind farm would directly impact this restoration work". There are no turbines proposed within any areas of raised/high bog at Cloonbar Bog. The lands selected for wind farm development have been purposefully identified because of the nature and level of habitat augmentation and destruction that has already taken place at the proposed infrastructure locations (i.e. within heavily cutover bog and improved agricultural grassland), and this layout has been discussed with National Parks and Wildlife Services (NPWS), see Chapter 9, Section 9.4. The Applicant would contend that 'restoration' is impractical and unachievable at these locations. Only one element of infrastructure is located within the high bog area of Cloonbar Bog i.e. the access road to T11, and is purposely routed along the periphery of Cloonbar Bog and parallels the arterial drainage channel, where significant drying out and scrubbing up of the bog has occurred. The proposals for the access road infrastructure at this location have been specifically designed to be empathetic to peat stability and bog drainage, and in fact can assist in reducing hydrological losses along the arterial drainage channel. It is also noted that BEMP included in Appendix 9.1 of the EIAR includes bog restoration measures which will be complimentary to any actions of the Friends of Kilconly Wetlands to protect the bog i.e. the BEMP includes drain blocking and protection the facebank. Contrary therefore to the submission of the Friends of Kilconly Wetlands, the proposed wind farm will not "prevent any restoration taking place" at Cloonbar Bog.

Community Engagement and Intangible Cultural Heritage

The Friends of Kilconly Wetlands' submission highlights the place of wetlands as intangible cultural heritage. The submission states that "While the EIAR methodology cites EPA and UNESCO guidance, which includes intangible cultural heritage, the assessment focuses almost entirely on archaeology and architecture. Intangible elements were considered only through desktop research, with no community consultation or recognition of the artists, educators, and residents who continue to shape meaning in this place". The Applicant refers to Appendix 5.2 of the EIAR and to Section 5.2 of this response document, which sets out the extensive community consultation which took place over several years during the project design and EIAR process. It is not accurate to state that no community consultation took place.

Chapter 15 of the EIAR was prepared in accordance with Environmental Protection Agency (EPA 2003) Advice Notes on Current Practice in the preparation of Environmental Impact Statements and EPA (2022) Guidelines on the Information to be contained in Environmental Impact Statements. The chapter complies with the requirements of Directive 2011/92/EU as amended by Directive 2014/52/EU, the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations, 2001 (as amended). The assessment has also been carried out in accordance with guidelines for the assessment of impacts on the cultural heritage resource as published by the International Council on Monuments and Sites (ICOMOS 2011).

As per the UNESCO 2003 Convention for the Safeguarding of the Intangible Cultural Heritage, intangible cultural heritage 'refers to the practices, representations, expressions, knowledge, skills – as well as the instruments, objects, artefacts and cultural spaces associated therewith – that communities, groups and, in some cases, individuals recognize as part of their cultural heritage'. Ireland's National Inventory of Intangible Cultural Heritage is available via https://nationalinventoryich.ccs.gov.ie/national-inventory/, and has been in place and is updated on an ongoing basis since 2019. This National Inventory does not list art and storytelling as Intangible Cultural Heritage. Notwithstanding, Chapter 16 of the EIAR addresses the impact of the proposed development at a landscape scale, which as such accounts for intangible cultural heritage, carried forward through the practices and experiences of the community in the landscape itself. Chapter 8 - Noise, recognises that a new source of noise will be introduced into the soundscape and it is expected that there will be a long-term slight to moderate significance of impact. Chapter 14 - Traffic and Transportation of the EIAR confirms that access will be maintained to local road network and to turbary tracks during the construction and operation of the proposed wind farm. As such there will be no limitations on access to the adjacent bogs (nothing again that there are no turbines proposed in any areas of raised bog).

National Biodiversity Action Plan

The Applicant notes the matters raised by the Friends of Kilconly Wetlands in relation to 'maladaptation'. We refer to the responses under the specific topic headings within this response document which we ask An Coimisiún Pleanála to consider in this regard.

4.2 North East Galway Environmental Protection CLG (NEGEP CLG)

Visual Impact

Please refer to Section 5.4 of this response document, which addresses the concerns raised by NEGEP CLG.

Atlantic Salmon

The importance of Togher and Black (Shrule) catchments for salmonids is fully recognised in the Biodiversity and Hydrology chapters of the EIAR. Extensive aquatic (including fishery) survey was conducted within these catchments as part of the EIAR (see Appendix 9.3 of the EAIR), and the fishery status of these watercourse along with the existing and future catchment pressures / threats to the aquatic system is fully understood. The proposed development includes a detailed and site specific drainage design (planning drawings 100 series and 500 series) along with a Surface Water Management Plan (Appendix 12.2), Peat and Spoil Management Plan (Appendix 11.1) and Construction Environmental Management Plan (Appendix 2.1), along with specific fisheries protection measures set out as mitigation in the hydrology and biodiversity chapters of the EIAR. These measures include best practice and bespoke construction and operation measures to ensure no deterioration in fishery habitat and protection of water quality. Additionally, the design layout uses existing watercourse crossings where feasible in order to avoid new infrastructure on the watercourses, and the new bridge crossing (WC1) will be clear span, set back 2.5m from the river bank. In the rivers where in-stream works might inhibit fish movement, the construction method will be by fluming the watercourse to allow continued fish passage. The EIAR therefore fully considers the protection of Atlantic salmon, lamprey, eel and other salmonid species and the development will ensure the protection of these species and their habitats.

Marsh Fritillary

Please refer to Section 4.1 of this response document, which addresses the concerns raised by NEGEP CLG.

Water Issues and Karst Issues

For clarity, the propose development land is not located within the zone of influence (ZoI) of any turlough habitat. As set out in Chapter 11 of the EIAR, the GSI groundwater karst mapping indicates there are no karst features located within 1km of the proposed development lands, while flied survey found a turlough feature 800m from T5, and beyond the ZoI of the proposed development. Intrusive ground investigation (see Section 11.4.11 of Chapter 11 of the EIAR) suggest that the limestone encountered within the boreholes belongs to the Ardnasillagh Formation with lower susceptibility to karstification i.e. is less prone to dissolution by karst processes and is significantly less likely to host features such as large interconnected sub-surface cavities. No karst features were found during extensive site investigation. Only dolines were observed (which are voids within the superficial fine-grained till deposits as opposed to bedrock, caused by washing out of material within the overlying Quaternary deposits through underlying fractured fault rock).

We note the submission makes reference to "permeable fissures, conduits, and swallow holes" within the development lands. This is inaccurate. Extensive ground investigation has shown that this is not the case. Similarly, the submission notes an "unpredictable subterranean flow regime" and is based upon the misinterpretation of the underlying geology as karstified. This again is not the case. The EIAR includes extensive ground investigation and groundwater monitoring which indicates a predictable subterranean flow given the geology of the proposed development lands, and as such potential pollutant pathways have been fully called out in the EIAR and mitigated for accordingly.

Private Wells

Please refer to Section 5.16 of this response document, which addresses the concerns raised by NEGEP CLG.

Nature Restoration Law

The NEGEP CLG submission raises concerns that the proposed development will inhibit objectives under EU Nature Restoration Law. It is not clear from the submission exactly how the proposed development would interfere with Nature Restoration Law nothing Article 11 of Regulation (EU) 2024/1672 (EU Nature Restoration Law):

> *The obligation for Member States to meet the rewetting targets set out in the first subparagraph, points (a), (b) and (c), does not imply an obligation for farmers and private landowners to rewet their land, for whom rewetting on agricultural land remains voluntary, without prejudice to obligations stemming from national law.*

Water Main Crossing

It is standard practice since 2024 that at planning stage Uisce Éireann engage in a "Confirmation of Feasibility". The EIAR assesses the potential effects of the cable being constructed below the pipe (as mandated by Uisce Éireann) in their letter, and as such there are no unresolved mitigation measures.

Local Airfield

Please refer to Appendix 17.1 Aviation Review Statement which provides a detailed assessment of impacts on these airfields and concludes no impact.

Bisphenol A (BPA)

The submission raises concern about the release of bisphenol-A (BPA) from the leading edge of wind turbine blades to release this substance primarily through the erosion of their composite materials, particularly the epoxy resin that binds the carbon or glass fibres, due to physical degradation caused by wind, rain and sunlight. The submission raises concerns about the implications for the environment and agriculture from contamination from bisphenol-A (BPA).

The submission quotes that the epoxy resin of turbine blades as comprising 30% to 40% BPA. The source of this quoted estimate is not specified, however it is likely taken from The Turbine Group (2021) publication 'Leading Edge erosion and pollution from wind turbine blades' which quotes a 33% Bisphenol A composition.

The Epoxy Resin Committee's 'Assessment of Potential BPA Emissions - Summary Paper'[2] notes that final cured epoxy resin will only contain residual/unreacted BPA with a maximum of up to 10 parts per million for liquid resins or 65 ppm for solid epoxy resins (i.e. worst case there is a possibility for some residual BPA content of up to 0.0065% BPA of the epoxy resin). The study states that operational losses from wind turbines will comprise only micro particles of cured resin with potential BPA losses estimated to remain negligible.

The study by The Turbine Group provided estimates of BPA losses from turbines which were calculated using the findings of a case study in Ireland and Britain on rain erosion maps for wind turbines[3]. The Turbine Group study estimated the total of exposed leading edge weight to be 700 kg with an associated an estimated annual emission of microplastics of approx. 62 kg per year per turbine.

The findings of The Turbine Group study have been refuted by the American Clean Power Association[4] on the basis that The Turbine Group study claims excessive microplastic and BPA loss. The Turbine Group study equally does not align to the findings of the Epoxy Resin Committee's 'Assessment. Indeed, a 700 kg load would represent about 5% of the weight of a 50-metre wind turbine blade, which is an obviously large amount of material to lose from a blade, and a factor which could significantly reduce energy efficiency. The Norwegian Water Resources and Energy Directorate[5], estimate microplastics loss is around 200 g (**grams**) per year per turbine which is significantly less than the 700 kg (**kilogram**) loss estimated by The Turbine Group.

While microplastics could be shed from the wind turbine blades, this would likely be a negligible source of microplastics, particularly in the context that it is now standard practice that anti-erosion coatings are applied to new turbines. In this context, the more prominent sources of BPA to the local environment are likely from consumer products such as food packaging and plastic containers, agricultural activities such a silage wrapping, and coatings and paints on buildings.

In summary, wind turbine blades have protective coatings to limit erosion, contain negligible amounts of BPA, and the blades are specifically designed to have high resistance to weathering.

Wake Effect

Please refer to Section 5.6 of this response document, which addresses the concerns raised by NEGEP CLG.

[2] https://epoxy-europe.eu/wp-content/uploads/2016/09/epoxy_erc_bpa_whitepapers_summarypaper.pdf
[3] Pugh, K., Stack, M.M. Rain Erosion Maps for Wind Turbines Based on Geographical Locations: A Case Study in Ireland and Britain. J Bio Tribo Corros 7, 34 (2021). https://doi.org/10.1007/s40735-021-00472-0
[4] https://cleanpower.org/resources/microplastics-and-bpa-in-wind-turbine-blades/#:~:text=FACT%3A%20Wind%20turbine%20blades%20contain,or%20microplastics%20to%20the%20environment
[5] https://www.equinor.com/sustainability/is-offshore-wind-sustainable

4.3 Shancloon Windfarm Action Group

AA Screening and NIS

The submission by the Shancloon Windfarm Action Group claims that the AA screening / NIS has failed to take in to account turloughs in relation to their capacity as important sites for birds. In response, it is noted that these turloughs are Special Areas of Conservation as opposed to Special Protect Areas and as such the qualifying interest is the habitat 'turloughs [3180]'. The turloughs were assessed as being outside of the zone of influence of the proposed development. Notwithstanding, the ecological connectivity between these turloughs and SPA sites is considered in the NIS, with Table 5-8 and Table 5-9 of the NIS clearly setting out the observed interactions of SCI bird species of the Lough Corrib SPA and Lough Mask SPA with the turloughs in the area: "These waterbird species were found roosting and foraging in the surrounding hinterland sites including at Shrule Turlough (~4.7km N) and Hackett Lough (~3km S)". The NIS clearly sets out that the proposed development will not alter the hydrology of these turlough habitats. The NIS assesses the impacts on the movement and usage of SPA birds within the zone of influence of the development, acknowledging that birds will move between the turloughs and the nearby SPAs. The NIS was informed by the ornithology survey findings and the Collision Risk Model (CRM). The survey area covers turloughs in the locality and the survey period extended for three years. This has ensured a robust picture of bird movements and patterns between turloughs in the wider area and across the lands where the proposed wind farm is planned to be located, and represents a period of time where feeding resources were constantly changing due to changes in turlough inundation. As such the CRM accounts for the changes in interactions from season to season and year to year between birds using these turloughs and the SPAs, and how this relates to movements through and near the proposed development site.

It should be noted also, that the 20 km initial study area adopted from SNH, 2016 'Guidance on Assessing Connectivity with Special Protection Areas (SPAs)' is based upon the largest documented core foraging range for SPA bird species. The S-P-R process is to further examine the species for which the SPAs within this 20km area are designated and to review the core foraging ranges of the SCI species and their typical foraging, roosting, breeding and wintering habitat associations in relation to the Zone of Impact of the proposed development. As such, while there are turloughs located within 20km, they are significantly outside of the ZoI of the proposed development, taking into account disturbance distances and collision risk. As such the scope of the hinterland survey to include a 6km study area is more than adequate to determine impact on SPA birds.

Vantage Points and Viewsheds

To provide clarity in relation to this submission on wantage points and viewsheds, as per Appendix 10.1 of the EAIR, the GIS generated viewsheds were confirmed to be accurate during ground-truthing indicated that the five vantage points provide complete coverage (99.94%) of the 500 m turbine buffer and the turbine locations.

We clarify also that, contrary to the submission, the SNH guidelines recommends that vantage point surveys are not carried out simultaneously, the guidelines specifically state that "Where VPs are located within the survey area, they should not be used simultaneously with other VP locations which overlook them as the presence of an observer either sitting at or moving to/from the VP may affect bird behaviour". This approach was adopted for the Shancloon Wind Farm bird surveys.

The CRM has been informed by three years of survey which has been carried out in accordance with best practice guidelines and ground-truther viewsheds. As such the CRM is robust.

Robustness of the Collision Risk Model

Collision Risk Modelling (CRM) is a method to estimate the potential number of bird collisions likely to occur at a proposed wind farm. The determination of bird collision risk is based upon the identification of the 'flight risk volume/flight risk window' associated with the development. The 'flight risk volume/flight risk window' is the area/layout of the windfarm multiplied by the height of the turbine. Estimation of the bird occupancy within the 'flight risk volume/flight risk window' uses bird flight activity survey data collected through vantage point survey (i.e. the number of birds present multiplied by the time spent flying in the 'flight risk volume/flight risk window'). The CRM firstly estimates the number of collisions that would occur if the birds were to take no avoidance action. It then applies an avoidance rate to take account of the likely degree of successful avoidance of individual bird species (based on scientific evidence).

