Inspector's Report
ACP-323699-25

Development	Windfarm consisting of 11 no turbines and all associated works.
Location	In the townlands of Beagh, Beagh More, Cloonbar, Cloonweelaun, Cloonaglasha, Cloonteen, Corillaun, Derrymore, Ironpool, Shancloon, Tobberoe and Tonacooleen, Co Galway.
Planning Authority	Galway County Council
Applicant	RWE Renewables Ireland Limited
Type of Application	Application for approval Permission under 37E of the Planning and Development Act 2000, as amended.
Prescribed Bodies	Department of Defence Inland Fisheries Ireland I.F.I National Environmental Health Service of the Health Service Executive Transport Infrastructure Ireland T.I.I.
Observers	Adrian Lardner Albert Dolan TD Amanda Keady Andrew and Mary Boyd Andrew Canavan

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Ann Creaven
Ann Gallagher
Anna Marie Fahy
Anne Lynch
Anne McTughue
Aodhán and Michaela Ó Faragháin
Beinin and Nora Lynch
Bernadette Mangan
Bernard Geraghty
Bernie and Declan Moran
Billy Connelly
Brendan and Margaret Mangan
Brendan Farrell
Brendan Keady
Breandan Morrin
Brian Gallagher
Caroline O Neill
Chris Warren and Hester Casey
Christy Boyle
Ciaran and Niamh Burke
Claire Browns
Claire Conlisk
Claire Harte and Fiona White
Claire Loader and Keith Mangan
Claire Lynch
Colin Conannon
Con Sheehan
Conall Daly
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Damian Concarron
Damien Martyn
Damien Walsh
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Felix Maguire
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Friends of Kilconly Westlands CLG
Gerr Gallagher
Geraldine Burke
Gerard and Caroline Arrell
Gerard Lynch
Gerard Mangan
Gerry and Michael Martin
Helen Morrin Griffin and Shaun Griffin
Helena Farrell
Holly Daly
Hubert O Neill
Hugh and Becky Doherty
Iarlaith Farrell
Jarlaith and Stephen Burke
Jennifer Reilly
Jim Morrissey
Jimmy and Miriam Sweeney
Joanne Gallagher
John and Anita Lardner
John and Ann O Boyle
John Daly
John Higgins
John Lardner
Johnathan and Karen Burne
Jonathan Concannon
Katleen and Paddy Connern and Brian Connern
Kerry Creaven
Kevin and Linda Mangan
Kevin Browns
Kevin Moran
Kieran Farrell
Kieran Hastings
Leah Daly

Lelanya O'Reilly
Liam Daly
Lisa Mc Mullin
Louis O Hara
M Emery
Maria Smyth
Maria, Ava, Ella Kantti
Martin Lavelle
Martine Ide and Stephen Bass
Mary and Brendan Morrin
Mary Burke
Mary Keady
Mary Nolan
Mathew Mangan
Michael and Hannah Lyons
Michael and Josie Farrell
Michael and Marie Fahy
Michael Burke
Michael Gallagher
Michael Lynch
Michelle and Noel Browne
Miriam Byrne
Nora A Duffy and Peter Duffy
North East Galway Environmental Protection CLG
Ollie and Susan Burke
Paddy and Theresa McHugh
Padraic and Ethna Lynch
Pat Reilly
Patrick Frrell
Paul Devaney
Paul Johnston
Paul Walsh
Paula Collins Madden Paula Morrin
Peggy O Malley
Pete Roche TD
PJ and Margaret Mangan
Professor Mike Gormally FRES
Rachel Maguire
Ruadhán Gormally
Ruairi Connelly

	Sandra Biggin Sarah Deane Seamus Roche on behalf of concerned members of the Kilconly and Caherlistrane Community Sean Keady Shane Fahy and Others Shauna and Padraic Fahy Sheila Higgins Stepanie Mahon Teresa Geraghty Thomas and Mary Byrne Tim Kyne Tom and Mary Rattigan William Burke
Date of Site Inspection	20th May 2026 3rd July 2026
Inspectors	Bríd Maxwell Jim Egan
Specialist Consultants	Dr Barry Wall, BW Consultant Engineer Ltd. James Dodds, JD Solutions.

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Appendix 3 323699 Shancloon Windfarm, Co Galway, Hydrogeological Review, JD Solutions dated June 2026.

1.0 Introduction

1.1 This case concerns an application for strategic infrastructure under section 37E of the Planning and Development Act, 2000, as amended. It is made on foot of pre-application discussions with the Commission under ABP-321507-24 for a wind farm consisting of 11 no turbines and all associated site works, where the Commission decided that the development would fall within the scope of section 37A of the Act and would be strategic infrastructure. An opinion on design flexibility was made pursuant to Section 37CD of the Planning and Development Act 2000.

2.0 Site Location and Description

2.1 The proposed windfarm site is located in the townlands of Beagh, Beagh More, Cloonbar, Cloonweelaun, Cloonnaglasha, Cloonteen, Corillaun, Derrymore, Ironpool, Shancloon, Toberroe, and Toonacooleen in County Galway, proximate to the Mayo border. The closest settlements to the proposed development are the village of Kilconly (circa 2km to the north) Shrule (circa 3.5 km to the west) and Tuam (circa 8 km to the east). The area is rural in nature, with low density ribbon development along local roads.

2.2 The site encompasses an area of 154 hectares (infrastructure footprint within the application area spanning 19.6 hectares) and currently comprises flat peatlands, agricultural land**,** scattered forestry and watercourses. The site consists of a gently rolling drumlin topography, with ground elevations ranging from approximately 28m to 40m above Ordnance Datum (AOD). The site falls generally to the southwest with very low gradients in the central part of the site.

2.3 The peat habitats within and immediately adjacent to the proposed wind farm host the Annex I habitats European dry heaths (4030) and active raised bog (7110) (Cloonbar Bog). The proposed development lands are drained by the Corrib Headford arterial drainage scheme. The associated drains and watercourses are heavily modified. These in turn drain to the

Black River (EPA waterbody name BLACK (SHRULE)_010) which is also part of the drainage scheme. The aquatic invasive species Canadian pondweed (Elodea canadensis) is present on sections of the drainage channels.

2.4 There are nine SACs and one SPA located within 15 km of the proposed wind farm site. There are sixteen proposed NHAs within 15 km of the site. The site is hydrologically connected with the Lough Corrib SAC [Site Code 000297] via the Black River. The SAC is approximately 1 km downstream from the site boundary. The Lough Corrib SPA (site code: 004042) is located approximately 9.1km from the application site, at the closest point. This Special Protection Area (SPA) is designated under the Birds Directive for Special Conservation Interests (SCIs), comprising thirteen bird species and associated wetlands, including Hen Harrier (*Circus cyaneus*) and Greenland White-fronted Goose (*Anser albifrons flavirostris*).

2.5 There are 224 residential properties (or proposed residential properties) within 2km of the proposed turbine array and 49 residential properties (or proposed residential properties) within 1km. The closest property (under the control of the developer and to be taken out of use as residential property during the operational period) is located 357m distant from proposed T01. The next nearest is a derelict building 720m southeast of T1. The closest occupied residential property is 728m east of T11 (H54XC65).

3.0 Proposed Development

3.1 The applicant is seeking a 10-year permission and a 30 year operational life for the construction of a windfarm and associated infrastructure

3.2 The development will comprise:

- Construction of 11 no. wind turbines with a ground to blade tip height range of 178 m to 180 m. The wind turbines will have a rotor diameter ranging from 149.1 m to 155 m and a hub height ranging from 102.5m to 105m.

- Construction of permanent turbine foundations and crane pad hardstanding areas and associated drainage;
- Construction of 13,725m of internal access tracks and associated drainage infrastructure (of which 1,770 m will be floated road);
- Upgrading of 3,565 m of existing tracks and road and associated drainage infrastructure;
- Construction of 1,180m of temporary access track to facilitate HDD cable crossing of the Togher River;
- Creation of 1 no. new construction and operation access to the wind farm site from the L-2234 local road and one road crossing of the L-2220-21 local road;
- All associated drainage and sediment control including interceptor drains, cross drains, settlement ponds and swales; Installation of new watercourse crossings including 1 no. 18.5m single span bridge crossing and 14 new piped culverts;
- All associated excavation, earthworks and spoil management; 3 no. temporary construction compounds and associated ancillary infrastructure including parking;
- Construction of 1 no. permanent onsite 110kV electrical substation, associated new access road off of the L-6100 local road, and associated construction compound including: welfare facilities; electrical infrastructure; parking; wastewater holding tank; rainwater harvesting tank; and security fencing;
- Works associated with the connection of the wind farm to the national electricity grid, which will be via a loop-in 110 kV underground cable connection 650 m in length to the existing Cashla-Dalton 110 kV overhead line in the townland of Tonacooleen, with two new 16m high steel loop-in lattice tower end masts for loop-in connection at the connection point.
- Installation of 33 kV medium voltage electrical and communication cabling underground between the proposed turbines and the proposed on-site substation and associated ancillary works including control building;
- Erection of 1 no. permanent meteorological mast to a height of 110 m above ground level with a 4m lightning pole on top.

- Turbine Delivery Accommodation works:

  a. R332 / L6483 Junction (Beagh townland) - temporary load bearing surface will be laid and the drainage ditch temporarily culverted. Vegetation will be cleared. One utility pole will be temporarily removed.

  b. On the L6483 (Beagh, Cloonweelaun and Ironpool townlands), temporary load bearing surface will be laid to provide a minimum 4.5 m running width and a 5.5 m clearance width for turbine delivery.

  c. L6483 (Ironpool townland) – temporary load bearing surface will be laid and vegetation will be cleared. Two road signs will be temporarily removed..
- Felling of 0.54 ha of conifer plantation forestry;
- 2,032m treeline/hedgerow removal; and
- 9.7 ha of Biodiversity Enhancement lands plus 2,457.50 m of hedgerow/treeline planting

3.3 The application is seeking a 10 year permission and 30 year operational life from date of full commissioning of the entire windfarm (including meteorological mast). A permanent permission is being sought for the 110kv electrical infrastructure (loop in grid connection and substation) as these will become an asset of the national grid under the management of Eirgrid and remain upon decommissioning of the windfarm.