The greater amount of bird flight data obtained for a Proposed Development, the greater the confidence in the CRM. The Scottish Natural Heritage recommends 2 years of flight data for the purpose of CRM. It is of note that 3years of data has been collected for the Proposed Development.

The SHN guidelines recommends that the bird flight activity survey (i.e. the timed watches from strategic vantage points) should cover a survey area encompassing the proposed turbine envelope plus 500m buffer beyond the outermost proposed turbines to deal with inaccuracies of position for flight line observations. The planning application represents the largest possible area of flight risk volume/flight risk window. The vantage point (VP) surveys for the Proposed Development fully cover the entire development (99.94%).

As demonstrated in Appendix 1.2 - Curricula Vitae of the EIAR, the ornithologists who undertook the bird activity surveys for the Proposed Development are experienced and competent in particular at surveys for wind farm developments, for which the estimation of flight height and distance is an integral part of the survey requirement. A such, the potential for "inaccuracies of position for flight line observations" is low.

The CRM has been prepared in accordance with the SNH best practice guidelines and is based on complete and accurate data which extends beyond the recommended 2 year survey period and covers the full flight risk volume/flight risk window.

Assessment of impacts on diurnally active species

It is recognised that these wetland birds frequently fly at night-time. As such the CRM model includes a nocturnal activity factor as part of the projection of the number of rotor transits for such birds in order to account for such night time flight behaviour. Additionally, the CRM includes an expression of uncertainty factor to account for uncertainty or variability in flight activity data to account for where there may be a gap in knowledge about night-time behaviour of species. The output of the CRM concluded that collisions arising from the proposed development would not affect species at a population level such that it would cause a significant effect, refer to EIAR Appendix 10.1, Section 4.7.

Hydrology, Groundwater, Karst, Flooding, WFD & Public Water Supply

Please refer to responses to the Third Party submissions under these topic headings which equally address the concerns raised by the Shancloon Windfarm Action Group.

Ornithology

Response to ornithology issues raised are covered under the above section relation to AA/NIS and under the response to Friends of Kilconly Wetlands.

Peatlands, Raised bog, Cloonbar Bog, Marsh Fritillary

Please refer to the responses under this topic heading within the other areas of this document, which should be read as a response to the matters raised by the Shancloon Windfarm Action Group.

Bats

Survey Coverage and Sufficiency

As per Appendix 9.2 of the EIAR, the survey limitations for bats are called out and it was concluded that given the multiple years of data, notwithstanding technical issues with detectors D.19, and D16, activity levels were still the same around the Site, and there had been no development or indication that activity would have changed during the planning process, the data collected for the duration of deployment was appropriate for the assessment.

The bat report sets out that the bat surveys were undertaken are in compliance with SNH et al., (2019), NatureScot et al. (2021) guidelines, as such the microphone heights were in accordance with the guidelines i.e. "approximately 2m above ground level".

Roosts and Article 12 Risks

The Applicant confirms, as per Appendix 9.2 that no bat trees roosts were recorded within the site which will require felling. As such Article 12 offences will not apply.

Curtailment

Chapter 9-Biodiversity of the EIAR requires the following curtailment: "Implement blanket curtailment during year 1-3 while post construction surveys are undertaken. The curtailment will involve operating the selected wind turbine from 30 minutes prior sunset to 30 minutes after sunrise at a cut-in speed of 5.5 m/s during specified weather conditions (10-11 °C and wind speed 5.0 to 6.5 m/s at nacelle hight) and during the active bat season (April to October)". This aligns to the recommendations of the Shancloon Windfarm Action Group in their submission.

Post Construction Monitoring and Adaptivity

The Biodiversity chapter of the EIAR notes that carcass searches and removal trials will be done following best recommended practice and with due cognisance of published effects of searcher efficiency.

Cumulative Impacts

The Proposed Development will have no significant effect on bat roosts and the BEMP includes for measures to ensure no loss of foraging habitat or landscape connectivity. Site-level collision risk for bat species was Low to Medium. The Biodiversity chapter concludes that given the scale and location of other developments relative to the Proposed Development and the control of significant effects through mitigation, no cumulative effects on biodiversity are likely.

Risks From Habitat Loss

The submission states that the project will obliterate critical peatland habitats, removing natural commuting corridors and insect rich foraging zones that sustain species such as Leisler's bat and pipistrelles The submission quotes the removal of 100,000 m3 of peat and that the ecological structure of the site will be permanently altered, forcing bats into open, turbine dense areas where mortality risk is highest. This is not accurate. We refer to 'Image 9-8: Bat Habitat Features' of the Biodiversity chapter which shows the features of highest foraging and commuting suitability for bats which are avoided as part of infrastructure layout and which allow for continued landscape connectivity for bats. Additionally, the BEMP includes for additional planting which will bolster landscape connectivity and foraging opportunity for bats.

The ecological structure of the site will not be significantly altered. The submission misinterprets 100,000 m3 of peat to relate to an overall surface area but fails to recognise that this includes for vertical (below ground) excavation of peat. The Actual habitat losses are presented in Table 9-12 of the Biodiversity Chapter and show that the majority of habitat that will be affected is improved agricultural grassland. Additionally the Biodiversity Enhancement and Management Plan (BEMP) includes for new planting of 49,653.72 m2 of native woodland.

Scoping and Consultation

Please refer to the responses under this topic heading within the other areas of this document, which should be read as a response to the matters raised by the Shancloon Windfarm Action Group.

Human Health and Population, Noise and Shadow Flicker, Peat Management, Carbon Assessment, Traffic, Aviation and Intangible Cultural Heritage

Please refer to the responses under this topic heading within the other areas of this document, which should be read as a response to the matters raised by the Shancloon Windfarm Action Group.

5. INDIVIDUAL AND COMMUNITY CORE ISSUES

5.1 Policy

5.1.1 Issue: Concerns raised regarding Wind Energy Development Guidelines 2006 (WEDG 2006) vs Draft Wind Energy Development Guidelines 2019 (WEDG2019)

Several observations query the use of the Wind Energy Development Guidelines 2006 (WEDG 2006), arguing that they are outdated and the presence of more modern/recent guidelines (namely the Draft Wind Energy Development Guidelines 2019 (WEDG 2019).

5.1.2 Response

Published by the Department of Housing, Planning and Local Government in December 2019, the Draft Wind Energy Guidelines were published for public consultation for a period of 10 weeks until the 19th of February 2020. However, the 'Wind Energy Development Guidelines 2006' remain valid, and are still the relevant guidelines for the purposes of Section 28 of the Planning and Development Act 2000 (as amended). The 2019 Draft Wind Energy Development Guidelines have not been adopted and will be subject to significant change.

Whilst the Proposed Development complies fully with the Wind Energy Development Guidelines 2006, it goes beyond the requirements of the Guidelines. For example, the applicant in designing the turbine layout has imposed a 4 times tip height set back from residential receptors and the Applicant is committed to minimising shadow flicker for the wind farm which far exceeds the requirements of the 2026 Guidelines.

Furthermore, Section 8.4.3.2 of Chapter 8 Noise clearly points out why it is not appropriate to apply the Draft 2019 Noise limits on wind farms and clearly sets out that the assessment has been carried out in accordance with current best practice approach.

5.1.3 Issue: Concerns raised regarding Renewable Energy Directive III (REDIII Directive)

Numerous observers contend that the Application is premature pending the publication of mapping associated with the recently transposed Renewable Energy Directive III.

5.1.4 Response

The applicant is aware of the requirements of RED III which includes specific timelines around consenting, mapping of renewable energy capacity and, identification of Renewable Acceleration Areas (RAAs). Whilst Ireland are behind in terms of meeting specific deadline dates, it is understood that the National Territory Mapping for Renewables was open for public consultation up to the 17th October 2025.

The fact that the National Territory Mapping exercise has not been completed to-date and the likelihood that the identification of the RAA's will likely miss the February 21st 2026 deadline is not a material consideration for the purposes of this planning application. The site where the turbine array is located are appropriately designated for wind energy development as set out in the Galway County Council County Development Plan which has been subject to Strategic Environmental Assessment and is currently the Statutory plan that ACP must have regard to in determining this application. The designation of RAAs would not change the status of the County Development Plan, the purpose of the RAAs is to apply a more streamlined consenting process for renewable energy project, its purpose is not to restrict the development of renewable energy projects outside of the RAA areas.

5.1.5 Issue: Concerns raised regarding Policy Documents

Several submissions claimed that the Applicant and the EIAR (including the policy chapter) ignored specific policy or guideline documents. Examples of these documents include, *inter alia*, the National Peatlands Strategy, EU Biodiversity Strategy, Guidelines for Landscape and Visual Impact Assessment (GLVIA3) and the National Landscape Strategy for Ireland 2015 - 2025.

Furthermore, it is alleged in several submissions that relevant policies within the Galway County Development Plan 2022 - 2028 are missing from the Policy Chapter of the EIAR.

5.1.6 Response

With regard to the reference to National and EU Strategies, the Policy Chapter of the EIAR focuses on European, National, Regional and Local energy and planning policies, legislation and Directives, that influence the siting and development of Renewable Energy projects. The purpose of Strategies is to set down clear principles which will guide Government policy in relation to the specific sector covered by the Strategy. Public Authorities with sectoral responsibilities are encouraged to incorporate the values and principles of Strategies into plans and policies. Therefore, these Strategies would be reflected in the Regional Economic and Spatial Strategies and local County Development Plans.

The Observer does not specifically state which Policies from the Galway County Development Plan 2022 - 2028 are missing from the Policy chapter but refers to policies relating to the protection of peatlands and protection of European and Natural Heritage Sites. Specific discipline policies are dealt with in the relevant chapters of the EIAR. For example, Section 9.3, Chapter 9-Biodiversity outlines the Legislative and Policy which the Chapter has regard to when undertaking its assessment. This includes European and National Legislation and National Policy such as the National Biodiversity Action Plan.

Furthermore, for example Section 16.1 of Chapter 16 - Landscape and Visual Impact Assessment sets out the methodology used in carrying out the LVIA assessment citing best practices in guidance documents such as the 'Guidelines on Landscape and Visual Impact Assessment (GLVIA3)'. Section 16.3.2.2 of the LVIA Chapter carries out a thorough assessment of the project against the relevant policies in the Galway County Development Plan 2022 - 2028.

Another example is Section 11.3.3 of Chapter 11: Soils, Geology and Hydrogeology which states that the chapter has regard to the relevant policies of the Galway County Development Plan 2022 - 2028.

To conclude, the Policy Chapter of the EIAR is not an all-encompassing review of all policies associated with the Development and instead focuses on the most relevant and pertinent policies, with specific sectoral policies addressed in the relevant Chapters of the EIAR.

5.2 Community Engagement

5.2.1 Issues: Concerns raised regarding the adequacy of community engagement

5.2.2 Response

In each proposed wind farm that RWE develops we aim to inform the community and engage openly with as many as we can on a one to one, or one to many basis.

RWE follow two Best Practice Principal Guides when engaging and informing the local communities. The "IWEA Best Practice Principles in Community Engagement & Community Commitment March 2013[6]" and the 9 Principals for Inclusive Community Engagement as described by Pobal in their "Guide for Inclusive Community Engagement in Local Planning and Decision Making" [Second Edition][7].

The 9 Principals are as follows:

Engagement Summary

- 3 Door to Door Meetings to each home by CLO and Project Team
- 1st met with 89 home owners
- 2nd met with 60 home owners
- 3rd met with 18 home owners
- Over 130 / 231 home owners were met over the three face to face meetings / clinic (>56%)
- 4 Information Letters dropped to all homes in the area
- Drop in Clinic
- Met 29 Residents (5 the night before, 2 the morning afterwards)
- Ongoing contact via Project Telephone and emails
- Over 300 emails received and multiple telephone calls

[6] IWEA Members Policy Update
[7] https://www.pobal.ie/wp-content/uploads/2023/04/Guide-to-Incl.-Community-Engagement_2nd-Edition_Oct23_Final-2-1.pdf

The Engagement Area

RWE used an engagement area of any home within up to 2km from any turbine from its near neighbours. This took into account 231 homes surrounding the proposed location of the turbines and one or two slightly outside the 2km radius.

We took the 2km radius as best practice from Wind Energy Ireland and from the "Renewable Electricity Support Scheme Good Practice Principles Handbook for Community Benefit Funds 2021" (page 15) which suggest that near neighbours are within a 2km radius of the turbines.

What We Did

Information Service: A dedicated phone line (087 151 9219) and e-mail address (shancloon@rwe.com) were set up in April 2023 before the first engagement and these were live throughout the project timeline (and are still live today) The phone number and email enabled anyone with any questions, queries or concerns to get in touch with the Project Team. There was also a postal address people could use.

All queries to the phone line and to emails were replied to as soon as possible and usually within 24 hours.

A project specific website (www.rwe.com/shancloon) was also developed and was updated through the consultation period with further information, updated FAQ's and useful documents.

A Project Brochure was also developed outlining the Project and included contact information for the Community Liaison Officer (CLO)

- Phone: +353 (0) 87 151 9219

  Post: Shancloon Wind Farm, RWE Renewables Ireland Limited, Desart House, Lower New Street, Kilkenny
- By email: shancloon@rwe.com

The Engagements

- First Door to Door Meetings & Residents Letter / Brochure Drop
- On the 11th April 2023, the Project brochure, as well as a cover letter from the Community Liaison Officer were delivered to all residents within a 2km radius (231 houses) of the proposed turbine array by courier.
- On the same day an email was sent to all local representatives which included an introduction to the RWE's CLO and an attached copy of the Shancloon Proposed Wind Farm brochure.
- The CLO plus members of the project team went door to door on 12th, 13th and 14th of April 2023 and met with 89 householders (out of 231 houses called to) – nearly 39% of households within a 2km radius were met with within the first week of consultation.
- After the first letter drop and during the following two months (April and May 2023), 37 emails were received (from 8 different residents) and each one answered.

Second Residents Letter

In September 2023 the CLO reached out to the all 231 houses via letter dropped by All Homes delivery service letting people know that we had submitted a pre-application consultation request for Strategic Infrastructure Development (SID) determination to An Bord Pleanála (ABP) and that we were awaiting the decision and that we would communicate the decision once we obtain it. The letter also said that we are continuing to work through the Environmental Impact Assessment Report and the Design works are ongoing and that we would hope to be back to the community with a further update on the proposed wind farm later in the year at which time we will once again be dropping off a letter with updated information and will be calling door to door to answer any questions you might have at that time.