3.4 The application to the Commission includes:

- Application form, notification letters, site notices and newspaper notices.
- Planning Drawings.
- Option agreement letter from landowners and statutory undertaker letter
- Environmental Impact Assessment Report (EIAR) in 4 volumes
  Vol I EIAR Non-technical summary
  Vol II Main EIAR
  Vol III Appendices including photomontages
  Vol IV EIAR and NIS Figures
- Natura Impact Statement (NIS)
- Spatial data Drawing CAD File and GIS shapefile.

3.5 The applicant has created a standalone website for the development, www.shancloonwindfarmSID.ie

3.6 Chapter 5 of the EIAR outlines scoping and consultation with relevant organisations. Informal scoping initially commenced in April 2023 whereby consultees were invited to contribute to the scope of the EIA by suggesting baseline data, survey methodologies and potential impacts that should be considered as part of the impact assessment process and in preparation of the EIAR. Consultees were issued with a scoping report which presented an outline of the development under consideration at the time (13 turbine layout), the Site context and understanding of receiving environment, the impact assessment methodologies proposed as part of the EIA, the anticipated impacts of the wind farm development, and the approach to cumulative impact assessment. Consultees were invited to provide commentary via a dedicated scoping consultation email address. Copies of the consultation responses received are included in Appendix 5.1 and are summarised in Table 5-2.

3.7 Regarding public consultation on 11th April 2023 RWE's Community Liaison Officer (CLO) commenced an initial eight-week consultation with residents in and around the Shancloon Wind Farm study area. Letters were issued to residents within 2km of the proposed wind farm and door-to-door visits to discuss any questions or concerns relating to the Proposed Development. A dedicated phone number and email address were set up to allow residents to make an appointment suitable to them for discussions. Feedback on an ongoing basis informed the design and impact assessment process. A project website was also set up (https://ie.rwe.com/projects-and-locations/onshore-wind-farm-shancloon/) to inform the public of information relating to the proposed development. The website includes a twelve-page information brochure. The website, along with letter drops was used to notify members of the public of project updates, project timelines, upcoming public consultation and any changes in the design and layout. Elected Member local representatives were emailed with a copy of the letter of introduction and a soft copy of the Shancloon Proposed Wind Farm brochure. A detailed Community Consultation report is included in Appendix 5.2 and a summary of consultation is provided in Table 5-3.

Design Flexibility

3.8 Certain details of the proposed development are unconfirmed and an opinion on unconfirmed details made on 13th June 2025 by An Coimisiún Pleanála (Ref ABP 321495-24) pursuant to 37CD of the Planning and development Act 2000, as amended accompanies the application. The details unconfirmed are the turbine tip height, rotor diameter and hub height. The range of parameters under which the turbine dimensions will fall are specified on the public notices and in the design flexibility opinion that accompanies the application.

4.0 Consultations

4.1 Chief Executive's Report

4.1.1 Galway County Council submitted a Planning Report to the Board on the 16th December 2025 and is summarised as follows:

4.1.2 Notes location within an area where wind energy development is 'Open to consideration' whereas grid connection works are proposed within areas identified as 'generally to be discouraged'. The designations in the Local Authority Renewable Energy Strategy (LARES) are based on identifying the factors required for a viable and environmentally compliant windfarm and included mapping, analysing and weighting such factors such as the electricity grid, wind speed, road, coastal potential, population, *Corine* land uses, slope, flooding, landslides, protected areas and residential areas. The principle of the proposed development is considered acceptable subject to the assessment of the proper planning and sustainable development considerations.

4.1.3 A notable number of planning applications relating to one off residential and agricultural development particularly along the roadway involved in the cable connection. Approximately 6 wind energy development proposals within 25km, including 3 awaiting final decision (Clonberne Windfarm SID, Laurclavagh Windfarm SID and Cooloo Windfarm SID.) The exiting Aderoo windfarm is located c 22km southwest of the site. It is noted that Cooloo WF SID has been omitted from the cumulative assessment.

4.1.4 As competent authority An Coimisiún Pleanála should be satisfied that the proposed development has demonstrated that it can be implemented without adverse effects on the Integrity of the European sites network and that the submitted EIAR is sufficient and that the development would not have a significant effect on the receiving environment.

4.1.5 Regarding Community Benefit Fund it is noted that the financial value and timeframes of the community benefit fund (An average of almost €378,000 per annum paid every year for 15 years) where a 30 year operational life is involved.

4.1.6 Regarding landscape and visual amenity assessment Chapter 16 notes significance of visual impact ranging between 'substantial-moderate' to 'imperceptible' with most notable impacts in immediate surroundings. Potential for Slight/Negative /Long Term cumulative visual effect to occur at proposed VPIO, based on the analysis of cumulative visibility within the study area on the selected VRPs in Section 16.9.1 of the EIAR. LVIA gives a clear indication that the development will result in an intensification of wind energy development within this landscape context when analysed cumulatively with existing and proposed wind farms and report refers to case law and considerations that the legally binding EU and National energy targets may take precedent over local policies regarding visual impact, including the expectation that the visual context of an area cannot be expected to remain unchanged within the context of a climate emergency.

4.1.7 Regarding cultural heritage and archaeology conditions pertaining to protection and monitoring of archaeology and cultural heritage are recommended.

4.1.8 Galway County Council roads department consider the surrounding local road network to be unsuitable - existing narrow local roads (sealed width of approximately 3.5m) bounded with open watercourses on both verges in peat terrain with no provision of passing bays in order to provide necessary contraflow manoeuvres in accordance with TII Publications DN-GEO-03031 Rural Road Link Design Figure 9.3. Note the absence of reflective autotracking analysis and provision of appropriate vehicular facilities for abnormal loading and provision of essential wheel tracking analysis to verify the local network can facilitate such extended 6 axle rigid articulated movements. Carrying capacity and safety of the

surrounding public road network is a serious load bearing concern without informed technical and structural pavement analysis such as level 1 and level 2 analysis that includes falling weight deflectometer FWD testing, ground penetrating radar (GPR) and core logs. Existing regional local road structures have not been structural evaluated on each haulage route grid route and turbine route. Road safety Audit stage 1 / 2 required to reflect the entire scheme and entire site layout plan, access onto the public road network and roadside interventions per TII Road safety audit guidelines GE-STY-01025. Up to date traffic counts are required. Sub optimum horizontal and vertical alignment & profile of the local road restricts sightline. Required forward sight distances lie outside the control of the applicant. Question the suitability of the proposed external and internal traffic circulation regime and potential for conflicting traffic movements including rigid movements due to restricted and reversing vehicle manoeuvrability within and adjoining the site which may negatively impact on road and vulnerable road users' safety. Proposed development would endanger public safety by reason of traffic hazard, obstruction of road users or otherwise, contrary to policy objectives NNR2, and DM Standards 28, and DM standard 33a of the Galway County Development Plan 2022-2028. In the event of permission traffic and transport conditions recommended for inclusion.

4.1.9 Regarding climate and environment there may be turloughs in the vicinity of the site not taken into account in the EIS. Disruption of peatland can cause greenhouse gas emissions. Net carbon emissions associated with this development should be assessed in detail. Decommissioning should be considered in the design phase to ensure easy disassembly at end of life. Repowering of site following 30 year lifespan would be preferable.

4.1.10 Galway County Council are of the opinion that the proposal would not have any adverse impacts on population human health and residential amenity.

4.1.11 In the event of a grant of permission, conditions to be attached including:

Development in accordance with plans and particulars	
10 year duration. 30 year operation	

Mitigation and monitoring measures set out in CEMP. Employment of suitably qualified and experienced environmental professional to oversee and supervise.	
Mitigation measures as set out in NIS.	
External finish white /grey matt colour. Underground cables, blade rotation, no advertising, Gravel/hard core access tracks. Transformers switchgear within turbine mast structure or appropriately screened.	
Reinstatement programme. Bond to secure reinstatement	
Irish Aviation Authority to be informed.	
Noise level limits.	
Shadow flicker control and limits.	
Radio telecommunications interference mitigation measures.	
Archaeological appraisal	
Roads. Technical & structural pavement analysis that includes recommended falling weight deflectometer (FWD) testing, ground penetrating radar (GPR) and core logs to assess the pavement stress and strains at the critical design locations as required on proposed regional and local road trafficked routes. Structural evaluation of all trafficked regional and local road network structures. Road safety audit (stage 1 / stage 2 audit) . Recommendations arising from the audit, or alternative measures proposed therein by the developer and accepted by the auditor, incorporated into the final design of the development at the expense of the developer. Audit completed by an independent road safety auditor, at the developer's expense, and shall be submitted for the written approval of the planning authority. Prior to commencement of the development, a design report shall be submitted to Roads & Transportation Dept and to the satisfaction of the Area Engineer in accordance to TII standards 'DN-GEO 03030 Design Phase Procedure for Road Safety Improvement Schemes, Urban Renewal Schemes and Local Improvement Schemes' Detailed design works to public road physical alterations including road widening, road make up materials, specifications and finishes that includes drainage	

infrastructure and necessary visibility works assessed as part of the Road Safety Audit Report. Revised site layout plan to demonstrate sight distance triangles from trafficked junctions clearly showing details of both exit and entry sightline triangles and details of the vertical alignment available in the form of a longitudinal section. The required visibility from the proposed entrance and access to/from the local road network should strictly comply with Galway County Development plan 2022-2028 per DM Standard 28 and TII standards, in particular the provisions of visibility requirements as stated within Table 5.4 and Table 5.5 of TII Publications - DN-GEO-03060 Geometric Design of Junctions (priority junctions, direct accesses, roundabouts, grade separated and compact grade separated junctions) May 2023. Forward visibility stopping sight distances pertaining to right hand turning movements shall also be presented in both directions for each entrance in accordance with TII standards. Current hedgerow shall be replaced with soft landscaping with new roadside passively safe boundary treatments proposed. A letter(s) of consent from any adjoining landowner and relevant third parties consenting to set back their boundary in order to permanently achieve clear and obstructed required sight distances. Applicant to demonstrate that any adjoining lands to achieve required sight distance triangles as referred to above are within their control. Sight distance triangles shall be maintained and kept free from boundary walling, vegetation, or other obstructions that would reduce the minimum visibility required	
Surface water disposed within the site	
Independent vehicular lazer road condition pavement survey for all surrounding local roads and bridges along the haul routes shall be carried out at the developer's expense by a suitably qualified person/firm during pre and post construction of the proposed development. Survey shall include a schedule of required works to enable the haul routes to cater for construction-related traffic. Extent and scope of the survey and the schedule of works shall be agreed to the satisfaction of the area engineer prior to commencement of development. Post construction phase, Road Condition Pavement survey shall then be repeated in order for the Planning Authority to assess any damage of the public road network that may arise during the development works. Within three months of the cessation of the use of each public	

road/haul route to transport material to and from the site, aforementioned road survey and scheme of works detailing works to repair any damage to these routes shall be agreed in advance with the area engineer and shall be submitted to the planning authority. Works completed to satisfaction of area engineer	
Measures to prevent spillage or deposit of clay rubble or debris on the road.	
Traffic Management Plan to incorporate existing road conditions, including detailed design of temporary traffic measures and signs for roadworks measures. Best practice to be implemented during the construction phase. Road opening license and an abnormal load license shall be obtained from Galway County Council, with aforementioned TMP & accompanying detailed Traffic management Design in accordance with Traffic Signs Manual (Chapter 8 - Temporary Traffic Measures and Signs for Roadworks), to be further agreed with Local Area Engineers including a phasing programme. The applicant shall avoid deliveries utilizing the R332 during the Kilbannon to Kilconly road widening and realignment works. Public Road including areas within public road margins backfill and reinstatements including finished road levels shall be in accordance with Guidelines for Managing Openings in Public Roads (Purple Book - April 2017) as amended and shall be to the satisfaction of the Area Engineer.	
Transportation bond to secure reinstatement of public road and road markings.	
On completion Stage 3 road safety audit and any safety issues highlighted in audit reviewed and addressed by the developer at their expense.	
Prior liaison with Uisce Éireann or the local Kilcoona/Caherlistrane DBO Group Water Scheme in respect to the existing water services and infrastructure within the public road Liaison with ESB Networks in respect of existing electrical services and infrastructure within the public road vicinity. Any proposal by the applicant to divert or build over/under existing water or services shall be submitted to Uisce Éireann Kilcoona/Caherlistrane Group Water Scheme or ESB or applicable service provider for written approval prior to commencing works. Separation distances between existing assets and/or other services, trees, etc. shall be in accordance with Uisce Éireann Code of Practice for water infrastructure and water infrastructure Standard Details & ESB Networks Standards Development	

shall be carried out in compliance with Uisce Éireann Standards and ESB Networks codes and practice	
Colour of control building roof black or slate grey, Wall of natural limestone finish	
Details of collection and disposal of material from holding tank associated with the control building for information and record of planning authority on an annal basis. Licensed waste collection.	
Construction hours	
C&D Waste management in accordance with Construction waste management development plan to be submitted. In accordance with best practice.	
Details to the planning authority for written agreement to provide and implement a community gain proposal, including any the financial commitments set out therein, which is considered a community gain in accordance with section 37 (G)(7)(d) of the Planning and Development Act 2000, as amended.	
Unless otherwise agreed in writing with the Planning Authority prior to the commencement of development, the applicant/developer shall pay €781,176.00 to the Planning Authority, unless a phased payment schedule has been agreed in writing with the Planning Authority in accordance with the provisions of the S48 Development Contribution Scheme. A charge of €10,760 per megawatt capacity applies. The application details refer to an output of 72.6MW (10,760 x 72.6 = 781,176.00)	

4.1.12 **Elected Members** views recorded following workshop held on 11th December 2025 and presented to the Plenary Meeting on 15th December 2025 were as follows:

- Scale of the development not in keeping with the landscape sensitivity of the area and will have an adverse impact on the local built environment
- Scale and siting of the proposed development will adversely impact local road infrastructure which are not to a standard for such heavy transport of equipment and building materials.
- Scale of the development will have an impact on consumable water, not in keeping with the protection of major drinking water sources for the local population,

- Unprecedented impact on traditional boglands in the area is. Mitigation against peatland disturbance is not sufficient and will have a longer lasting environmental impact

- Noting nearby Laurclavagh Windfarm the proposed intensification and concentration of large scale SID's within the Tuam Municipal district is not in keeping with sustainable development and could constitute an over development of the district as a whole.

- Location within strong rural communities concern that proposed development could reduce significantly the ability for new rural housing and a protection of the rural population and its future expansion

- 94 submissions on the ACP website are noted. Estimate the total number to be more than 130 and request that An Coimisiún Pleanála investigate and report back on this. Note that one submission was attached to a different file and that this would be investigated also.

4.2 Prescribed Bodies

4.2.1 Details of the application to the Commission were circulated to the following prescribed bodies:

- Minister for Housing, Local Government and Heritage.
- Minister for Communications Climate Action and Environment.
- Minister for Agriculture Food and the Marine
- Mayo County Council
- Galway County Council
- Northern and Western Regional Assembly
- Transport Infrastructure Ireland (TII).
- An Taisce.
- An Chomhairle Ealaíon (The Arts Council).
- Fáilte Ireland.
- The Heritage Council.
- Inland Fisheries Ireland (IFI).

- The Office of Public Works OPW
- Uisce Éireann
- Irish Aviation Authority (IAA)
- Health Service Executive (HAE)
- Commission for Regulation of Utilities (CRU)
- Health and Safety Authority (HSA)[1]
- Gas Networks Ireland (GNI)[2]

4.2.2 Submissions were received from the following bodies, the contents of which are summarised as follows:

Department of Defence

- Following consultations with Irish Air Corps at Casement Aerodrome, notes that the N84 route is identified as an Irish Air Corps low level route. Location of structures higher than 45m above ground within 3NM of the route centreline of low level routes should be considered.

- Wind farm may impact on the ability of Irish Air Corps operational aircraft to access regional areas to the north in poor weather conditions

- All turbines to be illuminated by type C medium intensity fixed red obstacle lighting with a minimum output of 2,000 candela to be visible in all directions of azimuth and operational H24/7 days a week.

- Obstacle lighting to be incandescent. If LED or other lighting types are used should be a type visible to night vision equipment.

- Obstacle lighting must emit light at the near Infra-Red (IR) range of the electromagnetic spectrum, specifically at or near 850 nanometres (nm) of wavelength.

[1] Invited March 2026 by ACP to make submissions in accordance with Article 213 of the Planning and Development Regulations 2001 (as amended)
[2] As above

- Light intensity to be of similar value to that emitted in the visible spectrum of light.

- In the event of negative impacts on future military radar systems the owner will engage with department of defence and provide suitable mitigations as soon as practical.

- Irish Air Corps (IAC) requirements are separate to IAA requirements.

Inland Fisheries Ireland

- Note location of most of the development within the Togher river catchment which forms part of the Black River and ultimately Lough Corrib catchment supporting Atlantic Salmon, Brown Trout and potentially Lamprey and European Eel populations.
- The WFD 2000/60/EC requires the protection of ecological status of river catchments this encompasses water quality and requires the conservation of habitats for ecological communities. One of the primary objectives of this directive is to establish a framework which prevents further deterioration and protects and enhances the status of aquatic ecosytems. Protection of aquatic ecosystems requires that river systems be protected on a catchment basis. Protection of the aquatic environment/habitat not only requires the protection of water quality but also necessitates the protection and maintenance of physical habitat and hydrological processes/regimes.
- Wild brown trout and salmon ascend the tributaries of these catchments annually to spawn and utilise as nursery habitat. Prime water quality and instream habitat is key to salmonids completing this stage of their lifecycle. The Black River has been classified as being of poor ecological status (Water Framework reference; Black (Shrule)_010), a status that urgently needs to be improved

  Recommendation

  1. All watercourses that will receive drainage from the construction sites of the turbines or the access roads must be assessed before and after the

construction phase in terms of aquatic biodiversity with particular emphasis on fish, fish spawning grounds and fish habitat in general.