Second Door to Door Meetings & Letter Drop

A third residents letter and attached turbine location map was dropped by hand by the CLO and his team over three days, (27th 28th and 29th November 2023). The Team knocked on each door in the area and met with 60 residents over the three days of going door to door with the letter and map and had numerous calls and email follow ups in the days and weeks following as well as a number of face to face meetings.

Third Door to Door Meetings & Letter Drop – Invitation to Drop in Clinic

RWE held a drop in Clinic in the Ard Ri Hotel on Thursday 12th June 2025.

A letter drop was undertaken by the RWE team on Tuesday 3rd and Wednesday 4th June to say that we were going to hold a Drop in Clinic and welcomed people to contact the CLO by phone, text, email or post to suggest a time that they might be available. The letter stated that RWE were happy to discuss the project with small groups of people and also said that in the event that residents were not able to attend that they could contact the CLO to arrange a separate meeting.

Two maps were attached to this letter which gave the locations of the turbines, substation and the red line boundary in which the internal access tracks etc would be constrained. The maps also gave the access route for turbine delivery and site access.

While going door to door dropping letters we met with approximately 18 people as we delivered.

The letter drop also elicited a number of contacts (4) from local residents as well as contacts for booking time at the Clinic.

Drop in Clinic

On the day of the Clinic 22 people attended over the day. A number of people who could not attend on the day sought meetings at different times. We had requests from five people to meet the day / night before and two others to meet them the next morning (11am) all of them wanted to meet us in the homes.

We also had further requests for information at the clinic and some followed up with more requests the following week / weeks. Afterwards. We responded to 5 different residents over the following weeks with answers to their questions.

Elected Members Engagement

On the first day of the consultation period all local representatives were emailed a letter of introduction to the CLO, a soft copy of the Shancloon Proposed Wind Farm brochure and a soft copy of the letter that was sent that day to residents.

After receiving the first letter, Dep Sean Canney contacted the CLO to discuss the Proposed Development and arrange a face to face meeting which happened on 24th April 23.

The CLO also received a phone call from Cllr Colm Keaveney asking for more information about the Proposed Development. The key discussion points from these meeting centred around noise, flicker, turbine size, possible effect on horses and the environment and health.

As well as RWE reaching out to local representatives on 11th April, each local representative also received a soft copy of all letters sent to the residents as well as an letter updating them on the Proposed Development on 23rd November 2023 and 8th December 2023.

5.3 Human Health and Wellbeing

5.3.1 Issue: Concerns related to Autism, Stress and Mental Health

Several Third Party submissions raised concerns pertaining to impacts on human health and wellbeing from the Proposed Development, with concerns related to autism, stress and mental health raised by people who live close to wind turbines.

5.3.2 Response:

The Applicant refers to the submission by the National Environmental Health Service and our response to same, which should be read with this response.

There is currently no published scientific evidence to demonstrate a direct link between wind turbines and adverse impacts related to human health and wellbeing, with any project related impacts addressed at the project design phase through appropriate setback distance, noise and vibration limits, shadow flicker assessment and operational controls to eliminate residual impacts.

From an Irish public health context in relation to human health and wellbeing, the HSE provided a statement in 11th December 2025 in response to a Parliamentary Question on alleged health impacts from wind turbines. The HSE noted that in relation to infrasound, this is below the usual limit of human hearing, and referenced the World Health Organization (WHO) position that there is no reliable evidence that sounds below the hearing threshold produce effects which can be related to negative impacts on human health and wellbeing. This also stated that there is no direct evidence that exposure to wind farm noise adversely impacts human health and wellbeing. It also noted that anxiety and annoyance may reduce quality of life and contribute to stress-related effects, however, it stated that adequate set-back distances, such as for this Proposed Development with the curtilage of the nearest sensitive receptor being over 720m from the nearest turbine, are considered important to eliminate any perceived impacts which may impact on human health and wellbeing.

Irish research on environmental noise and health also recognises that people vary in noise sensitivity, however, it also states that this does not demonstrate that wind turbines cause illness or impact on pre existing conditions or impact human health and wellbeing. This is demonstrated within the submitted EIAR Chapter 8: Noise and Vibration, and EIAR Chapter 13: Shadow Flicker, which shows the Proposed Development adheres to the requirements set out above in relation to noise and vibration and shadow flicker. The Proposed Development adheres to the approach taken of keeping noise and vibration and shadow flicker within acceptable limits by applying setbacks, such as outlined within Chapter 8: Noise and Vibration, section 8.3.6 Operational Vibration of the submitted EIAR. This describes that noise and vibration from operational wind turbines is low, and will not result in perceptible levels at nearby sensitive receptors, nor will the levels of vibration result in any structural damage.

EIAR Chapter 8: Noise and Vibration of the submitted EIAR also describes research undertaken by Snow (ETSU (1997), *Low Frequency Noise and Vibrations Measurement at a Modern Wind Farm*, prepared by D J Snow). This found that levels of ground-borne vibration 100m from the nearest wind turbine were significantly below criteria for *'critical working areas'* given by British Standard BS Vibration from operational wind turbines is low and will not result in perceptible levels at nearby sensitive receptors nor will the levels of vibration result in any structural damage. Research undertaken by Snow (ETSU (1997), *Low Frequency Noise and Vibrations Measurement at a Modern Wind Farm*, found that levels of ground-borne vibration 100 m from the nearest wind turbine were significantly below criteria for 'critical working areas' given by British Standard BS 6472:1992 Evaluation of human exposure to vibration in buildings (1 Hz to 80 Hz) and were lower than limits specified for residential premises by an even greater margin. Hence, the level of vibration produced by wind turbines at this distance is low and does not pose a risk to human health and wellbeing. BS6472 is considered best practice for evaluation of human response to vibration and is referred to in the construction noise and vibration standards BS5228)

More recently, the Low Frequency Noise Report (*Low-frequency noise incl. infrasound from wind turbines and other sources', State Office for the Environment, Measurement and Nature Conservation of the Federal State of Baden-Württemberg in Germany*, 2016.) published by the Federal State of Baden-Württemberg simultaneously measured vibration at several locations, ranging from directly at the wind turbine tower to up to 285m distance from an operational Nordex N117 – 2.4 MW wind turbine with a hub height of 140.6m. The report concluded that at less than 300m from the turbine, the vibration levels had reduced such that they could no longer be differentiated from the background vibration levels.

Considering that the curtilage of the nearest sensitive receptor is over 720m from the nearest turbine, the level of noise and vibration is significantly below any thresholds of perceptibility. Vibration from the turbines is too low to be perceived at neighbouring residential dwellings, with vibration levels significantly below levels that would result in damage to the nearest buildings.

Finally, it is noted that the Proposed Development complies with the Wind Energy Development Guidelines (2006) and meets the separation distances in the Draft Wind Energy Development Guidelines (2019), providing a setback to the nearest sensitive receptor of c. 720m from the nearest turbine. Therefore, this separation distance, together with the project noise, vibration and shadow flicker assessments are consistent with Irish practice for protecting residential amenity and human health and wellbeing.

5.4 Landscape and Visual and Amenity Value

5.4.1 Issues: Concerns raised regarding Visual Impact

A number of observations have been received from statutory bodies and the public in relation to the proposed wind farm with some being focussed, or including comments, on the potential landscape and visual impacts of the proposed development.

Many of the landscape and visual related issues are common across the submissions so it is considered more useful to respond to the issues by theme or highlight distinctive submissions rather than repetitively in respect of each submission. The common themes / distinctive issues that will be addressed include;

- Turbines out of scale with the rural environment and dominate the skyline
- Extensive visibility across parts of Galway and Mayo

- Industrialisation of the rural landscape character
- Adverse effects on views from scenic routes / walking trails / tourism features
- Visual effects of aviation lighting
- Turbines out of scale with the rural environment and dominate the skyline

5.4.2 Response

Many of the 3rd party submissions take issue with the height of the proposed turbines, considering them to be too large for this rural setting and comparing them to other well-known tall features. By way of response, it is important to note that comparison with other tall features is only relevant when there setting is the similar and their form / function comparable. The proposed turbines will be visible within a broad scale rural landscape setting where they may be prominent in some instances, but due to the slender form and set back distances from roads and residences, they do not appear overbearing or spatially dominant within views.

Although 180m turbines are notably larger than the first generation turbines that were constructed in Ireland as the wind energy industry emerged around two decades ago, the proposed turbines would be consistent with the height of turbines being proposed and consented within the last 5 years. A number of wind energy applications have also been submitted and granted in recent years with turbines at or in excess of 200m. These tend to be in broad peatland settings, but by the same rationale, the proposed 180m tall turbines do not appear over-scaled in their broad rural context. This is reflected in the findings of the LVIA chapter, which acknowledges several mid to high range effects, but none that are deemed significant.

It should be noted that the proposed turbines comply with the 2019 Draft Revised Wind Energy Guidelines in terms of residential setback as they are more than 4 X the turbine blade tip height (720m) from nearest turbines. This is a setback distance that has been introduced, in part, to ensure that proposed turbines are not overbearing and will not significantly effect residential visual amenity. Furthermore, whilst there is one Substantial-moderate visual impact assessed in the project LVIA, the remaining viewpoint assessments area all Moderate or lower. All of these visual effects are deemed to be not significant and, by implication, the scale of turbines is not considered to be excessive for this landscape and visual setting.

Extensive visibility across parts of Galway and Mayo

Although the Zone of Theoretical Visibility (ZTV) map indicates potential for visibility across the vast majority of the 20km radius study area this is based on bare-ground visibility using digital terrain model data (hence it is theoretical). From considerable experience in undertaken lowland rural areas with consistent vegetation patterns in the form of hedgerows, treelines, woodlands and forestry, such as this, actual visibility is always much lower than indicated by the ZTV map. Beyond approximately 5-8 km from the site (depending on direction) the consistent and consolidated ZTV pattern covering the central study area begins to become sporadic even in the context of relatively low rolling ground. When coupled with the consistent vegetation, that is not accounted for in the ZTV pattern, this is an indication that actual (as opposed to theoretical) visibility is likely to be very limited in the outer reaches of the study area.

Actual visibility is better reflected in the photomontage set where the turbines are often openly visible, or rise prominently above intervening vegetation, within 2-3km of the site. However, at greater distances they tend to be substantially screened by intervening vegetation. For the 'Local Community' viewpoint subset, which covers receptors within 5km of the site, those nearer to the 5km distance buffer (VP6, VP16 and VP17) only register 'Slight' visual impacts "due to a combination of intervening screening and increased distance from the Site".

From those viewpoints in the outer study area (VP1, VP2, VP3 and VP4 in the northern quarters, and VP18, VP20 and VP21 in the southern quarters), the visual impact only ranges between Slight and Imperceptible due to distance and the degree of intervening screening.

For the reasons outlined above, it is not considered that the proposed turbines will be extensively visible across broad areas of County Galway and County Mayo.

Adverse effects on views from scenic routes / walking trails / tourism features

There are very few scenic designations contained within the study area and the nearest and most relevant relates to Designated Scenic View 33 in the Galway County Development, which is nearly 9km away from the nearest proposed turbine and a relatively contained setting described in the following manner; "The focus of this view is the Ross Friary ruins through the trees as the road approaches the site. The turlough in the background is an important feature (when present)." It is represented by VP18 in the EIAR visual impact assessment and the effect is described in the following manner in section 16.8.2.1; "...the turbines will be visible within a context of rolling farmland, where they will present as small-scale features in the background. Whilst the turbines will generate a small increase in the intensity of built development, they will only have a very limited impact on the visual amenity. The proposed turbines will not be within the designated viewshed towards Ross Friary or materially detract from its visual setting. Overall, the significance of visual impact was deemed Slight at VP18".

There are also very few recognised heritage and amenity features contained within the central study area that attract significant numbers of tourists, visitors or recreationalists. However, it is acknowledged that the outer regions of the study area (where visual impacts are very limited) have a higher concentration of such features, particularly in the context of Lough Corrib and Lough Mask. Figure 16.4 of the EIAR illustrates key visual receptors including scenic designations and recreational /amenity features. Those of note that are included in the visual impact assessment and include VP19 which represents a potential view from the edge of Knockma Woods, and VP20 which represents views towards the site from Lough Corrib. Due to distance (13.4km) and very limited potential for turbine visibility the visual effect at VP20 is deemed to be Slight-imperceptible.

The view from VP19 (6.13km from site) is assessed in the following manner; "VP19 represents one of the most elevated views afforded in the Study Area, where a broad panoramic view is afforded across the lowland plains of northeast Galway. A relatively clear view of the eastern portion of the proposed turbine array is afforded from this elevated location. VP19 was classified with a visual impact significance of 'Moderate' as the proposed turbines will increase the intensity of built development in a lowland setting, but in reality, all the walking trails in Knockma Woods are within the centre of the woods and will not be afforded this view."

For the reasons outlined above, it is not considered that the site and central study area is particularly synonymous with scenic amenity, tourism, recreational or heritage features that are notably valued beyond the local context. The assessment of visual effects reinforces that effects on such receptors are in the mid to low range and are not significant.

Industrialisation of the rural landscape

Many of the 3rd party submissions contend that the proposed wind farm will spoil the natural beauty of the area and contribute to the industrialisation of the rural landscape. By way of response, local residents will invariably and understandably extol the virtues of their local landscape, however, it is important that the LVIA takes an objective stance and also considers the receiving landscape in the national and regional context in terms of distinctiveness, quality and value. In this instance, the LVIA highlights that in accordance with the Galway County Development Plan 2022-2028 the receiving 'North Galway Complex' Landscape Character Area (LCA) is a general rural one with a 'Low' landscape sensitivity designation, which is "Unlikely to be adversely affected by change". Consequently, relevant landscape policies are those that seek to support the established rural economy rather than provide a high degree of protection to the landscape. By any measure, it is predominantly a productive and modified landscape rather than a pristine and naturalistic one.

In addition to the above, the Local Authority Renewable Energy Strategy (LARES) for Galway identifies that the proposed development falls within an area that is 'Open to Consideration' for wind energy development, this being the median classification of five categories. Furthermore, there are no scenic designations (scenic routes / views) in any of the relevant County Development Plans within 5km of the site.

As a more general point, it is common for observers to claim that a proposed wind farm will contribute to the urbanisation or industrialisation of the rural landscape, however, this has connotations that do not reflect the reality of wind energy development in Ireland. It is accepted that the proposed wind turbines and ancillary structures will contribute to an increase in the scale, intensity and diversity of built development within the receiving rural landscape. However, wind turbines have become synonymous with rural, upland and cutover peatland areas in Ireland over the past 25 years – not urban or industrial areas. They are structures that require broad, exposed and often isolated settings to function effectively and tend not to be developed near urban areas due to issues associated with population density. Describing a structure as contributing to industrialisation of a landscape invokes images of bulky monotone buildings and chimney stacks - whereas, wind turbines are structures of the rural landscape with a direct connection to the elements.