2. Particular attention should be paid to the hydrology within the site where excavations including excavations for road construction are being undertaken. Natural flow paths not to be interrupted or diverted in such a manner as to give rise to erosion or instability of soils caused by an alteration in water movement either above or below ground.
3. Attention to be paid to drainage during both construction and operational phase. This includes waters being pumped from foundations or other excavations. IFI notes that all of the wind turbine foundations and hardstanding areas are to be located >50m away from all watercourses. Sufficient retention time in the settlement pond during the construction phase to ensure no deleterious matter is discharged to any waters. Settlement ponds to be maintained, where appropriate, during the operational phase to allow for the adequate settlement of suspended solids and sediments and prevent deleterious matter from discharging into any natural waters. Particular attention to rainfall levels and intensity in silt trap design with good access to facilitate monitoring sampling and maintenance. A license to discharge to waters may be required from the local authority.
4. The construction of roads will tend to provide preferential flow paths for surface waters. Considerable attention to detail must be provided in relation to the interception of surface water flows. As well as concerns in relation to deleterious matter IFI also have concerns in relation to the flow patterns and to ensuring that normal flows are maintained both during and after construction. Significant increases in water transport in certain watercourses would put additional pressures on watercourses and interfere with the sustained flow of water particularly during dry weather.
5. Consideration to be given to the disposal of all waste materials generated onsite. Drainage from disturbed and stockpiled soils will

have to be considered in advance. Soil stockpiling operations in confined areas to ensure vegetation of the soils with suitable plants which will promote stability. Consideration to runoff/leachate from any stockpiles

6. Details in relation to site offices and associated services to be considered. Cement leachate, hydrocarbon oils and other toxic poisonous materials will require full containment. Stockpiling of gravel material or other construction debris in or near watercourses is not acceptable as this will interfere with the aquatic habitat.
7. Use of sedimentary rocks, such as shale, in road construction should be avoided due to poor tensile strength and potential for release of fine sediment to the drainage system.
   IFI to be consulted well in advance in relation to all crossings of any watercourse crossings or the use of any temporary diversions. Horizontal directional drilling (HDD) is to be employed at the 33kV cable crossing of the Black River negating the need for instream works. Crossings should be kept to a minimum. Instream structures or bridge crossings to be approved by IFI. Clear span bridges are the preferred option for all crossings especially in upland areas.
8. The 2016 IFI publication. ' Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites ' , should be consulted and all relevant provisions and guidance observed, https://www.fisheriesireland.ie/documents/624- guidelines-on-protection-of-fisheries-during-construction-works-in-and-adjacent-towaters/file.htm
9. All instream works or other works which may impact directly on a watercourse should only be carried out during the open season (1st July to 30th of September) unless alternative times are specifically agreed IFI, to avoid impacting on aquatic habitat during the fish spawning season and this should be included in the contract for construction. IFIs primary concern is to protect the aquatic species and

habitat, including water quality and the related riparian zone. Precautionary principle to apply throughout for the entire development. Particular attention to the various environmental directives including the Water Framework Directive, The Fisheries Acts in particular and the Local Government (Water Pollution) Acts and all other environmental legislation.

Irish Aviation Authority (IAA)

In the event of permission conditions recommended to:

- Contact IAA to agree on aeronautical obstacle warning lighting scheme
- Provide as constructed coordinates in WGS-84 format together with ground and blade tip height elevations at each turbine location, and
- Notify the authority of intention to commence crane operations with at least 30 days prior notification of their erection in accordance with SI 215 of 2005 Irish Aviation Authority (Obstacles to Aircraft in Flight) Order.

National Environmental Health Service (NEHS) of Health Service Executive

- All commitments to future actions in the planning application including mitigation and further testing have been taken as read and all data results accepted as accurate unless specifically highlighted in this submission. No additional investigations / measurements have been undertaken by NEHS.
- Notes that there are 224 residential properties (or proposed residential properties) within 2 km and 49 within 1km. Closest inhabited residential property is located 728m east of T11. (H54 XC65)
- Note water supply zone for Cloonnaglasha and surrounding areas is Tuam Regional Water Supply Scheme. Several private wells within 500m of the site. Stress the importance of regular update to the local community.

- The NEHS considers likely significant effects within a population and Human Health context that uses a source – pathway- receptor model, based on emissions through environmental media and population exposure. The exposure of populations, if any, is then considered against recognised health protection criteria. A Population Health approach to the sensitivity of receptors would not consider individual specific sensitivity of a human receptor, but the sensitivity of the established land use or service provision. For example, a school would be considered a sensitive receptor within a Population Health approach, but an individual student who was particularly sensitive to noise attending the school would not be specifically considered in the assessment criteria. A health care facility that provided services for people with recognised noise sensitivity would be considered in its entirety as a particular noise sensitive location. The assessment should consider established land development and use and service provision and activities within communities and not individual members of communities.

- Significant changes to nature of wind energy developments since the publication of the 2006 Wind Energy Guidelines in terms of size of the turbines, proximity to centres of population and cumulative effects. Improved body of knowledge around likely significant effects of the operation of wind farm development on population health in relation to noise emissions and shadow flicker. High Court decision in Webster/Rollo V Meenaclogher (Wind) Limited (2024 IEHC 136) 8th March 2024, noted. Judgement that noise from the wind farm was a private nuisance is a predominately health based assessment, in that the elements that were deemed to create the nuisance were directly related to health effects on the complainants. Compliance with health protection conditions set in the consent process was not a material consideration in the judgement. Note comments of judge that nuisance could be considered irrespective of any compliance with consent conditions, particularly in the absence of up to date national Policy and Guidance in the area. Nuisance from noise is fundamentally a subjective assessment based on 'reasonable' perception and reaction of the effects of noise exposure. Perception and reaction depends on situational specific conditions and land use.

- Judgement in Webster/Rollo V Meenaclogher (Wind) Limited (2024 IEHC 136) Ba1 March 2024 identified, in the absence of Irish Guidance, the usefulness of UK Guidance in the investigation of wind farm noise as a statutory nuisance.

- NEHS considers that the EIA has identified key areas for assessment in terms of source pathway receptors. Commitment to zero shadow flicker is noted. Operational windfarm noise levels meet the derived night and daytime noise limits at all residential properties excluding the involved receptor not in use.

- Peat stability risk and flood risk noted.

- It should be noted by the Commission that HSE 2017 report 'Position paper on wind turbines and public health' referenced in the EIAR has been withdrawn by the HSE and is under review,

- Based on the information provided in chapter 12, the NEHS would concur with the conclusions that there is adequate protection of surface and ground water during construction and operation if all the mitigation identified is implemented in full.

- Regarding Shadow Flicker the proposed condition in the 2019 Draft Guidance regarding shadow flicker should be implemented to ensure no shadow flicker using technological measures.

- Regarding noise in the opinion of the NEHS, tabulation of the predicted change in the noise environment from the proposed development and the cumulative change in the original baseline noise environment before any wind farm development in the area is the most informative way of reporting the likely effect of operational noise in an EIAR. It is noted that reliance on the 2006 Guidance with regards to noise exposure, and in particular the 'balance between development and protection of public health' result in a significant volume of complaints from communities exposed to noise from wind turbines post development. The absolute noise exposure limits set in the 2006 Guidance do not necessarily protect public health in specific development situations is now supported by Judgements of the Irish Courts. With regard to the draft 2019 Guidelines that it is noted that concerns raised by experts relate to the

assessment methodology and not the proposed standards set to protect health. The Institute of Acoustics specifically state in their response that they believe the setting of suitable noise limits is a matter for Government policy. If the wind turbine noise is the predominate noise source then the control of the level of noise exposure to protect health should be the same whatever the background level is. If the background level becomes the predominate noise source at higher wind speeds, then the wind turbine noise does not need controlling. There is no reasonable rationale on health protection grounds to increase the absolute noise exposure limit because the background level has increased, if the wind turbine noise is still the dominant noise source.

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

- Conditioning hours of construction activity is an important element of the protection of public health. Recommended hours of construction are: Monday to Friday 08.00 to 19.00 Saturday 09.00 to 14.00 No work on Sunday or Bank Holidays Exceptionally work outside these hours at the express permission of the Planning Authority.

- All drinking water and water used for the preparation of food in the temporary construction compounds should meet the requirements of S.I. No. 122/2014 - European Union (Drinking Water) Regulations 2014.

- No direct emission to ground or surface water of any foul wastewater. All waste water should be contained and taken off site to a licensed treatment facility. Site drainage should ensure the protection of surface and ground water during the construction phase.

- Dust minimisation measures and complaints investigated and responded to.

Transport Infrastructure Ireland TII

- TII welcomes and is supportive of proposals aimed at achieving the transition to a low carbon and climate resilient economy, increasing renewable energy

generation and enhancing energy security giving effect the National strategic Outcome No 8 of NPF.

- Note also the provisions of official policy, maintenance of the strategic capacity and safety of the national road network in accordance with National Strategic Outcome 2 of the NPF. Enhanced Regional Accessibility.

- TII welcomes the fact that direct access to all turbine locations is facilitated via non-national road network.

- Operational issues should be resolved prior to decision relating to network maintenance and road safety.

- Regarding proposed development haul route from port of entry Galway which includes N/M6 and N/M17 national roads proposed modifications to network to facilitate turbine component delivery are noted. National Road network is managed by a combination of PPP concessions, motorway maintenance and renewal contracts (MMaRC) as well as local roads authorities. Consultation required with the relevant authority to ascertain operational requirements such as delivery timetabling and to ensure that the strategic function of the national road network is maintained. Compliance with TII publications and subject to road safety audit as appropriate. Licenses approvals permits or agreements to be in place. Mitigation measures to be included as conditions.

- Any damage caused to pavement of the existing national road due to turbine movement of abnormal length roads should be rectified in accordance with TII pavement standards. All proposals with regard to temporary works to be referred to TII. Overground /underground assets shall be subject to proper undamaged reinstatement and properly certified to the relevant standards in accordance with the assets' functions together with any working widths /depths.

- Permit required with regard to abnormal loads (above 180 tonnes). National road structures to be checked to confirm loading associated with delivery. Details to include full structural assessment to be agreed with the Planning and road authorities along all proposed haul routes prior to commencement of development.

- Notwithstanding that no grid connection works are taking place which directly impact the national road network, refer the Commission to Department of Transport Circular RW07 of 2025 and the "Interim Guidance to Road Authorities (placement of medium or high voltage electricity assets)". In relation to high voltage transmission infrastructure development regard should also be had to the Electricity Transmission Infrastructure Development – Roads Sector Engagement Framework Included in DoT Circular RW07 of 2025.

- In relation to greenway or active travel proposals in the vicinity of the proposed works consultation with Galway County Council is recommended.

- In the event that any damage is caused by any development works to the national road or associated assets, overground or underground, costs arising to fully remediate all impacted infrastructure assets to TII publications standards and requirements will be purposed by or on behalf of TII.

Gas Networks Ireland (GNI)

- Notes GNI gas transmission pipeline operating at high pressure in proximity to this site. GNI has no comment or objection to the development. Condition recommended requiring the applicant to Contact GNI in advance of any siteworks by email at DIG@gasmetwprls.ie or by phone.

- Carry out all works in full compliance with GNI code of practice for working in the vicinity of the transmission network and HAS Code of Practice for Avoiding Danger from Underground Services.

5 Public Submissions

5.1.1 Observations were submitted by a large number of local residents, elected members and local groups. The submissions raise common and specific concerns which I have summarised as follows:

Principle of Development inappropriate

- Excessive scale and height

- Inappropriate development in peaceful tranquil countryside. Long term residents chose this location for its tranquillity and peaceful environment.
- Flooding concerns
- Inappropriate construction on bogland – carbon sequestration
- Future generations.
- Maladaptation where " actions or strategies intended to address the challenges posed by climate change inadvertently exacerbate the problem or create new vulnerabilities. Increased levels of carbon emissions, risk of flooding biodiversity decline.
- Windfarms going bankrupt. Inefficient output approximately 19%.
- Incomplete and unbalanced policy assessment. Failure to consider the National Peatlands Strategy (2015-2030) Department of Arts, Heritage and the Gaeltacht, 2015. The EIAR leans heavily on the "overriding public interest" provision under Council Regulation (EU) 2024/223 to justify accelerated permitting of renewables, without weighing this against Ireland's parallel legal obligation to protect and restore peatlands. Selective interpretation of policy undermines the integrity of the EIAR.
- While Chapter 9 of the EIAR cites the National Biodiversity Action Plan (NBAP) as informing the valuation of ecological receptors and the design of mitigation measures the NBAP is omitted from Chapter 4 policy. Duty on public authorities to move towards no net loss of biodiversity through strategies, planning, mitigation measures, appropriate offsetting, and investment in blue-green infrastructure. No evaluation of net loss or net gain of biodiversity.
- No demonstration of alignment with EU restoration goals. Selective references the EU Renewable Energy Directives (RED II and RED III) and RePowerEU Plan (2022) seek to justify renewable expansion, without considering the balancing obligations under biodiversity law. This imbalance is contrary to Article 11 of the Treaty on the Functioning of the European Union (TFEU), requiring that environmental protection objectives be integrated into all European Union policies, including energy. This undermines the holistic intent of EU policy in relation to Climate Change and Green Transition.

- EIAR fails to demonstrate compliance with key hydrological protection objectives, potentially contravening Section 177 AE of the Planning and Development Act 2000 (as amended), which requires full consideration of environmental objectives under EU law.
- Chapter 9 fails to reference overarching policy and legislative framework governing species protection. Reliance on the Mayo Renewable Energy Strategy 2011-2020, now expired. Failure to address several policies of the Galway County Development Plan 2022-2028 regarding protection and enhancement of the natural heritage and biodiversity, including habitats and species of local, national, and international importance, to support peatland restoration and rewetting as a natural carbon sink and climate adaptation measure to ensure that renewable energy developments do not negatively affect sensitive landscapes or ecological networks.
- Failure to align with the Precautionary Principle and Environmental Governance Standards.
- Ireland's pathway to a low-carbon future must align with its legal and moral duty to protect biodiversity and restore degraded ecosystems. Wind energy plays an essential role in reducing emissions, but it cannot justify the degradation of peatlands that store vast amounts of carbon and sustain rare and protected animal and plant species.
- Conflict with Law and Policy - Developing wind turbines here would breach EU Regulation 2024/1991 on Nature Restoration, which mandates rewetting and peatland restoration to mitigate climate change National and county plans (e.g. National Energy & Climate Plan (2021-2030); National Biodiversity Action Plan (2023-2030); Galway County Climate Action Plan (2024–2029); and Galway County Heritage Plan (2024-203C) emphasise, inter alia , peatland restoration, carbon sequestration and nature-based solutions, not development .
- Turbine installation on these bogs would release stored carbon, damage biodiversity, and contradict national and EU climate policies. Turbine installation would effectively prevent the restoration of these peatlands within the timescale of EU Regulation 2024/1991.

Residential and Amenity Concerns

- Detrimental to residential Amenity
- Noise and infrasound – Noise monitoring deficiencies. No monitoring in Co Mayo including Brackloon. Data gap undermines confidence in noise modelling. Sound equipment placed beside trees affecting accuracy. No monitoring across Black River despite the fact that many homes are less than 1km from T2.
- Amplitude modulation caused by infrasound. Possible role infrasound plays in causing endolymphatic hydrops (swelling of one of the fluid filled compartments in the inner ear). Large commercial wind turbines are responsible for the strongest infrasound. Note research from Washington University by Scientist Alec Salt Phd. re sound perception, response of cells.
- Baseline noise measurements and predictions expressed in Chapter 8 are reported in A-weighted decibels which is an inappropriate and inadequate approach, regarding the infrasound component of the noise. Infrasound, according to International standards (ISO) should be reported with reference to a G-weighting [IEC 61672-1]. Assertions regarding the likely noise impact of the wind turbine development, with reference to infrasound, are therefore invalid. Infrasound can travel further distances than higher frequency sound (Bolin et al, 2014 Journal of the Acoustical Society of America, Vol. 135 (3), pp.1106-1114), but this is not acknowledged by the consultant.
- Question the assertion that amplitude modulation can be considered a "rare event" in the context of the Shanacloon Wind Farm development.
- Judicial and planning precedents. Gibbets Hill Windfarm. Noise liability.
- Shadow Flicker Coordinates for T5 in shadow flicker assessment inaccurate thereby invalidating the entire assessment. Allowance for 30 hours of shadow flicker per year despite 2019 draft guidelines recommending zero.
- Visual Impact
- Traffic
- Impact on livestock and pets.

- Group of night sky photographers regularly utilise the area proposed for development. Illumination will substantially interfere with long-exposure

Inadequate community engagement and procedural issues

- No public meeting in the local community. Failure to comply with Aarhus.
- Lack of information on feedback from the community. Dismissive response from the developer
- Site notices not displayed in a number of affected areas including where properties are within 800m of Turbine 2. Residents and landowners were deprived of their statutory right to make informed observations within the consultation period.
- Site notices inadequate, three different versions of site notices displaying conflicting submission timelines. Notices not maintained. When site notices changed no colour border or other method used to notify of the changes thereby further compounding public confusion. Notices were not REDIII-compliant, as they lacked the mandatory checkbox required under the Renewable Energy Directive for public engagement transparency. Shortcomings undermine the integrity of public participation in the process.
- Scoping and consultation too late.
- Valuable local knowledge not gathered.
- Lack of transparency.
- Dwelling a distance of 1977.996m to T10 received no contact.
- Bullying allegations, division, pressurising and lack of respect.
- Potential impact of option agreements on public participation.
- Interference with registered rights of way
- Dismissive replies and a box ticking exercise as opposed to genuine engagement.
- Restriction of community growth.
- Burden of time and effort on ordinary families.

- Threat to business, Galway Kayak tours on Lough Corrib and on the river as well as Lough Mask and Lough Carra. Damage to amenity value of 'Lough Corrib environs.
- Misrepresentation of turbine output, safety and sustainability concerns, breaches of Wind Energy Guidelines, legal and property rights violations, environmental risks, and traffic inadequacies.
- No confidence that there will be any community liaison regarding out of hours working.
- Planning Boundary-Shancloon.shp SHP was not available to download from the ACP Shancloon application site thereby inhibiting mapping of the site boundary to provide an accurate assessment of this project's effects.
- Beneficial owners of lands over which grid connection is proposed and do not consent. GY24514F, GY47804F GY20918F. Noting Daly v Kilronan windfarm on ownership of land beneath the road and trespass, Kenny J in Holland v Dublin County Council 1979 113ILTR. Folio My45647 and My51721 on Mayo Side of Black water river -owner does not consent to activities on lands.
- *Incorrect information. No agreement with the applicant. Lands outlined in blue as under control of the applicant – disputed. Folio No GY116157F*
- *If land is under probate do the developers have legal authority to enter into agreements to carry out works on the land?*

Impact on Property, Economic and Land use impact

- Property devaluation - Valuation states that the proposed wind farm may affect future saleability, marketability and mortgageability of properties within the surrounding area.
- Note study by Gillespie and McHale, University of Galway which used a unique dataset combining satellite-imaged turbine locations with housing data from Daft.ie across seven counties on Ireland's west and southern coasts and revealed a statistically significant reduction of approximately 14.7% in property values for homes located within 1km of a turbine. This negative effect was stronger for taller turbines, a greater number of turbines; and in areas with more

"urban influence". The authors found that this price-depressing effect decays over time, becoming statistically insignificant after about 10 years of turbine operation. While the model did not show a statistically significant depreciation effect beyond 1 km in their dataset, the authors caution that effects may persist beyond that distance even if not captured in their analysis. Community benefit payments or compensation schemes are unlikely to offset 10-15% devaluation. Raises fairness and social equity questions. Developer should provide a compensation mechanism for affected homeowners which could include guaranteed buy-back or market-value protection for properties demonstrably within the most impacted zone. Ongoing monitoring and reassessment required.