Visual effects of aviation lighting

Red aviation lighting will be provided on the hubs of outer turbines within the array. This is of a low intensity designed to be seen from distance, but not to illuminate the surrounding area. It can also be baffled such that it is not readily visible from the ground below the turbines. Although this is a rural area with relatively low levels of ambient lighting, it is not an area subject of a dark skies designation. Effects from turbine aviation lighting will be subtle and dispersed and are not considered to generate significant effects on night time visual amenity and enjoyment of dark skies.

5.5 Shadow Flicker

5.5.1 Issues: Concerns raised regarding shadow flicker and its impact

Several submissions raised matters pertaining to shadow flicker and its subsequent impact on human health (conditions such as epilepsy), and various impacts on nearby properties.

5.5.2 Response

Section 13.1 of Chapter 13 specifically sets out the Applicants commitment to minimising the potential for shadow flicker to occur at any dwelling within the study area and will utilise the results of shadow flicker assessments to ensure effective design of shadow flicker control measures for each turbine. This is over and above the requirements of the Wind Energy Development Guidelines 2006 and will ensure the highest level of protection of adjacent receptors. Additionally, the Health Service Executive have observed on the Application as a prescribed body and do not raise any concern regarding Shadow Flicker.

To ensure that any possibility of potential shadow flicker impact is thoroughly addressed and mitigated, a shadow flicker assessment was undertaken considering 130 receptors within 10 rotor diameters of the proposed Shancloon Wind Farm, the full details of which are included in chapter 13 of the environmental impact assessment report for Shancloon Wind Farm. From the obtained results, based on the 'total theoretical hours per year', shadow flicker levels may exceed the Wind Energy Development Guidelines 2006 (WEDG) thresholds of more than 30 hours per year at 61 receptors when considering a 155m rotor diameter and at 58 receptors when considering a 150m rotor diameter. When the more 'likely' scenario was considered using the average annual sunshine hours per day, the number of receptors exceeding the shadow flicker thresholds was reduced to 17 receptors when considering a 155m rotor diameter, and 15 when considering a 150m rotor diameter.

To address these results, a scheme of mitigation will be implemented into the turbine control software to cease turbine operation during periods when the conditions required for shadow flicker to occur are present. These mitigation measures will ensure that the potential for shadow flicker effects to occur is effectively eliminated for all residential dwellings and amenities within 10 rotor diameters of the turbines. Shadow flicker control modules, consisting of light sensors and specialised software, will be installed on the turbines which have the potential to cause shadow flicker on nearby properties. The calculated shadow flicker periods can be input into the turbine control software and when the correct conditions are met (i.e. the light intensity is sufficient) during a potential period of shadow flicker, individual turbines will cease operation until the conditions for shadow flicker are no longer present. It should be noted that when the conditions for shut down due to shadow flicker are met, there is a short period of time before complete shutdown occurs due to the time required for the turbine blades to slow down and stop turning.

Following mitigation, shadow flicker levels at all receptors within the study area will be reduced to negligible levels, and as such would not affect the surrounding dwellings. To further ensure successful mitigation, during operation of the proposed development, any complaints relating to shadow flicker will be fully investigated by the developer and the shadow flicker control system will be updated accordingly. As such, the proposed development would meet the requirements of both WEDG 2006 and the draft WEDG 2019. No cumulative impacts with other proposed or operational wind farms in the area are predicted to occur on any receptors in the study are. In conclusion, due to the implementation of these mitigation measures, it is improbable that there will be any shadow flicker impacts as a result of the proposed Shancloon Wind Farm.

In conclusion, the Applicant is committed to minimising the potential for shadow flicker to occur at any dwelling within the study area and will utilise the results of shadow flicker assessments to ensure effective design of shadow flicker control measures for each turbine. The turbines, as is the case with newer turbine models, will also be fitted with Shadow Flicker technology which can programmed to shut down during certain periods should a need arise. As such, the Proposed Development will not give rise to any significant shadow flicker effects.

One submission highlighted that the co-ordinate for Turbine 5 (T5) in Appendix 13.2 of the Shadow Flicker Assessment lists T5 at Easting 533307, Northing 754159, whereas Chapter 2 and other sections of the EIAR consistently reference Easting 533285.84, Northing 7541 79.26. The location modelled in the assessment is shown on Figure 13.1 of the EIAR and the co-ordinate listed in the Shadow Flicker report is an error in the model. However, this error represents a worse-case scenario given that this location is situated 29m further south than the correct location and as such the model will have determined a greater potential for shadow flicker for the properties identified in Figure 13.1. Notwithstanding, as set out in Chapter 13 of the EIAR, it is reiterated that the Applicant commits to turbine control software to cease turbine operation during periods when the conditions required for shadow flicker to occur are present.

5.6 Noise

5.6.1 Issue: Concerns raised regarding Noise

The proposed wind turbines have prompted concerns from third-party submissions regarding the potential negative impact of noise outputs from turbine operation on the local community's mental health. Submissions argue that the noise generated by the turbines during the operation phase may disrupt daily activities and have wider health implications.

5.6.2 Response

In terms of the perceived effects of Noise pollution, a Noise Impact Assessment has been conducted and is included in Chapter 8 of the accompanying EIAR. The Wind Farm has adhered to the Wind Energy Guidelines 2006, with the noise levels being in line with the guidelines; this is outlined in Chapter 8 of the EIAR, wherein states:

> *The operational wind farm noise levels meet the daytime and night-time noise limits derived using the Wind Energy Development Guidelines 2006.*

Construction Noise

Noise predictions were undertaken to determine the likely impact during the construction works, which were determined to have a slight impact and temporary in duration (the construction period is expected to take up to 24 months. The most intensive period of the works programme will be Months 8 to 10). The noise impact for construction works traffic will be managed by generally restricting movements along access routes to the standard working hours (08:00 to 19:00 Monday to Saturday) and exclude Sundays, unless specifically agreed otherwise.

The on-site construction noise levels will be below the relevant noise limit of 65 dB LAeq,1hr for operations exceeding one month, and therefore construction noise impacts are not considered to be significant. However, there is potential for temporary elevated noise levels due to the grid connection works that has the potential to affect up to 10 properties. However, the impact of these works at any particular receptor will be for a short duration (i.e. less than 3 days). Where the works at elevated noise levels are required over an extended period, greater than 3 days, at a given location, a temporary barrier or screen will be used to reduce noise levels below the noise limit where required. The noise impact will also be minimised by limiting the number of plant items operating simultaneously where reasonably practicable.

Operational Noise

Noise predictions were performed for the 11-wind turbine layout using the highest noise levels at each wind speed, for the proposed turbine models have been selected for a range of standardised 10m height wind speeds from 3 m/s up to 14 m/s. The highest noise level is reached at 8m/s. These predicted noise levels are for a worst-case scenario with noise sensitive receptors downwind of the proposed development and represent the locations closest to the proposed windfarm.

The predicted noise levels from the proposed project are below the daytime and night-time noise limits at all except for three noise sensitive locations:

- Location R183 is an involved landowner, located close to Turbine 1 and Turbine 4. This property is predicted to experience a noise level that exceeds the daytime noise limit by up to 5.1 dB and the night time limit by up to 3.6 dB. Note that R183 will be vacated upon operation of the windfarm, and therefore this receiver will not be present during operation of the windfarm.
- Locations R184 and R185 are marginally above the daytime limit at 6m/s (the limit is exceeded by 1.0 dB at R184 and by 0.3 dB at R185). These two locations are located north and centre of the proposed windfarm. The predicted noise level at R184 and R185 are 41.0 and 40.3 LA90 dB, respectively.

At all other locations the day time noise limit is met. All residential noise sensitive locations (excluding the involved landowner), meet the night time noise limits.

As set out in Section 8.7.2 of Chapter 8 of the EIAR, three turbines (T5, T8 and T9) will be operated at noise reducing modes at specific wind speeds so as to meet the daytime noise limits.

5.6.3 Issue: Concerns raised regarding Wake Effect and Amplitude Modulation (AM)

5.6.4 Response

The EIAR Noise and Vibration Chapter for Shancloon Windfarm considered the best practice approach for assessment of Amplitude Modulation. This response reviews best practice noise guidance used in the EIAR, with regards to wake effects and noise in response to the above submission.

The operational noise assessment for the wind turbines at Shancloon windfarm are based on the current best practice guidelines defined by:

- Wind Energy Development Guidelines (WEDG) published by the Department of the Environment, Heritage and Local Government (2006);
- ETSU-R-97, The Assessment and Rating of Noise from Wind Farms (1996);
- Institute of Acoustics' A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, (May 2013).

The above documents have been reviewed with regard to noise and wake effects. Section 5.13 of the Wind Energy Development Guidelines "WEDG 2006 states the following with regard to wake effects:

"In general, to ensure optimal performance and to account for turbulence and wake effects, the minimum distances between wind turbines will generally be three times the rotor diameter (=3d) in the crosswind direction and seven times the rotor diameter (=7d) in the prevailing downwind direction. Bearing in mind the requirements for optimal performance, a distance of not less than two rotor blades from adjoining property boundaries will generally be acceptable, unless by written agreement of adjoining landowners to a lesser distance. However, where permission for wind energy development has been granted on an adjacent site, the principle of the minimum separation distances between turbines in crosswind and downwind directions indicated above should be respected"

There is no specific reference to wake effects with regard to noise in the WEDG 2006 document.

The ETSU-R-97 document only refers to wake effects with respect to measurement of windspeeds, for noise compliance measurements (post construction).

Reviewing the IOA GPG, the only reference to wake effects of turbines is related to the method of wind speed measurement for post construction compliance monitoring (Supplementary Guidance Note 5, Post Completion Measurements).

A recent document was published which reviews current guidance for onshore windfarms: "A review of Noise guidance for Onshore Wind Turbines, WSP Department for Business, Energy & Industrial Strategy:, September 2023."

This has been reviewed with regard to noise and potential wake effects. The WSP report considers wake effects from wind turbines as one of the factors that influence Amplitude Modulation (AM). Amplitude Modulation is discussed in the Shancloon Report Noise and Vibration Chapter Section 11.2.3. As stated in the WSP report and the Noise and Vibration Chapter there are two types of AM, Blade Swish, which occurs mainly at close range to and crosswind of wind turbines. It is less prevalent upwind or downwind of a turbine. Other-AM (OAM) can occur at longer ranges and over different directions from turbines, compared with blade swish. OAM, as noted in the WSP report has varying and complex mechanisms and factors. One of the factors for OAM includes complex turbine wake effects, and the full list of factors is:

- transient blade stall, which is linked with the blade angle of attack, and may be affected by flow variation across the rotor span, which is linked with wind shear, wind veer, or 'low level jets' associated with atmospheric conditions, and with topography
- inflow turbulence variation
- complex turbine wake effects
- 'partial refractive shading' of the rotor, in which atmospheric effects cause 'shadow zones' and 'illuminated zones' with lower and higher sound levels respectively

Research indicates that modern turbines enable accurate control of blade pitch angle and this can be used to reduce the risk of blade stall occurrence, which is also associated with OAM.

The WSP document describes causal mechanisms of OAM, which include complex turbine wake effects. "complex turbine wake effects being exaggerated in stable atmospheric conditions, which have been identified in simulations incorporating turbulent airflow fields with coupled source and propagation models. These studies have focussed on single turbine wake effects, which are considered to comprise small-scale turbulence and refractive effects that contribute to greater AM fluctuations. While stable atmospheric effects are normally associated with reduced inflow turbulence, enhanced wake effects during stable conditions could possibly also contribute to greater inflow turbulence in wind farms, when turbines are exposed to the enhanced wake region from another turbine. "

The WSP report states that OAM, is less well understood and contributing factors are subject to ongoing research. The evidence indicates that these could include transient blade stall (influenced by wind shear, wind veer, atmospheric and topographic conditions), inflow turbulence variation, wake effects and partial refractive rotor shading.

As stated in the EIAR for Shancloon Windfarm, AM cannot be predicted in the context of planning and noise assessment guidance are unlikely to be practically feasible in the near future. Where it occurs, which is a typically intermittent occurrence, it would need to be measured over a long period. The generally accepted method derived by the IOA Amplitude Modulation Working Group (IOA AMWG) is "A Method for Rating Amplitude Modulation in Wind Turbine Noise (August 2016)". The WSP report describes this as a "robust and practical approach to quantifying AM and of the measurement methods, it offers the best balance between reliability and practicality"

In addition, regarding AM, Wind Energy Ireland (WEI) published a position paper on Amplitude Modulation Planning Conditions, in October 2025. This states that "No AM" conditions should be included in planning permissions, as AM cannot be eliminated and such conditions are unsupported by scientific evidence or best practice. It recommends a complaints based monitoring system, in line with UK good practice.

5.7 Property Values

5.7.1 Issue: Property devaluation, mortgage and insurance eligibility and impact on future planning potential

Several Third Party submissions raised concerns related to the impact of the project on property values, and if it causes property devaluation and impacts mortgage and insurance eligibility and relates to loss of future planning potential if the project proceeds.

5.7.2 Response:

Section 6.7.5.4 of Chapter 6 of the EIAR outlines and discusses the extensive international body of literature associated with property valuation and the correlation to Wind Farms which definitively demonstrates that at an international level, wind farms have not impacted property values in the local areas.

In the Irish context, as referenced in Chapter 6 - Population and Human Health of the EIAR, an Irish study was conducted and published by , the University of Galway in 2023 which focused on the impact of wind farms on property values on the western seaboard of Ireland titled: 'Wind Turbines and House Prices Along the West of Ireland: A Hedonic Pricing Approach' (Gillispie, et. al. 2023).

This study collected data from seven counties along the western seaboard of Ireland which included counties Donegal, Leitrim, Sligo, Mayo, Galway, Kerry and Cork. The conclusions of the study are drawn from housing data taken from the property website, www.daft.ie, which reviewed all listings, prices, and individual housing characteristics of c. 64,163 no. property listings within 15km of a wind turbine over a 5 year period between 2016 and 2021.

To conduct the study, individual turbines were identified using satellite imagery and assigned to the nearest known windfarm location (SEAI, 2023). Information on turbine hub height and rotor diameter was sourced from planning records for the 1,342 turbines in the study area, which also included the 366 no. turbines connected after 2016, with the following being provided as examples of some of the factors which may impact on property values:

- Proximity Effect: Where houses located closer to wind turbines tended to have lower market values compared to those further away. The depreciation in value was more pronounced within a 2-3 km radius of the turbines.
- Visual and Noise Pollution: A key contributing factor to the decrease in house prices were visual intrusion and noise pollution. Properties with unobstructed views of the turbines or those subjected to noise above a certain threshold experienced more significant value reductions.
- Mitigating Factors: Certain mitigating factors, such as natural screening by trees or topography and community engagement and community benefits like investment in local infrastructure, could offset some of the negative impacts on house prices.