- Exacerbate rural decline. Detrimental to rural housing prospects
- Damage to community wellbeing and heritage
- Proximity to dwelling houses e.g. Derrymore 1 house with four turbines within 1.5km closest being 1km. Some dwellings location within 1km of 3 turbines
- Cabling impact on road verges
- Aviation impact. Airstrip at Ironpool, well established and in regular use listed in aviator's guide to Ireland and app SKYDEMON. EIAR fails to assess suggesting incorrectly that airstrip abandoned/not in use. Agent for the applicant was advised of plans for airstrip in development since 2019. Airstrip while currently not registered with the IAA has been established for over 20 years and is known to the IAA. Discussions currently with Gulf Med Aviation and HSE for use as helicopter medical emergency base. Letters confirming use of the airstrip by a number of private pilots provided. Plans for glamping pods in woodland adjacent to the airstrip.
- Impact on agricultural contractors, silage and harvest season.
- Impact on horses and other animals
- Flooding and bog bursts
- Traffic Road network and construction issues.

Health and Safety

- Epilepsy, light sensitive migraines and vertigo.
- Children with learning disabilities.
- Persons with heart condition or cancer.
- Elderly.
- Migranes. Asthma. Mental health.
- Hormonal issues /stress, endometriosis, anxiety and sleep disruption.
- COPD
- Request for independent noise impact assessment to evaluate daytime and night time noise, low frequency and infrasound components. Potential amplitude modulation effects, noise propagation under different weather and wind conditions. Long term exposure impacts on older residents, and compliance with WHO guidelines for noise and health.
- Autistic members of the community highly sensitive to noise and changes to surroundings.
- Epilepsy – shadow flicker trigger for seizures.
- Vertigo and light sensitive migraines.
- Impact on health and peace of mind
- Quality of life
- Site entrance peat and spoil storage proximate to residential entrance
- Battery storage fire risk. Scale of substation.
- Hazard. T11.
- Asthma Tinnitus
- Cochlear implants - child with cochlear implants would pick up low frequency sounds and have no way of turning down noise.
- Invisible health effects widely reported by those living near windfarms include sleep disturbance, headaches, tinnitus, ear pressure, nausea, eye strain/blurring, vertigo, tachycardia, irritability, brain fog, anxiety and stress.

- The threat to public health from Infrasound is real but is dismissed in the flawed EIAR. Precautionary principle applies.
- Impact on children with disabilities and family rights. Sensory processing difficulties, behavioural regulation challenges, sleep disruption, sensory overload.
- *Health issues - Bisphenol A (BPA) can be released from wind turbine blades primarily through the erosion of their composite materials. 1 kg of Bisphenol A makes 10 billion litres of water unusable. Significant negative impact on agriculture and human health should be assessed.*
- Proposed development would directly contravene:
  - The IJN Convention on Rights of Persons with Disabilities (CRPD, 2006).
  - The UN Convention on the rights of the Child (UNCRC, 1989).
  - The Disability Act 2005.
  - The Education for Persons with Special Educational Needs Act 2004 (EPSEN Act).

  Each of these instruments requires that children with disabilities are given stability, protection and environments where they can thrive.

Traffic and infrastructure deficiencies

- New line road unsuitable for volume and weight of vehicles involved.
- 46,096 one-way loads (92,000 movements) on inadequate local roads; no swept path analysis provided. Structural assessment for Clare River bridge omitted.
- Traffic & Haulage: Underestimated traffic volumes; structural inadequacy of local roads for turbine delivery (p.115).

Visual and Landscape Impact

- Photomontage depictions appear to minimise prominence. Adverse daytime visual effects are materially underestimated, contrary to the requirements of GLVIA3.

- Long term light pollution, loss of dark sky amenity and impact on developing astro tourism.
- Scenic views from Knockma - Cnoc Meadha and Croagh Patrick. Night sky pollution.
- Landscape and hydrology of North Galway and South Mayo makes the siting of any windfarm difficult and problematic. Unsuitable even if the County Development plan indicates windfarm development is 'open to consideration'.
- The landscape is essentially flat, some 30-40m OD, dominated to the south by Knockma, a hill of national archaeological significance. The hill's summit is at 170mOD, making its elevation some 130m above the surrounding landscape. The proposed turbines have a tip height of 185m making them an intrusive 55m above the summit of Knockma and represent an unacceptable visual intrusion on the surrounding landscape itself littered with archaeological remains subservient to the important dominance of Knockma.
- Landscape and Visual Impact assessment relies primarily on desktop sources and does not include specific community consultation, local interviews, or on-site observation of informal cultural and recreational use, contrary to EPA guidance and Guidelines for Landscape and Visual Impact Assessment (GLVIA3). Principles from the National Landscape Strategy (2015- 2025) and the European Landscape Convention which emphasise community perceptions and intangible heritage are not applied.
- The assessment focuses on what can be seen (visual intrusion/obstruction) but does not assess how the landscape is experienced culturally. Experiential qualities central to the bog's value - soundscape, solitude, sense of remoteness, atmospheric conditions, and suitability for creative and contemplative practice - are not evaluated. By treating the bog purely as visual scenery or working landscape, the assessment underestimates its cultural and creative significance.
- The EIAR photomontages underrepresent the potential visual impact of the proposed turbines due to multiple technical deficiencies, including soft or out of-

focus backgrounds, pixelation, compression artefacts, blown-out skies, inconsistent lighting, and selective viewpoints that omit nearby residences.

- Seasonal inconsistencies and absence of summer views reduce reliability.
- Approach inconsistent with the SNH Visual Representation of Wind Farms: Best Practice Guidelines (version 2.2, 2017), which call for clear, high-resolution images. Many viewpoints also lack identifiable landmarks or references to nearby communities, including Kilconly village, making relevance unclear. Difficult for the public and decision-makers to accurately assess turbine visibility or landscape impact.
- No night-time visual assessment. The area is identified in the Galway County Development Plan as largely free from light pollution, and such lighting would fundamentally alter the night-time landscape character. It would also impact night photographers working in the bog.
- Contrary to National Landscape Strategy for Ireland (2015-2025) which seeks to protect landscape character and heritage and Galway County Development Plan 2022-2028 policies on landscape sensitivity and visual amenity.
- Photomontages contain multiple technical inconsistencies–including incorrect seasonal indicators, lighting conditions inconsistent with the stated dates, blown-out skies, compression artefacts, and soft or blurred backgrounds–that undermine their reliability. Key viewpoints from the closest residences are omitted, and no summer imagery is provided, despite this being when turbines are most visible. Taken together, these issues call into question the accuracy of the visualisations and the validity of the conclusions drawn from them.

Heritage

- Negative impact on scenic loop walk between Cloonaglasha and Bodane within 1km and 2km.
- Cloonaglasha, blessed well and children's burial ground (Cillin) located approximately 1km beside the river from proposed development site at Cloonaglasha. Risk of flooding and displacement of burial place.
- Area has not been investigated archaeologically. Ringfort near T3.

- EIAR consistently prioritises desktop-based assessments of archaeology, architecture, and distant tourism assets, while failing to adequately recognise the bog as a site of ongoing cultural, artistic, and community significance. Intangible heritage - including oral histories, the arts, recreational and contemplative use, and local social connections - is largely overlooked, and no mitigation measures are proposed to safeguard these elements.
- The wetlands are a vital space for community engagement, recreation, and learning. As a living landscape, the bog is central to a sense of place, memory, and cultural continuity. Friends of Kilconly Wetlands' artist residency programme, projects such as Bog Fam and Tales from the Bog, records oral histories, preserving traditional knowledge, and exploring contemporary relationships with the land through art and storytelling. These projects represent intangible cultural heritage, carried forward through the practices and experiences of the community in the landscape itself. 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. Friends of Kilconly Wetlands conducts practical conservation and educational activities, including guided walks, workshops and events like Culture Night, and community monitoring days. These initiatives introduce participants to the ecology of the bog, foster understanding of peatland conservation, and support engagement with the landscape as a place of learning and wellbeing. The proposed wind farm poses a risk to these ongoing practices, including limitations on access, noise disturbance, and potential impacts on the bog itself that are essential to these activities.
- Blessed well beside the children's burial which is not marked on this map in the EIAR report.
- Several ringforts and medieval church and historic landscape of Kilshanvey
- Kilconly Wild West Music Fest since 2017. One of the largest Country Music events in Ireland May. Traffic disruption of the proposal development would

impact the safety and efficient operation of the event which is a major source of local economic activity and community cohesion.

- Proposal is incompatible with the vitality of Kilconly and its growing reputation as a rural cultural hub contributing to rural tourism and local economic resilience. Large scale developments imposed without proper consultation or consideration for their local impact do not reflect principles of sustainable development and risk eroding community trust in wider renewable energy agenda.
- 54 recorded archaeological sites within the 2-kilometre study area yet the applicants propose only advanced geophysical surveys and targeted test trenching post-consent.
- "Do-nothing" scenario purely as a lost renewable-energy opportunity. In reality, doing nothing would allow existing cultural, educational, and artistic activity to continue to grow - a positive outcome not acknowledged in the report.

Environmental and Biodiversity impacts

- Fisheries. Togher and Black river.
- Wildlife deer, pike otters, pine martens, mink, geese, swans, geese, divers, eagles and many species of waterbirds.
- Impact on birds, bats and protected species.
- Impact on bog ecosystem.
- Harm to birdlife encountered on the lakes; Mallard Ducks, Greylag &, Brent Geese, Swans, Cormorants, Shags, Oystercatchers, Dunlins, Whimbrels & White-tailed Sea Eagles travel between the lake and the hinterland and our concern would be that locating an array of whirling turbines blades pose a huge risk of death & injury to these.
- Black river and connected wetlands including Fahy’s Lake,
- Barn owls nesting in old ruin “The Castle” Beaghmore.
- Disruption to wildlife.
- Proposed Development lies in middle of flight paths between feeding grounds.

- Impact on turloughs – EU priority habitat. Mention of Shrule turlough but omission of Belclare turlough,or Hackett turlough and Castlegrove Lake.

Hydrology, Water quality impacts.

- Rivers and underground springs.
- Contradictory statements in the reporting of the geology and hydrogeology particularly in respect of the permeability of the various geological strata on site, suggest that the hydrological regime has not been well understood. The development site is in the catchment of the Black River, mostly crossing the tributary catchments of the Togher and Cloonbar rivers. The flat landscape is essentially a mosaic of peatland and agriculturally reclaimed grassland, prone to flooding in spite of being part of a longstanding arterial drainage scheme.
- Site is within the Clare Groundwater Body which is the principal hydrological catchment area serving Lough Corrib, an SAC. The requirements of the Water Framework Directive (EU 2000/60) include the need to conserve the sources of water supply to the SAC. Sources of supply are both groundwater and surface water and the development site is in the headwaters of both. The implications of the impact of the windfarm development on these sources of supply was not investigated in the EIAR.
- Inadequate assessment of the impact of the turbine foundations on the underlying aquifer. Puncturing the founding karstified bedrock, opens a route creating pathway for potential drainage and contamination of underlying limestone aquifer. The EIAR declares an expected low permeability in the underlying karstic bedrock, yet the consultants own reconnaissance survey of surface features showed over 30 likely karst features including dolines which are indications of conduit karst at depth. The geophysics survey conducted by Apex Geophysics indicated a number of anomalies (albeit using an inappropriate Electrical Resistivity survey method for karst). None of these were investigated by drilling. They were just avoided by adjusting turbine locations, representing an approach which is not a solution for construction in karst.
- Good practice requires the development of a water balance for the site to understand the flows and pathways involved. Limited water level monitoring

completed in site investigation boreholes and there has been no analysis of the results. No understanding in the EIAR of the role of groundwater and the impact of turbine foundations on it.

- The karst in this area of north Galway is a reservoir for flows to Lough Corrib SAC. Any additional risk of opening new pathways for contamination or alteration of these pathways is not warranted. Later decommissioning of turbines will not remove that risk.
- Extensive peat cover across the site is also likely dependent on the underlying regional aquifer as an 'environmental supporting condition'. Any attempts at rewetting/restoration would be jeopardized by any undermining of the underlying karstified aquifer.
- Indicative flood assessment is unsubstantiated if not validated by hydrometric measurements in the field. No measurements of stream discharges or levels reported in the EIAR. Mitigation merely relates to flood proofing turbine tower base.
- Proposed turbine T07 noted to fall within a delineated predictive fluvial Flood Zone A and Flood Zone ' B'. It is noted that T7, T5 T1, T2 and the substation are either within or close to the boundary of the modelled 1 in 100 year (+climate change) pluvial flood zones. These are the modelled flood zones for the predevelopment phase and the digital terrain model and flood flow model does not represent the terrain after construction of roads, bog compaction following crane lifts, construction of the turbine mass bases and turbine erection. Groundwater flood risk not acknowledged despite fact that GSI maps large extents of the land holding groundwater flooding in the last ten years.
- 176 piled holes into bedrock proposed risk of future expressions of groundwater from those piled foundation puncture holes. The proposed underground piped drainage network for substation will float and present a stability risk to the substation.
- Proposed drainage network discharge overland is not technically feasible.
- No justification for substation and wind turbine locations in flooded plains of bog land in a conduit karst groundwater systems with surface expression of karst.

Risks are too high when placing “exceptional abnormal loads” on peat and gravel substate over a landscape littered with dolines connecting to a subterranean karst conduit aquifer. Tonnage associated with the substation and cranes and hoists lifting the masts, hubs and blades will exceed 180 tonnes.

- Lough Corrib and source of supply for Galway city and surrounding areas. Kilcoona Caherlistrane Group Water Scheme provides potable water to over 1,350 homes and farms schools and creches. Source of the scheme is from a spring at Luimnagh on Lough Corrib close to the proposed development. Concern regarding risk of pollution of drinking water. Zone of Contribution report completed by GWS in 2015.
- Landslides, subsidence or peat slippage into Togher.
- No consent from Uisce Eireann to cross the existing 250mm potable water trunk main. Inappropriate to grant consent given unresolved and unexecuted mitigation measures for this critical public service asset.
- Frequency of flood events is underestimated. Misrepresentation of the absorption capacity of the natural environment in the development area amounts to a breach of Annex III of DIRECTIVE 2011/92/EU.
- Application of abnormal load to large areas of flood plain for the purposes of creating hardstanding for cranes and turbine component part, will change the characteristic of the soils, porosity and runoff characteristic. Cranes and counter weights require enabling roads and land surfaces with the ability to carry 750 tonne weight of a crane itself plus the likely 200 tonne counter weight and the chain and hoist infrastructure. The pressure of the weight of the crane and counter weight results in destruction of the permeability and pore space of subsoils in the proposed construction areas, which are lands mapped on historic 6“ OSI maps as 'liable to flood’. The potential for increased flood risk arising from the change in soil and subsoil structure is not acknowledged.
- Commission requested to fact check potential mass loadings arising from the enabling works that would be required to erect turbines in a flood plain wetland. Risk to health hazard and the WFD’s Objectives for waterbodies in the catchment. Loss of floodplain.

- Significant risk of abnormal load over landscape littered with dolines connecting to a subterranean karst conduit aquifer. The method of geophysical survey applied, at the specific direction of the applicant's agents to the geophysical expert company Apex, is not a method that those looking for karst groundwater flow systems choose. 2D Electrical Resistivity Tomography (ERT) shows the approach was with regard to investigation of the overburden from the perspective of piled foundation design.
- The Water Chapter fails to address the significance, impact, mitigation or residual impacts in the context of the birds of Lough Corrib SPA and impact on the entire Corrib Catchment. The significance of the underlying Clare Corrib's Groundwater Body mapping as a Drinking Water Protected Area and Lough Corrib as a Drinking Water Source Lake is not addressed. Proposal to drill 16 boreholes at each of the proposed turbine locations will result in 176 piles drilled to depths penetrating bedrock. Agent proposes 800m^3 of concrete per piled borehole. Inspector is invited to complete the Area (PiixR2) x Depth of Pile (e.g 25m) calculation used to calculate amount of concrete required for borehole. On the basis of a 1m diameter BH, 20m^3 of concrete would be required per 25m deep pile. Agents for the applicant suggest that they will use 800m^3 of concrete per pile. Question why such a large volume is required and where will that concrete have potential to be lost to? Is it to be assimilated into pore space of the 15 to 20m depth of peat, silt, gravels beneath each turbine, as is shown in the Cross Sections of the Geophysical Report (Apex, 2023, Appendix 11.3) or is there potential for large losses of concrete into the unacknowledged karst conduit aquifer connecting the site to Lough Corrib SAC, SAP, pNHA and Drinking Water Supply Source.
- The agent proposes 176 boreholes x 800m3/BH = 140,800 m^3 of concrete that will be delivered by trucks, which equates to 14,080 truck deliveries at least and they will be return journeys – so, there will be 28,160 trucks with cement travelling on floating roads through bogs. The calculations suggesting 28,000 truck deliveries are for the concrete required to fill each of the 176 piled foundations only. Additional trucks will be required for the concrete bases to each turbine.

- Coatings for the turbines to be painted on masts and blades in the Operational & Maintenance Phases. Baseline quality nor potential impacts are not presented by the applicant.
- WFD Status & Risk - All of the rivers in the vicinity of the proposed development are mapped as POOR Status Rivers (current 2019 - 2024 Envision Reporting omitted). No WFD Compliance Report has been submitted. Togher River and the Black River both referred to by the EPA as the Black_Shrule_010] are both mapped as 3rd Cycle At Risk and POOR Status (EPA Envision Mapping 2019 - 2024 reporting period). EPA (2024) 3-Cycle Report for the Corrib Catchment (HA3) reports that the significant issues are sediments, morphological and nutrients and that the Pressures are Hydromorphological, Agriculture and Peat.
- Proposal not compatible with the Nature Restoration Law obligations or the National Biodiversity Plan.
- All rivers in the proposed development area are currently 40 Poor Status (EPA Envision 2019– 2024) and the nation has 1 year to remedy this. Construction will not assist in efforts to bring water quality back to at least Good Status.
- Beaghmore. Black river runs through land and connects to Fahy's Lake and underground waterways creating a vital wetland ecosystem. Spawning ground for pick and supports otter, pine marten mink geese swans and many waterbirds. Excavation could disrupt hydrology of delicate system. Alteration to drainage patterns or disturbance of peatland resulting in increased flood risk causing water contamination and destroying natural habitats,.
- Potential ecological impacts on protected bird species and ACRES conservation measures.
- *Siltation risk to Atlantic Salmon. Altering natural flow regime can disrupt precise water temperature and volume required for both adult fish to spawn and for juvenile salmon (parr) to thrive. Disturbance of peat layers can increase runoff of highly acidic water which is toxic to salmon eggs and juvenile fish.*
- *Standard mitigation techniques unsatisfactory and ineffective in the face of major peatland disturbance. Reliance on conventional environmental protection*

measures where upland development intersects with vital salmon tributaries poses an unacceptable and immediate danger to the future of the species.