The main conclusion of this study is as follows:

> *"It is clear from the analysis that turbines can incur a discount on nearby properties. However, there is evidence to suggest that the price effect is not persistent and can be minimised through siting decisions. As renewable policies progress, the west and south of Ireland will likely continue to see disproportionately greater numbers of wind energy developments compared to the rest of the country. Therefore, the results outlined in this paper have important implications for policy, especially in terms of siting locations for wind turbine development. While it is important to reach climate targets through growth in renewable electricity production, it is necessary do so at a minimal cost to the public by focusing developments to remote areas with limited urban influence."*

This comparative Irish study on property values is conducted over a shorter period of time, 5 years between 2016 and 2021, and does not utilise data based on property prices achieved on the closing of a property scale. Instead, this study established baseline data using price listings based on an assumed valuation of a property, which is largely derived from economic conditions and assumed desirability of a property at a specific period of time. Of the c. 64,163 properties considered for the study between 2016 and 2021, a total of c. 225 no. of the properties are located within 1 km of a turbine. When compared to the previously described US, British and Scottish studies, this is a relatively small pool and duration to establish robust data in comparison to the US, British and Scottish examples, which were carried out over a significantly longer period of over 20 years, and with a significantly larger sample of properties at c. 500,000, where the final sale agreed price was used to establish price trends.

Though this study gives an insight into conditions in a specific geographical location over a specific timeframe, previous studies have shown that property prices achieved on the closing of a sale, and prices achieved over a longer period of time, can provide more robust and accurate quantitative data when establishing reliable information on property prices in relation to the probable influence of wind turbines on that price. Furthermore, studies with a larger sample of properties over a longer duration can also provide more accurate insights into reasons why there may be property price fluctuations and give insights into the reasons why properties achieve the prices they do based on aspects such as long term economic health of the national or even local economy.

It is a reasonable assumption based on the available national and international literature that the provision of a wind farm at the proposed location would not impact on the property values in the area and will therefore have a long-term imperceptible impact.

In conclusion, as detailed in Section 6.7.5.4 of Chapter 6 of the EIAR accompanying this Application based on the national and international literature available at the time of writing the chapter that the provision of a wind farm at the proposed location would not impact on the property values in the local area. Furthermore, the operation of a wind farm at the proposed location does not preclude other development in the area. Each planning application is assessed on its own merits

The Community Benefit Scheme will provide funding for community-led and community owned projects, which have been known to bolster associated property value.

5.8 Livestock and Equine

5.8.1 Issue: Livestock and Equine

Several Third Party submissions raised concerns related the impact of turbines on livestock and horses in proximity to the turbines.

5.8.2 Response:

Any potential impact on livestock or the equine was screened out at an early stage in the EIAR process as there is no evidence available to suggest that turbines have any ongoing effect on the livestock or bloodstock industry.

In fact, the currently operational Mace Upper Wind Farm in Co. Mayo (Planning Ref:00/1954 and 06/2476) is on an estate that operates an equestrian centre. An appeal to An Bord Pleanála (PL16.221313) was made in which the issue of the interaction of horses and wind turbines was raised. Section 10.8 of the An Bord Pleanála Inspectors Report dismissed this point as it did not represent a significant issue. Upon speaking with the owner of the Mace Upper Equestrian Centre, his experience of the three wind turbines on his land has been very positive. The three turbines are within approximately 200m, 280m and 450m of the equestrian centre buildings and areas where outdoor equestrian events are held.

The first onshore wind farm in Britain which became operational in 1991 was developed on the site of a stud farm. This wind farm, which has since been expanded, is located in Delabole in Cornwall. Young horses are regularly broken in within 50 metres of wind turbines and are ridden through the wind farm site. Along with having no impact on the horses, there are no reports of any animal or activities disturbances at the adjacent Camel Valley Riding Club from the turbines. Furthermore, in 2007 a nine-turbine wind farm was developed at Stags Holt in the Fenlands in Cambridgeshire on a site adjoining a stud farm. This wind farm was subsequently extended to almost double its original size in 2010 and there have been no issues with the owners of the stud.

Furthermore, there are numerous examples of renewable energy developments throughout the country and internationally where livestock coexist and routinely graze in the same fields as wind turbines (AWEA, 2019).

In conclusion, having assessed the existing scientific research there is no evidence to suggest that the Proposed Shancloon Wind farm will have a significant impact on livestock or the equine during the operational phase of the Wind Farm.

5.9 Fire Risk

5.9.1 Issue: Fire Risk

Several Third Party submissions raised concerns related to potential for fire and the associated consequences of same.

5.9.2 Response:

Section 6.7.16.4, Chapter 6 - Population and Human Health, specifically examines the potential effects in the instance if a wind turbine or electrical equipment catching fire. The consequences are clearly outlined in terms of potential impacts on human health and safety, air quality, water quality, biodiversity, soils, material assets, archaeological or architectural heritage and landscape and visuals. The magnitude of these consequences has potential to be significant and negative, resulting in potential injury or fatality, property damage, infrastructure damage, loss of forested lands and damage to ecosystems. It is unlikely that potential fire at the Shancloon Wind Farm will have an effect on noise, vibration, telecommunication, and aviation.

Section 6.8.5.2, Chapter 6 - Population and Human Health clearly outlines the extensive mitigation which will be in place to minimise the risk of fire and the environmental impact of a fire on the receiving environment, concluding that the potential effects are negligible.

5.10 Air Quality

5.10.1 Issue: Concerns raised regarding impacts on air quality

A number of the submissions raise concerns regarding the potential for the proposed development to impact on air quality, including dust emissions from aggregates and disturbed peat.

5.10.2 Response

Chapter 7 on Air Quality and Climate assessed the potential effects on air quality and concluded that potential effects would be slight to moderate during construction and decommissioning (temporary), and imperceptible during operation.

Construction Stage

Dust

To assess the impacts of construction dust emissions, the Institute of Air Quality Management (IAQM) guidance document: 'Guidance on the Assessment of Dust from Demolition and Construction'[8] was used, as is recommended in Transport Infrastructure Ireland's (TII) Air Quality Assessment of the National Roads Authority's Assessment Criteria for the Impact of Dust Emissions from Construction Activities with Standard Mitigation In Place[9]. Following this guidance, the EIAR concluded that, due to the distance of receptors from the main Site, the wind farm would result in a low risk for dust impacts.

The Air Chapter and the Construction Environmental Management Plan set out measures to control dust emissions during construction, which are proven best practice measures and include:

- All loads which could cause a dust nuisance will be covered to minimise the potential for fugitive emissions during transport;
- A water bowser will be used to spray work areas (wind turbine area, grid connection route and haul roads), especially during periods of excavations works coinciding with dry periods of weather, in order to suppress dust migration;
- The access and egress of construction vehicles will be controlled and directed to designated locations, along defined routes, with all vehicles required to comply with onsite speed limits;
- Construction vehicles and machinery will be serviced and in good working order;
- Wheel washing facilities will be provided within the site near the site entrance point of the Site as described in Chapter 2 of the EIAR, and all vehicles entering or leaving the site will be required to use these facilities.

Any potential impacts associated with dust from the creation of peat and spoil deposition areas will equally be controlled by the mitigation measures set out in Chapter 7 of the EIAR. These storage areas have been designed by geotechnical engineers such that they will be structurally sound. It should be noted that the deposition areas are revegetated, such that they do not dry out during the operational phase and do not become a source of dust.

Other Air Emissions (non-dust)

Construction vehicles and plant emissions have the potential to increase concentrations of compounds such as NO_2, Benzene and PM_{10} in the receiving environment. Local receptors may be exposed to these emissions. As the setting is rural and will allow for emissions to rapidly dilute in the open air, this exposure would constitute a slight, recurring short duration effect.

Operation Stage

Once the Proposed Development is constructed there will be no significant direct emissions to atmosphere.

Maintenance vehicles will access the Site during the operational period. However, due to the low traffic movements involved, the impact will be imperceptible. Maintenance vehicles will also access the joint bays for periodic maintenance and carry out point works along the proposed GCR to address any issues during the operational period. However, given the low and infrequent traffic movements involved, the impact will be imperceptible.

[8] http://iaqm.co.uk/wp-content/uploads/guidance/iaqm_guidance_report_draft1.4.pdf
[9] https://www.tiipublications.ie/library/PE-ENV-01107-01.pdf

During operations, the Proposed Development will result in the avoidance of emissions from fossil fuel generators which is a positive effect on air quality.

Decommissioning Stage

In terms of decommissioning, there will be truck movements associated with removing the wind turbines, earthmoving to cover foundations and landscaping resulting in dust and vehicular emissions. However, the number of truck movements will be significantly less than the construction phase and the impact is therefore predicted to be a temporary, slight negative impact on air quality.

5.11 Traffic and Damage to Roads

5.11.1 Issue: Concerns raised regarding impacts on the road network and access

5.11.2 Response

The Applicant acknowledges the concerns of the local community regarding the suitability of rural roads (specifically the "New Line" and L-6483 local roads) and the potential for disruption.

Road Suitability and Structural Stability

Residents noted a previous instance of a truck "sinking" on local roads. This concern is addressed through a three-tier strategy of baseline data collection, structural over-engineering, and financial accountability.

Baseline and Post-Construction Structural Surveys

To ensure no permanent degradation of the local road network, the applicant commits to the following:

Pavement Condition Rating (PCR) & Video Survey: A comprehensive high-definition video survey and PCR assessment will be conducted for the entirety of the delivery route (L-6483, L-2234, L-6100) prior to commencement. This establishes a legal "fingerprint" of the road's condition.

Falling Weight Deflectometer (FWD) Testing: At locations identified as potentially "soft" (e.g., the New Line), FWD testing will be used to measure the structural strength (stiffness) of the road layers.

Post-Construction Audit: Upon completion of the 24-month construction phase, the surveys will be repeated. Any deviation from the baseline condition will be rectified by the applicant to a standard that meets or exceeds the original condition, as verified by Galway County Council (GCC).

Engineered Passing Bays and Verge Reinforcement

The "sinking" incident cited by residents typically occurs when a heavy vehicle is forced to pull onto an unreinforced, soft grass verge to allow another vehicle to pass. The Proposed Development eliminates this risk by constructing the following accommodation works.

Load-Bearing Passing Bays: Seven passing bays (P1–P7) will be constructed along the L-6483 and L-2234. These are not merely grass-strip widenings; they consist of full-depth, load-bearing construction matched to the mainline crossfall to prevent edge failure.

6-Metre Passing Width: Each bay is designed to provide a minimum 6m total carriageway width over a 10m length. This ensures that two 10m large tipper trucks can pass safely without either vehicle being forced onto unreinforced soft verges.

Full-Depth Reconstruction: Unlike "surface-only" widening, the seven proposed passing bays (P1–P7) described in Section 5.3 of the Traffic Management Plan (TMP) and junction overrun areas involve the excavation of existing soft subsoil (peat/clay) and replacement with TII-compliant Series 800 structural stone and Series 900 bituminous materials.

Sub-grade Strengthening (CBR Testing): Prior to laying the passing bays, California Bearing Ratio (CBR) testing will be conducted to ensure the underlying ground can support the 12.5-tonne axle loads typical of turbine delivery vehicles and concrete transport.

Swept Path Analysis and "Stay-on-Track" Protocol

To ensure vehicles do not deviate onto unreinforced ground, the development utilises:

Swept Path Analysis (SPA): Every meter of the route has been modelled for the project's largest vehicles (77.5m blade trailers). This identifies exactly where "overrun" reinforcement is required i.e. where the turbine delivery vehicle's wheelbase runs beyond the standard carriageway width and requires additional width to stay on the road.

Delineation: All engineered passing bays and reinforced verges will be clearly delineated for drivers. The Traffic Coordinator will have the authority to suspend deliveries if any vehicle is found to be operating outside the designated reinforced carriageway.

Traffic Intensity and Safety

To address concerns regarding construction traffic volumes and road safety:

Peak Traffic Management: While the construction phase is 24 months, the high-intensity "concrete pour" days for turbine foundations are limited to 11 non-consecutive days. On these days, all other non-essential deliveries will be curtailed to avoid saturating the local road network.

Courtesy Protocol: A "Road Safety and Courtesy Procedure" will be mandatory for all contractors. This includes a "Give Way" policy for local residents, school buses, and cyclists. A full-time Traffic Management Coordinator will oversee this protocol.

Restricted Hours: Deliveries will be scheduled to avoid peak commute times (e.g., school & bus runs, work rush hours) where possible.

Environmental Cleanliness (Mud and Dust)

To address concerns regarding siltation and road cleanliness:

Wheel Wash: A dry/wet wheel wash system (see Figure 5-1 of the TMP) will be located at the site exit to ensure no peat or spoil is tracked onto the public road.

Road Sweeping: A dedicated road sweeper will operate full-time during the aggregate and concrete importation phases on the L-2234, L-6483, and L-6100.

Financial Security and Road Bonds:

It is standard practice for a development such as Shancloon Wind Farm's application grant of permission to be subject to the lodgement of a Financial Security Bond with Galway County Council roads department. This bond is only released once the Roads Authority is satisfied that the structural integrity of the local network has been maintained or improved.

Consultation and Communication

The applicant categorically rejects the assertion that the project was developed in secrecy. The Proposed Development is the culmination of a multi-year, proactive consultation framework involving statutory bodies, environmental protection agencies, and local engineering departments. This process ensured that every technical aspect of the project, from road safety to peatland stability, was scrutinized by the relevant authorities prior to submission.

Statutory Scoping and Initial Engagement

At the outset of the development phase, a formal Scoping Report was issued to all relevant statutory consultees, including GCC, TII, and the Department of Transport. This initial stage allowed the project to be shaped by high-level policy requirements, ensuring the chosen turbine delivery route and site location were fundamentally viable before the preliminary design commenced.

Technical Engineering and Utility Consultation

During the design phase, the applicant engaged in meaningful, iterative consultation with utility and infrastructure providers to ensure the project integrates safely with existing underground assets:

Meaningful consultation progressed through email and culminated in a comprehensive on-site meeting with the GCC Area Engineer on 17th January 2024. This meeting was pivotal in finalising the engineering design of the following:

Delivery and Haul Route Road Upgrades: Identifying the seven engineered passing bays to protect rural road edges and enhance road safety.

Entrance Sightlines: Validating the 120m "Y" visibility splays on the L-2234 to ensure maximum road safety.

Grid Trenching: Agreeing on reinstatement specifications to ensure no interference with future road maintenance.

Gas Networks Ireland (GNI) & Uisce Éireann: Detailed design-phase meetings ensured that the grid connection and internal cabling avoid conflict with the Mayo-Galway high-pressure gas main and the regional 250mm water trunk main. Both authorities have provided technical confirmation of the feasibility of these designs.

Environmental and Inland Fisheries Consultation

Recognizing the sensitive nature of the local watercourses and peatlands, the applicant maintained a direct line of communication with Inland Fisheries Ireland (IFI). This included both email correspondence and a targeted on-site meeting to discuss:

Watercourse Crossings: Specifically, the Horizontal Directional Drilling (HDD) methodology under the Togher River, designed to ensure zero impact on fisheries and riparian habitats.

Peatland Infrastructure: Reviewing the placement of internal tracks and turbine hardstandings to ensure peat stability and the protection of the Corrib catchment's water quality.

Proactive Community Communication Framework

While the design phase was led by technical experts and statutory bodies, the applicant is committed to a transparent protocol for the local community during the 24-month construction phase:

Community Liaison Officer (CLO): A dedicated CLO will be appointed upon a grant of permission. They will be the primary point of contact for all local residents, providing a direct channel for real-time information and grievance resolution.

The "48-Hour Notification Rule": Residents within a 1km radius will be included in a notification register. They will receive written or digital notice at least 48 hours in advance of abnormal load deliveries (turbine blades) or the 11 scheduled days for foundation concrete pours.

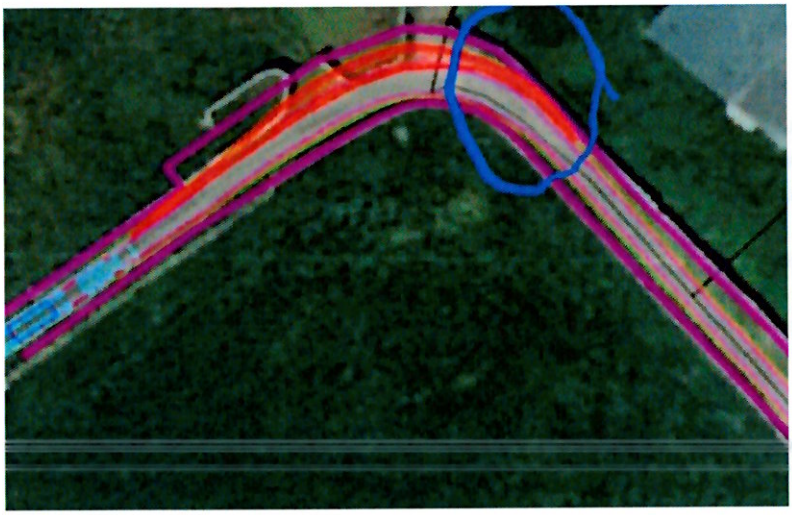
Transparency and Accountability: All construction-phase traffic management plans will be published and clearly signposted at site entrances, including a 24-hour emergency contact number.

Construction of Cable in Road

This application for consent has been made pursuant to Section 37E of the Planning and Development Act 2000 (as amended). Section 37 E prescribes the information to be submitted with an application for consent to An Coimisiún Pleanála. Section 37E of the Act does not require the applicant to demonstrate control over the lands the subject of the application for consent. Notwithstanding the above, in accordance with best industry practice the applicant has submitted 'letters of consent' from the legal owners of the land the subject of the application and with respect to the cabling proposed under the public road, the applicant has submitted a letter confirming that the proposed development is to be undertaken by a 'statutory undertaker having a right or interest to provide services in connection with the proposed development', pursuant to Article 22 (g) (ii) of the Planning and Development Regulations 2001 (as amended) (see Addendum C to the Planning Application).

Specific Query on Swept Path

In response to a submission querying land access / road widening for delivery of material to the substation by Mr Kevin Browne, we clarify that no land access will be required at the location indicated in the submission (see extract below) and no widening into said private lands is required at this location.



Rather, the confusion is a result of baseline orthophoto mapping being at odds with OSI vector mapping boundaries. The red line boundary for the proposed development is based on the vector mapping boundaries, and as such does not translate exactly when projected against the orthophoto mapping. Please refer instead to planning drawing P20-306-0100-0003 which shows the land take requirements of the red line boundary against the OSI vector mapping.

5.12 Peatlands

5.12.1 Issue: Concerns raised regarding works in peatlands

Several Third Party submissions raised concerns related to the possibility of peat disturbance resulting in the risk of landslide.

5.12.2 Response

The presence of peat soils should not preclude development. In fact, the National Peatlands Strategy, and subsequent mid-term review, emphasises that cutaway bogs have a number of advantages over other categories of land in terms of potential windfarm development of scale. Additionally, numerous peatland sites have been safely developed for renewable energy projects in Ireland.

There is no uncertainty about the risk of a peat slide at the proposed development lands. Geotechnical & Peat Stability Assessment was prepared for the proposed development and was presented as Appendix 11.1 of the EIAR. The wind farm design is informed by intrusive peat depth probing, a detailed and extensive ground investigation campaign including geophysical survey, boreholes and trial pits, desk study, stability analysis and risk assessment to assess the susceptibility of the site to peat failure following the principles in Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Generation Developments (PLHRAG, 2nd Edition, 2017). Peat thicknesses recorded during the site walkover and from the ground investigation ranged from 0 to 8.0m with an average peat depth of 2.0m. 39% of the probes recorded peat depths of less than 1.0m, 13% of the peat probes recorded peat depths between 1.0m to 2.0m and 22% of peat probes recorded 2.0m to 3.0m of peat. A number of localised readings recorded peat depths from 3.5 to 8.0m. The findings of the Geotechnical & Peat Stability Assessment are presented in Appendix 11.1 of the EIAR and factor of safety analysis has determined a low risk of peat instability.

Notwithstanding that the site has an acceptable margin of safety for peat stability, mitigation/control measures are given in the Geotechnical & Peat Stability Assessment report to ensure that all works adhere to an acceptable standard of safety for work in peatlands.

Additionally, a geotechnical and engineering assessment was carried out (Appendix 11.3 of the EIAR) to determine the most appropriate technical approach to floated road construction within the periphery of the Cloonbar Bog. The assessment determined that a double sheet pile wall with reinforced ties will ensure peat stability at this location.

A peat and spoil management plan has also been prepared for the proposed development (Appendix 11.4) the focus of which is to describe how peat and spoil which will be excavated from infrastructure locations such as turbine bases and roads and will be handled and placed/reinstated onsite in an appropriate manner, and to manage any adverse impact on peat stability.

5.12.3 Issue: Concerns raised regarding Carbon Losses and Undermining Climate Goals

Several of the submissions made refer to concerns regarding the apparent contradiction of wind energy being a carbon saver when the construction of the wind farm will result in large volumes of peat excavation and disturbance, which will result in carbon emissions. There are also references to the carbon emissions associated with concrete and other materials required for the construction of the proposed development.

5.12.4 Response

Chapter 7 on Air Quality and Climate involved utilising the Scottish Windfarm Carbon Assessment Tool (https://informatics.sepa.org.uk/CarbonCalculator/index.jsp), the industry standard in Ireland for estimating the carbon savings from a proposed wind energy development on peatlands. This tool allows the user to determine whether the clean energy generated by a wind farm outweighs the carbon "cost" of building it on carbon-rich soil. The tool takes account of all of the carbon emissions associated with the proposed development, including carbon emissions from the manufacture of wind turbines, the provision of concrete, the loss of carbon stored in peat; and compares these emissions against the carbon savings expected from the generation of clean energy.

While Chapter 7 of the EIAR mentions that the tool was developed for "high ground on peatlands which contain forestry" the tool is adaptable to any wind farm development on peatlands, with the tool being used as the industry standard in Ireland regardless of whether the site is on "high ground" or "contains forestry".

Inputs to the tool are based on accurate knowledge of the site conditions. For example, depth of peat is known from peat probing and site investigations. However, some assumptions are also made; for example, the "carbon accumulation due to C fixation by bog plants in undrained peats" is assumed to be 0.25 $tCha^{-1}yr^{-1}$, based on SNH guidance and recommended for use in the Scottish Carbon Calculator tool.

Based on the results from the tool, during the manufacturing and transportation of turbines, and construction and decommissioning of the turbines 52,413 - 62,691 tonnes of CO2 will be released to the atmosphere. This is based on the assessment of the turbine range presented in Chapter 3 of the EIAR (Development Description): the lower range of 5.6 MW and the upper range of 6.6 MW were both considered for the assessment. This represents 2.14 - 2.17% of the total amount of CO2 emissions that will be offset by the Proposed Development. Losses during the construction and decommissioning phases will be due to reduced carbon fixing potential, losses from soil organic matter and losses due to felling forestry.

In total, it is estimated that 2,447,700 – 2,884,800 tonnes of CO2 will be displaced over the proposed thirty-year lifetime of the wind farm i.e. 81,590 - 96,160 tonnes of CO2 per annum, which assists in realising the ambitious goals of the Climate Action Plan 2024. From an operational perspective, the proposed development will displace the emission of CO2 from other less clean forms of energy generation and will assist Ireland in meeting its renewable energy targets and obligations. The burning of fossil fuels for energy creates greenhouse gases, which contributes significantly to climate change. These and other emissions also create acid rain and air pollution.

For the Proposed Development with 11 no. turbines assuming a turbine power rating of 5.6 – 6.6 MW, and operational period of 30 years, the payback time for the manufacture, construction and decommissioning phases (including carbon losses from soil, felling of forestry etc.) of the Proposed Development is estimated at approximately 1.8 – 1.9 years. Should further restoration measures be put in place, the total carbon emissions and carbon payback time would be reduced.

5.13 Karst Environment and Effects on Groundwater

A number of submissions have raised concerns regarding the potential for impacts on groundwater.

5.13.1 Issue: Concerns raised regarding Development in Karst Environment

5.13.2 Response

Chapter 11 of the EIAR identifies a number of karst features on site and in the study area. However, as pointed out in the EIAR, the abundance of shaley/argillaceous material within the encountered bedrock suggests low levels of calcium carbonate (CaCO3) within the limestone. This is significant with respect to its susceptibility to karstification. Limestone with a lower percentage of $CaCO_3$ is less prone to dissolution by karst processes and is significantly less likely to host features such as large interconnected sub-surface cavities (i.e. cave systems). Nevertheless, there is a degree of karstification present which has been identified and dealt with as explained below.

The layout of the proposed wind farm was informed by a constraints-led design approach. This involved identifying all environmental constraints across the site, and locating infrastructure outside of these constrained areas. Karst features were a key constraint considered when designing the site layout as karstified limestone can present a number of design problems, including geotechnical challenges as well as the difficulty in predicting groundwater flow regimes, as has been pointed out in some of the submissions. As such, karst features have been identified by a robust methodology including desk-top study, on-site geophysical testing and an intrusive site investigation, as described in Chapter 11 of the EIAR.

An initial desk-top study was followed by geophysical testing of the subsurface at the site. This information was used to locate potential infrastructure in the first instance. The proposed layout at that time was then tested with an intrusive site investigation, comprised of the excavation of trial pits and drilling of boreholes. Table 11-16 in the EIAR provides a summary of the ground conditions encountered during the site investigation and clearly demonstrates that where karst features were encountered, any proposed infrastructure which had been intended for that location was moved to an area where no karst had been encountered (Table 11-16 of the EIAR). As an example of re-locating infrastructure away from karst features, the reader's attention is drawn to location PBH-18 where the substation was originally sited. The reader will note the detail "Substation A (descoped)", indicating that this location was ruled out due to the identification of karst beneath the ground at that originally proposed substation location. The proposed location for the substation was changed to the area where PBH-20 was drilled and confirmed no karst features were encountered. Using this constraints-led approach, impacts on karst features will be avoided such that the potential for effects post mitigation will be imperceptible, as concluded in Table 11-30 of the EIAR.

Concerns have been raised in the submissions whether the proposed piled foundations for the turbines would "puncture" the protective overburden soil, creating a potential pathway for pollutants to migrate from the surface to the underlying karst aquifer. In addition to the facts described above, that the turbines have been located to avoid karst features, the piled foundation will be constructed using standard reinforced concrete construction techniques (See Chapter 2 - Development Description for further details). Rock socket piles will be used to embed the piles into solid rock. The concrete piles themselves will be impermeable, and the interface of the pile with the existing soils will comprise a "smear zone": a layer of extremely low permeability soil which has been "smeared" by the drilling process. As such, no preferential pathway is created between the surface and the underlying aquifer.

5.13.2.1 Esker Removal

A number of submissions note the presence of an esker "running primarily along the north-eastern boundary of the Cloonbar East Wetland". No map of the esker has been provided with the submission, however based on the textual description provided, we have reviewed the planning drawings to check whether excavation of any elevated ground in this area is expected, which might constitute the removal of an unidentified esker. The proposed roads in this part of the site will be floated roads, with earthworks fill (as opposed to earthworks cut) required. Therefore, no substantial excavation is required in this part of the site and as such, no removal of an esker (see planning drawings P20-306-0100-0055, P20-306-0100-0056 and P20-306-0100-0055 which show the proposed layout in the area north-east of the Cloonbar East Wetland).

As detailed in Chapter 11 of the EIAR, the GSI's online Geological Heritage database indicates there are no audited or unaudited Geological Heritage Sites (GHSs) within the Site or wider study area. The closest GHSs are located approximately 4.4km to the east (Dunmore Esker - A number of high, sinuous ridge segments, which all form part of the same, extensive esker system) and 5km to the south (Knockmaa - A large area of landscape with glacial deposits which have slightly modified a much older landscape) The distribution of Geological Heritage Sites is shown on Figure 11.8 of the EIAR.

5.13.2.2 Turlough Systems not addressed in EIAR, concerns surrounding underground streams

Details of turloughs within the study area have been provided within Chapter 11 of the EIAR. Turloughs have been identified by reviewing mapped karst features (listed in Table 11-11 of the EIAR). Six turloughs have also been identified by our team during site walkovers (listed in Table 11-13 of Chapter 11 of the EIAR). These have all been considered in the preparation of the EIAR, with known turloughs avoided in the constraints-led design of the wind farm layout, and proposed infrastructure moved away from any karst features below ground identified during the intrusive site investigation.

5.14 Hydrology and Flooding

5.14.1 Issue: Concerns raised regarding Flood Risk

5.14.2 Response

On-Site Flood Risk

A site-specific flood risk assessment (SSFRA) including justification test has been prepared for the Project in accordance with the 'Planning System and Flood Risk Management Guidelines' (DOEHLG, 2009) and Departmental Circular PL2/2014 and is provided in Appendix 12.3, Volume III of the EIAR.

The primary flood risk to the proposed site can be attributed to a fluvial flood event in the Togher River, the Cloonbar River, the Beagh Beg River, the Shancloon River, and/or the Black River. The screening assessment undertaken as part of the SSFRA indicates that the site is not at risk of pluvial or groundwater flooding.

The assessment and analysis undertaken has determined that the location of the proposed substation and the grid connection route and loop-in infrastructure do not fall within a delineated predictive fluvial Flood Vulnerable Zone (Flood Zone 'A' or Flood Zone 'B'). The location of the proposed sub-station and grid connection route therefore fall within Flood Zone 'C'.

The location of proposed turbines T01, T02, T03, T04, T05, T06, T08, T09, T10 and T11 do not fall within a delineated predictive fluvial Flood Zone 'A' or Flood Zone 'B'. The location of these proposed turbines therefore fall within Flood Zone 'C'.

The location of proposed turbine T07 falls within a delineated predictive fluvial Flood Zone 'A' and Flood Zone 'B'. The type and form of development proposed at T7 is classified as 'Less Vulnerable Development' as per the 'Planning System and Flood Risk Management Guidelines' and the location of proposed Turbine T07 falls within a delineated Flood Zone 'A' and Flood Zone 'B'. Therefore, the development as proposed at the location of proposed Turbine T07 was subject to the requirements of the 'Justification Test'.

The following measures have been built into the design of the wind farm in order to manage against flood risk and to ensure a robust and sustainable development:

- The finished floor level of the proposed substation will be constructed to a minimum level of 0.5m above the predictive peak 0.1% AEP flood level at cross sectional location C13 – i.e. 26.94m OD + 0.5m = 27.44m OD.
- Any vulnerable elements of Proposed Turbine T01 shall be constructed to a minimum level of 0.3m above the peak 0.1% AEP (1 in 1000 year) flood level at cross section C5 - i.e. 28.15m OD + 0.3m = 28.45m OD.
- Any vulnerable elements of Proposed Turbine T05 shall be constructed to a minimum level of 0.3m above the peak 0.1% AEP (1 in 1000 year) flood level at cross section C1 - i.e. 28.55m OD + 0.3m = 28.85m OD.
- The base of proposed turbine T07 will be sealed to prevent water ingress. No vulnerable components of the turbine will be located at ground level and will be constructed to a minimum level of 31.3m OD, which is 0.3m above the 0.1% AEP (1 in 1000 Year) fluvial flood level at this location (31.0m OD + 0.3m = 31.3m OD).

Off-Site Flood Risk

Concerns have been raised in the submission material regarding flood risk which might occur off-site, as a result of increased run-off created by the proposed development. Specifically, there are concerns whether peat compaction, peat removal and increased rainfall as a result of climate change will contribute to flood risk downstream of the site.

As mentioned above in Section 1.3.1.5, a Site-Specific Flood Risk Assessment (SSFRA) was completed by IE Consulting and presented as Appendix 12.3 to the EIAR. The SSFRA evaluated the flood risk to the development site itself, as well as the potential impact on surrounding areas caused by increased surface water runoff from the proposed changes to the site's terrain. The SSFRA considers the influence of climate change, with one of the modelled flood scenarios being the "1-in-100 year plus climate change" event. This model assumes the peak flood flow that might happen once every 100 years, and increases that flow by 20% to allow for climate change, in accordance with the guidance document 'The Planning System & Flood Risk Management Guidelines' (OPW, 2009).

The report concludes that:

In consideration of findings and output of this SSFRA, and the implementation of the recommendations listed above, the flood risk to and from the development as proposed is considered to be LOW. The wind farm development as proposed is not predicted to result in an adverse impact to the existing hydrological regime of the area or increase flood risk elsewhere and is therefore considered to be appropriate from a flood risk perspective.

Risk of Bog Burst

Some submissions have raised concerns regarding the risk of bog burst. Bog burst is related to peat stability issues and the water content of peat on site. The reader is directed to Section 1.2.1.2 'Peat Instability' and for further detail to the Geotechnical & Peat Stability Assessment was prepared for the proposed development and was presented as Appendix 11.1 of the EIAR.

Alterations to existing drainage and implications as a result of impacted hydrology

The Site-Specific Flood Risk Assessment, presented as Appendix 12.3 of the EIAR, identifies flood risk to surrounding lands as a result of the proposed development is low.

The SSFRA concludes that:

In consideration of findings and output of this SSFRA, and the implementation of the recommendations listed above, the flood risk to and from the development as proposed is considered to be LOW. The wind farm development as proposed is not predicted to result in an adverse impact to the existing hydrological regime of the area or increase flood risk elsewhere and is therefore considered to be appropriate from a flood risk perspective.

The SSFRA is inherently conservative in its assessment of flood risk and does not take account of the fact that the drainage design for the proposed development is a Sustainable Drainage, or SuDS proposal, which controls runoff rates.

Storm/surface water management and run-off design is in accordance with Sustainable Urban Drainage Systems (SuDS) standards. Surface water drainage features will be installed as part of the construction phase and retained until such time as the Project is decommissioned. Further details of proposed site drainage is included in Appendix 12.2 – Surface Water Management Plan, in Volume III of this EIAR and in the 100 series Planning Drawings.

5.15 Water Pollution

5.15.1 Issue: Concerns raised regarding Water Quality

Several submissions have raised concerns regarding the potential for the proposed development to negatively impact on surface waters in the study area, specifically the Togher River and Black River which feed the Corrib; and Fahy's Lake.

5.15.2 Response

Chapter 12 of the EIAR (Hydrology and Water Quality) examined the potential effects on surface waters, with specific reference to the Togher and Black rivers, and the Lough Corrib SAC which was considered a highly sensitive receptor, and is understood to be a source for drinking water also. The chapter concluded that there would not be significant effects on these surface water receptors.

Water Framework Directive

Chapter 12 of the EIAR, Hydrology and Water Quality, was prepared in line with the Water Framework Directive and concluded that the proposed development would not result in a deterioration of status:

> *"Effects on hydrology and water quality will be mitigated with measures outlined in Section 12.12. This will ensure that the residual impacts of the construction stage are Not significant and there will be no perceivable impact on the Black River and the downstream Lough Corrib SAC which is a highly sensitive receptor that is hydrologically connected to the Site. Furthermore, the Proposed Development will not result in the deterioration of the status of any waterbody under the WFD or jeopardise the achievement of waterbody objectives (good / high status) of any such waterbody."*

Failure of standard silt mitigation

One of the submissions calls into question the adequacy of standard silt mitigation such as settlement ponds and silt fences, and referencing a study, with a link to the study provided as https://www.sciencedirect.com/science/artic1e/abs/pii/S0301479715302371. The link does not work and as such the specific study in question cannot be identified. However, it is important to note that the proposed development does not rely only on such "standard mitigation"; rather these mitigation measures are a secondary line of defence. The constraints-led design is the major factor in preventing potential impacts on surface waters, with all turbine foundations and hardstandings located a minimum of 50 m away from all watercourses. Section 12.12 of the EIAR includes full details on the mitigation proposed for the protection of surface waters, which far exceeds the standard mitigation being called into question.

5.16 Groundwater / Wells

5.16.1 Issue: Concerns raised regarding impacts on groundwater

5.16.2 Response

Chapter 11 - Soils, Geology and Hydrogeology assessed the potential effects on Groundwater Supply Sources, Public Water Supplies and Source Protection Zones, Group Water Schemes and Source Protection Zones and Groundwater Wells and Springs, concluded that potential effects would be imperceptible to moderate/slight prior to mitigation and with mitigation measures, outlined in Section 11.7 of the EIAR, put in place during construction, operational and decommissioning stage, the Project will have an imperceptible impact on the Site's geological and hydrogeological receptors.

Significant desktop and field based investigations has been undertaken in support of the EIA, including:

- Ground Investigation comprising of: geophysical survey, boreholes, trial pits and groundwater monitoring
- Geotechnical & Peat Stability Assessment (Appendix 11.1 of the EIAR)
- Karst Assessment (Appendix 11.2 of the EIAR)

No contamination was identified on site.

An assessment of the potential effects of the proposed development on local and regional groundwater supply has been completed, drawing on the hydrogeological baseline established in EIAR Chapter 11 and the results of intrusive site investigations, geophysical surveys and desk-based datasets. The assessment considered potential impacts during the construction, operational and decommissioning phases, together with residual and cumulative effects, and incorporated the mitigation measures outlined in EIAR Section 11.7.

The site is underlain by low-permeability glacial till and argillaceous, shaley limestone of the Ardnasillagh Formation, a muddy, low-carbonate lithology with a very low susceptibility to karstification. No dissolution features, voids or karst pathways were identified at any proposed infrastructure location. Excavations for turbine foundations, hardstands and access tracks will remain within the overburden, while the turbine bases will be supported on rock-socketed piles installed without open excavation. These works will not intersect or create preferential pathways within the bedrock aquifer.

Groundwater wells and springs in the wider area are located at significant offsets from the proposed infrastructure, and any dewatering required during construction will be shallow, temporary and confined to the overburden.

The site does not lie within any Public Water Supply or Group Water Scheme Source Protection Zone. The hydrological baseline confirms that the site drains toward the Togher/Black River system and not toward any public supply catchment. The Kilcoona–Caherlistrane GWS is sustained by a tightly confined groundwater Zone of Contribution around Luimnagh, which does not extend to the wind farm site and is not influenced by surface water tributaries such as the Black River.

Potential impacts on groundwater levels or recharge are limited by the shallow nature of excavations, the absence of significant dewatering and the diffuse recharge regime through the overlying till. Mitigation measures — including rapid backfilling, cessation of works during heavy rainfall and groundwater monitoring — ensure that no changes to groundwater vulnerability or flow conditions occur.

The assessment concludes that the proposed development will not give rise to any significant effects on groundwater supply, groundwater levels, recharge patterns or the protection of public or group water schemes. Following the implementation of the mitigation measures outlined in EIAR Section 11.7, the residual impact on geological and hydrogeological receptors is assessed as **imperceptible**.

Potential Effects on Local and Regional Groundwater Supply

EIAR Section 11.4.6.8 notes that 4 No. groundwater wells and 1 No. spring are recorded on the GSI database within approximately 1 km of the proposed development, with the nearest wells located between approximately 300 m and 900 m from any proposed infrastructure. These wells are possibly screened in bedrock according to intrusive ground investigations in the area, where depths to bedrock ranged from 5.2 m to 17 m below ground level within the development footprint.

EIAR Section 11.6.2.2 confirms that all excavations associated with turbine foundations, hardstands, access tracks and the substation will remain within the overlying glacial till and will not extend to the underlying bedrock aquifer. The turbine bases themselves will be supported on piled foundations consisting of large-diameter reinforced concrete elements drilled and rock-socketed into the underlying bedrock. Site investigations confirmed that this bedrock comprises argillaceous, shaley limestone of the Ardnasillagh Formation — a muddy, low-carbonate lithology with a very low susceptibility to karstification. A separate Karst Assessment Report (EIAR Appendix 11-2) provides a detailed evaluation of potential karst features in the study area, and more specifically at specific locations where excavations will occur. No dissolution features, voids or karst pathways were identified at any proposed turbine location. As the piles are installed without open excavation and do not intersect karstified zones, their installation will not create preferential pathways or alter existing groundwater flow conditions. Consequently, as a result, any dewatering that may be required will be confined to shallow groundwater within the overburden. Such dewatering will be temporary, localised and of limited magnitude, with groundwater levels naturally recovering once pumping ceases. No measurable change in regional groundwater levels or in the performance of domestic wells in the wider a5rea is anticipated.

The combined footprint of the turbine foundations comprises an area of 0.0054km^2. When considered in the context of the wider hydrogeological setting, this represents a small proportion of the Regionally Important Karstified Bedrock Aquifer, which extends over an estimated 7,062.74 km^2.

The EIAR hydrological baseline demonstrates that recharge to the underlying aquifer occurs diffusely through the overlying till and is not dependent on any discrete features within the development footprint. Construction activities will not alter the permeability of the till or remove any significant recharge pathways, as excavation at each foundation is not expected to exceed 5 m bgl, with the exception of piles. The low-permeability glacial till provides a natural protective layer that limits vertical infiltration rates, and this protective function will remain unchanged following construction.

Mitigation measures set out in EIAR Section 11.7.2.6 require that excavations be completed and backfilled as quickly as possible, that works cease during heavy rainfall, and that groundwater monitoring wells be installed between deeper excavations and sensitive receptors. These measures ensure that the vulnerability of the aquifer is not increased during construction and that any temporary fluctuations in shallow groundwater are identified and managed. Should groundwater be encountered, appropriate mitigation will include sump pumps and siltation-prevention measures in accordance with the Surface Water Management Plan (Appendix 12.2).

The GSI Wells and Springs database is not complete; it is therefore probable that additional wells exist, generally associated with houses, all of which are offset from the turbines by a minimum of 750 m. Given the limited depth of excavations, the temporary and localised nature of any dewatering, the retention of the low-permeability till layer and the significant separation distances to sensitive receptors, the potential risk posed to groundwater supply wells, groundwater levels or recharge remains, as stated in the EIAR, is **imperceptible**.

Public Water Supplies and Source Protection Zones

EIAR Section 11.4.6.6 identifies two Public Water Supply (PWS) schemes within 20 km of the site:

- Kilmaine PWS, located approximately 6 km to the northwest, and
- Dunmore–Glenamaddy PWS, located approximately 19 km to the east.

The EIAR confirms that the proposed development does not lie within any Public Water Supply Source Protection Zone.

The hydrological and hydrogeological baseline presented in Chapter 11 and Chapter 12 Hydrology and Water Quality show that the site drains toward the Togher/Black River system rather than toward the Kilmaine or Dunmore – Glenamaddy Public Water Supplies.

The construction methodology, geological conditions, foundation design, dewatering requirements and mitigation measures outlined in Section 1.1.1 ('Groundwater Wells and Springs') and EIAR Section 11.7.2.6 apply equally to the assessment of Public Water Supplies and Source Protection Zones. No significant effect is anticipated within or beyond the development footprint.

As a result, the EIAR assesses the potential impact on public water supplies as **imperceptible**, with no residual effects identified in Table 11-30 of the EIAR.

Group Water Schemes and Source Protection Zones

EIAR Section 11.6.2 identifies eleven Group Water Schemes (GWS) within 20 km of the site; however, none lie within the site boundary. The closest GWS is Cluide–Cahermorris GWS, 7 km to the south of the site.

Kilcoona–Caherlistrane GWS is located approximately 9.5 km south of the proposed development. The GWS Source Protection Report demonstrates that the scheme is sustained by a tightly confined Zone of Contribution centred on Luimnagh, where groundwater flows predominantly from north to south through the epikarst and shallow fractured limestone toward Lough Corrib. This localised flow regime is controlled by topography, the presence of lacustrine deposits, and the hydraulic influence of the lake, and is not connected to regional karst conduit systems. Additionally, the report states that the groundwater Zone of Contribution is not influenced by surface water tributaries such as the Black River, which discharge to Lough Corrib but do not contribute to the groundwater supply at Luimnagh.

The Kilcoona–Caherlistrane GWS Source Protection Report also notes that localised bedrock fracturing was undertaken at the Luimnagh wellfield to enhance yield; however, this is an engineered intervention confined to the immediate abstraction zone and does not extend beyond the tightly defined Zone of Contribution, nor does it create any hydraulic pathway toward the wind farm site.

Although the Black River ultimately discharges to Lough Corrib, the groundwater component of the GWS supply is derived from a separate, localised groundwater sub-catchment that does not extend to the wind farm. Any pre-mitigation contribution from the Black River to the surface water component of the GWS supply would be indirect, highly diluted within Lough Corrib and subject to existing water treatment processes.

The construction methodology, geological conditions, foundation design, dewatering requirements and mitigation measures outlined in Section 1.1.1 ('Groundwater Wells and Springs') and EIAR Section 11.7.2.6 apply equally to the assessment of Group Water Schemes and Source Protection Zones.

Mitigation measures in Section 11.7.2.6, including groundwater monitoring wells during the construction phase will be installed between areas of deeper excavations and sensitive groundwater receptors, such as areas of shallow bedrock. The wells will be used to monitor groundwater levels and quality to assess any potential impacts during the construction works.

Given the absence of significant hydraulic connection, the significant separation distance and the shallow nature of construction activities, the EIAR concludes that the proposed development will have no impact on any Group Water Scheme, with residual effects assessed as **imperceptible**.

5.17 Effects on Ornithology

5.17.1 Issues: Concerns raised regarding ornithology surveys and turloughs

Concerns have been raised in relation to the ornithology survey effort undertaken for wintering waterbirds and turloughs that occur in the wider area of the proposed development.

5.17.2 Response

See also response in Section 4.1.

A desk-based study of recent ornithological records for the proposed development included an Irish Wetland Bird Survey (IWeBS) data request extending 10 km the proposed development due to the presence of several turloughs and small lakes in the wider area, refer to EIAR Appendix 10.1, Section 2.2 and Appendix II. The data collated during the desk-based study informs the scope of surveys required and is appropriate to the zone of influence of the proposed development.

Informed by the desk-based study, the survey area for wintering waterbirds was extended from the recommended 5 km buffer of the proposed development (SNH, 2017) to 6 km in order to cover turloughs and loughs in the wider area which were considered suitable for foraging and roosting wintering waterbirds, refer to EIAR Appendix 10.1, Section 3.6. Bird movements between turloughs outside of this buffer, and up to 15 km from the proposed development, are considered to lie outside of the zone of influence.

Surveys were undertaken over three winters (non-breeding 2019-2020, non-breeding 2020-21 and non-breeding 2023-24) which exceeds the recommended two years of ornithology surveys (SNH, 2017). Surveys were undertaken in line with standard best practice guidance for wind farm developments (SNH, 2017). The extended survey area and period provides a robust picture of bird movements and patterns between turloughs in the wider area and the proposed development site. The survey coverage was considered sufficient to capture accurately the baseline ornithology conditions at the proposed development and wider area, refer to EIAR Appendix 10.1, Figure 2 to 7.

No Greenland white-fronted goose or gadwall observations were made during surveys that extended 6 km from the proposed developed, refer EIAR Appendix 10.1, Section 4. Pochard and tufted duck were recorded at turloughs within the 6 km buffer, however no usage of habitats within the proposed development or 500 m turbine buffer was recorded, refer to EIAR Appendix 10.1, Section 4.5. No flightlines for any of these species were recorded traversing the proposed development or 500 m turbine buffer over the three-year survey period. Whooper swan were recorded flying through the proposed development and 500 m turbine buffer. A total of 26 flights were recorded over the three-year period, refer to EIAR Appendix 10.1, Section 4.1 and Appendix X. The collision risk model (CRM) for the species accounted for nocturnal activity, which is a requisite of the Band model (2024)10,11, refer to EIAR Appendix 10.1, Appendix XIII. The output of the CRM for whooper swan concluded that collisions arising from the proposed development would not affect this species at the population level, refer to EIAR Appendix 10.1, Section 4.7.

[10] Band, B (2024) Using a collision risk model to assess bird collision risks for onshore wind farms. NatureScot Research Report.

[11] Scottish Natural Heritage (SNH), now Nature Scot (2024). Guidance on using an updated collision risk model to assess bird.
collision risk at onshore wind farms.

In response to the use of thermal imaging and acoustic monitoring as survey techniques, as raised by several submissions, the deployment of such methods was not required for the proposed development. The low level of wintering waterbird activity recorded in any year over the proposed development and 500 m turbine buffer did not warrant further investigation and deployment of such methods. Significant activity by wintering waterbirds that are considered to be active during the day and at night were not recorded within the collision risk zone (i.e. 500 m turbine buffer) of the proposed development and therefore did not trigger the need for further surveys. Of the wintering waterbirds that were recorded during VP watches and were brought forward into the CRM, including curlew, golden plover, lapwing, mallard, snipe, and whooper swan, a nocturnal score of at least 2 (equal to 25% of diurnal activity) was applied in the model to account for nocturnal flight activity. This is considered sufficient for the species and level of activity recorded within the proposed development and 500 m turbine buffer.

5.17.3 Issues: Concerns raised regarding Robustness of Collision Risk Model

Concerns have been raised in relation CRM.

5.17.4 Response

See also response in Section 4.3

The CRM conclusion was considered negligible for species at a population level where collision mediated mortality would not add >1% to background levels of mortality, refer to EIAR Appendix 10.1, Appendix XIII. This statement refers to collision risk alone and does not comment on the overall impact on ornithology arising from the proposed development. A robust impact assessment of the proposed development on the ornithology baseline is contained in EIAR Chapter 10 Ornithology.

Concerns were raised over the potential collision hazards to resident pairs of buzzard and kestrel in their locality. Buzzard and kestrel utilising habitats within the proposed development and 500 m turbine buffer, i.e. the collision risk zone, were considered in the CRM. Buzzard and kestrel occurring outside of this zone of influence of collision were not considered in the CRM as per relevant guidance, refer to EIAR Appendix 10.1, Section 3.1 and 3.2, and Appendix XIII.

5.17.5 Issues: Concerns raised regarding Barn Owl

5.17.6 Response

Concerns have been raised in relation to barn owl. Submissions mention the presence of barn owl in the Third Party's respective localities, i.e. the wider area of the proposed development, and potential effects on this species arising from the proposed development.

A desk-based study of recent ornithological records for the proposed development and 10 km grid square, within which the proposed development is located, included records of barn owl, refer to EIAR Appendix 10.1 Ornithology Report, Section 2.4.4 and Appendix I. As such, the subsequent scope of ornithology surveys considered these records and listed barn owl as a target species for Vantage Point (VP) watches, refer to EIAR Appendix 10.1, Section 3.1, and dusk surveys targeting crepuscular and nocturnal species, including owls, refer to EIAR Appendix 10.1, Section 3.3.

A total of three years of ornithological surveys, which is in exceedance of the two years of surveys recommended by SNH (2017), were undertaken at the proposed development and survey areas extending from a 500m turbine buffer up to 6 km turbine buffer. Surveys covered the following six seasons: breeding 2019, non-breeding 2019-2020, breeding 2020, non-breeding 2020-21, non-breeding 2023-24 and breeding 2024. During surveys no observations of barn owl were made within the proposed development or wider survey area, refer to EIAR Appendix 10.1, Section 4.

Given no observations of barn owl were recorded, this species is considered to occur outside of the zone of influence of potential effects arising from the proposed development.

5.17.7 Issues: Concerns raised regarding Marsh Harrier

A submission stated that there is a breeding pair of Marsh Harriers in the location of the proposed Windfarm development

5.17.8 Response

Desktop assessment and three years of ornithological surveys extending from a 500m turbine buffer up to 6 km turbine buffer did not yield any observations of marsh harrier.

It may be the case that this Third Party submission has confused marsh harrier with hen harrier. Additional to the vantage point and transect surveys carried out over the three year survey window, target raptor surveys were conducted which included breeding raptor survey in accordance with SNH (2017) guidelines, which recommends surveying up to 2 km from the proposed development site, and included all potential breeding raptor species, including hen harriers and merlin. In addition, hen harrier non-breeding roost searches were conducted.

No hen harrier, peregrine or merlin were recorded during the breeding raptor surveys within the 2 km turbine buffer. Kestrel and buzzard were however recorded in the breeding season and these are assessed in the EIAR for potential for effects. Hen harrier was observed using the site in the winter, but only one flight was observed during the breeding season. It is evident that neither marsh harrier, or the potential confusion species, hen harrier are breeding on site.

5.17.9 Issues: Concerns raised regarding Bird Displacement

A number of submissions raised concerns about the potential for disturbance to, destruction of or fragmentation of habitats used by curlews, lapwings, skylarks, and birds of prey that depend on boglands and hedgerows for nesting and feeding.

5.17.10 Response

The proposed wind farm has been developed in accordance with the mitigation hierarch which proscribes avoidance in the first instance. As such, the key habitats which support birds in the local landscape have been avoided e.g. areas of high bog and high value treelines and hedgerows. As such the potential for displacement and fragmentation is reduced from the outset.

Section 10.8 of Chapter 10 the EIAR assesses the impacts of habitat loss or alteration on birds as well as effects on disturbance or displacement. The EIAR has concluded the at impacts on birds through loss of habitat or disturbance will be short-term or permanent but not significant.

Additionally, as informed by three years of bird survey, no notable flight corridors pass through proposed development, and the collision risk model and associated assessment of population effects has determined no significant effects.

5.18 Biodiversity

5.18.1 Issue: Concerns raised in relation to General Loss of Habitat

Several submissions raised concerns that the construction of a wind farm within a peatland context will result in loss of valuable habitat.

5.18.2 Response

The proposed wind farm layout has been informed by several years of ecological study such that habitat loss is limited insofar as practicable: please refer to Chapter 3 of the EIAR which sets out the design iterations considered and the rationale for turbine movements, which include reduction of impact on the ecological environment.

As per Table 9-12 of the Biodiversity Chapter, the dominant habitat in which the wind farm will be constructed is agricultural grassland, with an area of 99,174.78 m2 being directly impacted. This is a low value habitat from an ecological perspective. An area of 71,112.20 m2 of scrub habitat (predominantly gorse/willow scrub with patches of siliceous heath) on cutover bog will be lost on a long term basis due to the proposed development. This is also low value habitat in terms of biodiversity. Similarly the 32,403.71 m2 of cutover bog that will be directly impacted has low species richness.

Appendix 9.1 - Biodiversity Enhancement and Management Plan (BEMP) includes for new planting of 49,653.72 m2 of native woodland, which will contribute positively to the biodiversity in the local area and proposes rehabilitation of 5,201.16 m2 of recently cutaway bog habitat.

The alignment of infrastructure within the agricultural grassland has aimed to minimise the removal of associated treelines and hedgerows by utilising existing gaps/gates and by orientating the hardstandings so as to avoid removal of the more mature and intact hedgerows (albeit intensively managed). Only 2,032 m of treeline/hedgerow will be removed, and this will be offset by planting 2,454 m of new treeline and hedgerow planting as part of the wind farm design, as set out in the BEMP. The locations of the planting have been specifically identified to provide landscape connectivity for mammals and birds.

5.18.3 Issue: Concerns raised in relation to effects on Raised Bog

A number of submissions raised concern that the proposed development will have a detrimental impact on raised bog habitat

5.18.4 Response

Please refer to Section 4.1 of this response document which addresses the matters raised by Third Parties.

5.18.5 Issue: Concerns raised in relation to Marsh Fritillary

Third Party submissions raised concern that the proposed development will impact the protected species Marsh Fritillary.

5.18.6 Response

Please refer to Section 4.1 of this response document which addresses the matters raised by Third Parties.

5.18.7 Issue: Concerns raised in relation to effects on Cloonbar East Wetland (Commonage)

Concerns were raised that the proposed development would impact on Cloonbar Bog and Cloonbar East Wetland

5.18.8 Response

Please refer to Section 4.1 of this response document which addresses the matters raised by Third Parties.

5.18.9 Issue: Concerns raised in relation to spread of invasive species

A small number of Third Parties raised concerns that construction of the wind farm could cause the spread of invasive species.

5.18.10 Response

Please refer to Section 9.10.4.4 of Chapter 9 - Biodiversity of the EIAR which provides measures for the management of the spread of non-native invasive species. These measures are proven best practice measures.

5.19 Archaeology

5.19.1 Issue: Concerns raised regarding archaeological and cultural effects

5.19.2 Response

For response to matters raised in relation to Intangible Cultural Heritage and the degradation of the setting of local heritage features such as castle, church and nearby ringforts please refer to Section 4.1 of this response document as well as the response to LVIA.

Concerns were raised about the proximity the proposed development to a children's burial which is stated to hold deep cultural and spiritual significance for the community. It is not certain from all of the submissions which burial grounds are being referred to as specifics were not provided, however it is assumed that the submissions relate to the well-preserved ecclesiastical building (GA028-012001-) and associated children's burial ground (GA028-012003-) located 700m north of T2 (this is on the basis that the next closes burial ground which has a visible surface trace is located 1.8km from the wind farm). Children's burial grounds were traditionally used to bury unbaptised or stillborn children and are often referred to as 'cillín', which is the name mentioned in several of the submissions.

In table 15-14 of Chapter 15 of the EIAR, it is acknowledged that the setting sensitivity of this feature relative to the proposed development is high, and that the associated effect is considered to be adverse, moderate and long term.

The impact assessment acknowledges that the Proposed Development will result in long term, indirect visual effects on cultural heritage constraints within surrounding lands that will range from not significant to moderate in significance. There are no feasible mitigation measures that will reduce the visual effects of turbine structures on these constraints.

6. CONCLUSION

As detailed within our Strategic Infrastructure Development Application, we respectfully request An Coimisiún Pleanála to review our response to the submissions lodged against the proposed development when reaching their decision on the application in the interest of proper planning and sustainable development of the area. It is submitted that all the concerns raised in the submissions have been addressed during this response process.

This renewable energy project is an important part of contribution to lowering CO_2 levels and in meeting our statutory renewable energy targets. It is submitted that, having regard to National Energy Policy, and the policies set out in the County Development Plans which supports Wind Energy development in Galway and Mayo the proposed development is in accordance with the proper planning and sustainable development of the area.

It is also submitted that this submission response and the SID application already submitted has adequately addressed the concerns raised in submissions.

FEHILY TIMONEY

DESIGNING AND DELIVERING A SUSTAINABLE FUTURE

www.fehilytimoney.ie