- *Brown Trout populations are present and rely on the same upper streams for spawning. The preservation of these headwater habitats is vital for maintaining healthy local trout stocks. The toxic alteration of water chemistry is highly detrimental to the sensitive eggs and juveniles of salmon and trout.*

Ornithology and Ecology - Inadequate baseline information and assessment

- Beaghmore. Black river runs through land and connects to Fahy's Lake and underground waterways creating a vital wetland ecosystem. Excavation could disrupt hydrology of delicate system, alter drainage patterns and disturb peatland resulting in increased flood risk causing water contamination and destroying natural habitats,.
- Potential ecological impacts on protected bird species and ACRES conservation measures.
- 1.46km of vegetation to be removed to widen turbine delivery route along the L6483 borders a Bird Sanctuary in the townland of Ironpool.
- Collision risk modelling lacks transparency and justification to allow for independent precautionary evaluation of potential impacts on key bird species. Raw flightline data/height datasets not provided nor are flight height distributions reported in adequate detail. Avoidance rates are applied but documentation does not include a structured sensitivity analysis exploring precautionary alternatives or lower avoidance scenarios and no clear justification provided for selected avoidance rates based on site specific behavioural data.
- Reporting does not demonstrate how seasonal movements, migration peaks, or flocking behaviour were quantified or incorporated into risk modelling. In the absence of transparent data inputs, detailed seasonal breakdown, and precautionary scenario testing, the CRM conclusions cannot be regarded as robust. As a result, the potential collision and cumulative impacts on sensitive species remain inadequately assessed, and the application fails to meet the standard of evidence required for informed decision-making.

- Full disclosure of CRM inputs should be provided to the Commission and a robustness check completed using conservative avoidance assumptions.
- Large proportion of ecological data in relation to displacement relates to the older generation turbines max height 160m. Gap in data.
- Inadequate assessment of impacts on diurnally active species. Both lapwing and golden plover are recorded as occurring within/adjacent to the development footprint during daylight hours. They typically forage across farmland at night away from roosting sites and daytime distribution cannot be used to predict post sunset use of habitats.
- Neither the AA nor the NIS contain any consideration of ex-situ impacts on birds commuting /foraging within the flight activity survey area at night. No survey to establish if golden plover (QI of the lough Corrib SPA) utilise the site or environs post sunset for commuting/foraging purposes. Failure to thoroughly assess ex-situ impact and consider indirect impacts on SPAs must be considered a fatal flaw in the AA process.
- Significant omissions, gaps and lacunae occurring within the information. These gaps in information can only be addressed through years of scientific research assessing the complex ecological relationship occurring between turloughs and avifaunal use of turloughs in the locality.
- Bat assessment does not demonstrate adequate seasonal survey coverage or an evidence-based collision/avoidance mitigation strategy. Given bat species' sensitivity to ALAN (Artificial Light at Night) and turbine collision, comprehensive multi-season bat monitoring data is required, site-specific collision risk assessment, and enforceable operational mitigation (e.g., curtailment/monitoring) prior to determination. Substantial bat fatalities have been recorded at wind facilities in Europe and internationally.
- Wildlife including red listed bird species including whooper swan, buzzard, kestrel, meadow pipit curlew and snipe. Dated photographic evidence provided of these species available in around T10 and T11. Flight paths of whooper swans fly directly over T11.

- The EIAR is fundamentally flawed and is not fit for the purpose. Whilst Council Regulations EU 2022/2577 permits streamlining of permit granting processes for renewable energy projects this does not set aside the obligations for proper environmental assessment and the identification of likely significant and cumulative impacts of a proposed project on the receiving environment.
- 17 species of butterfly including the Marsh Fritillary (Eurodryas aurinia) protected under Annex II of the EU Habitats Directive, The Irish Hare (Protected under Wildlife Act 1976 / 2000, EU Directive 92/43 Annex V) The Irish stoat (Mustela erminea hibernica) (Protected under Wildlife Act 1976 / 2000) Deer Foxes Badger Along with the mammals the area is also home to the Common lizard and Frogs.
- No provision in the road designs through the site for Herp Tunnels to allow passage under the roads for amphibians and reptiles. Particularly important on sections of floating road as the preferred design will have vertical steel sides.
- 7 Red listed Birds (not including the White tail Eagle and Golden Eagle found as part of Bird Surveys) these include Barn Owl, Curlew, Kestrel, Meadow Pipit, Redwing, Snipe, Golden plover and evidence of 16 Amber listed birds Goldcrest, House Sparrow, Kingfisher, Linnet, Mute Swan, Skylark, Spotted Redshank, Willow Warbler, Gadwall, Greenfinch, Greater White-fronted Goose, Whooper Swan, Starling, Merlin, Cormorant, Tree Pipit. 2 of red listed bird species believed to be breeding in the area.
- Inadequate definition of zone of influence. Failure to take into account the presence of turloughs (a priority habitat) within 20km buffer distance. Failure of the Appropriate Assessment screening process to adequately identify an appropriate zone of influence has impact of ignoring a number of pertinent sites (albeit SACs, of ornithological importance) that almost certainly host significant numbers of Qualifying interests of SPAs proximate to the proposed development.
- Shancloon Wind Farm is ecologically unsuitable for a development of this nature based on:

1. <u>Inadequate Ornithological Assessment in a Turlough-Dense Landscape</u>

At least 114 turloughs within 15km radius of the site covering approx. 21km^2 as identified in University of Galway research. These ephemeral wetlands are EU Priority Habitats that support large populations of overwintering and migratory birds in this region. The complexities caused by the irregular flooding patterns of so many turloughs in the area make it impossible, based on current scientific knowledge, to predict, with any confidence, the potential impacts of the proposed windfarm on these overwintering birds. Bird behaviour in this landscape cannot be assessed using Scottish Natural Heritage (SNH) guidelines used for the EIAR. These guidelines were designed for permanent wetlands such as rivers and lakes and cannot be applied in turlough dense areas given the variability in turlough flooding within and between years. Reliance on SNH guidelines in conjunction with national datasets which have significant gaps, has led to a severe underestimation of bird activity as demonstrated by University of Galway research in the area using acoustic monitoring and UAVs (Unmanned Aerial Vehicles or Drones). Recent peer-reviewed research (Schindler et al., 2025) confirms that the foraging range of the Greenland White-fronted Goose extends to 15km, placing the proposed development well within the range of this species which is a Qualifying Interest for the Lough Corrib SPA (< 10km from proposed development). The same applies to a range other bird species which are Qualifying Interests for the Lough Corrib SPA including Gadwall, Pochard and Tufted Duck. Passive acoustic monitoring by the University of Galway has also confirmed night-time activity (not recorded in the EIAR) by multiple red - and amber-listed species and the presence of the Greenland White-fronted Goose (Annex I species) within the footprint of the proposed windfarm. This species was excluded as a key ecological receptor in the EIAR because it was not recorded during the vantage point surveys undertaken for the EIAR.

BirdWatch Ireland's Bird Sensitivity Mapping Tool does not have any data for more than half (56%) of the 16 turloughs situated within 5km of the proposed wind farm site. With more than half the data missing, this cannot be used with confidence to predict the sensitivity of birds in the area to the proposed wind farm. Data gaps for IWeBs metadata in the area within and immediately surrounding the footprint of the proposed development in combination with the

likelihood that existing metadata gathered using bird counts are under-recording, means that these metadata are not a true reflection of overwintering bird species composition and abundances. These meta-data cannot, therefore, be used with confidence to determine potential impacts of the proposed windfarm at Shancloon on overwintering wetland birds in the area.

Twenty-one species of overwintering wetland birds found within 0-5km of the proposed windfarm at Shancloon are of conservation concern (Table 2.2). Of these, 33% are ranked as having the highest conservation concern, many of which are in large decline nationally (Pochard, Lapwing, Golden Plover); moderate decline (Dunlin, Curlew); and intermediate decline (Coot, Mallard, Wigeon, Tufted Duck, Pintail, Great Crested Grebe and Shoveler). In addition, eight of the bird species present which are Qualifying Interests for Lough Corrib SPA, may well use these turloughs as part of their wider home range particularly during the winter. This is particularly relevant to Gadwall which recent GPS tracking has shown has a foraging range up to 20km and Pochard and Tufted Duck which have been shown to fly >l0km during the overwintering period making these turloughs well within the foraging range of Lough Corrib SPA. Any winter wildfowl or waders are likely to be moving through the location to access feeding and roosting sites.

The ornithological section of the EIAR omits crucial ecological dynamics unique to turlough regions and underestimates avian collision risk and omits the presence of an Annex I species. The University of Galway has been granted funding to undertake research on two Annex I species in the area as a first step in understanding (using GPS collars), for the first time, how these two species utilise the constantly changing wetland landscape in a turlough-dense area. To proceed with the development would jeopardise this research. Precautionary principle should apply.

2. Placement of Turbines on Raised Bogs

Almost half of the 11 proposed turbines are on or adjacent to three bogs. An independent survey by peatland specialist (Smith, 2024) who surveyed just over a third of one of the bogs at Cloonbar, described the conservation value of Cloonbar Bog as "surprisingly high". He identified 5.8 ha of Annex I "active

raised bog (*711 0") which includes a central ecotope, the highest quality raised bog habitat. This area supports a greater proportion of the Annex I "active raised bog (*711 0") habitat than 20% of Ireland's SACs for which raised bog is a Qualifying Interest. The development contravenes EU Regulation 2024/1991 on Nature Restoration, which requires the rewetting and restoration of drained peatlands by 2050 to mitigate climate change. Installing turbines on these sites would irreversibly damage their hydrology, carbon storage potential, and biodiversity, undermining both EU and national climate and biodiversity objectives.

Raised Bog Almost half (five) of the proposed wind turbines for Shancloon Windfarm are planned to be situated on three bogs (Cloonteen-Cloonbar-Toberroe Complex; Cloonsheen Shanctoon; and Beagh More North) which, because of their complex hydrological processes, are particularly sensitive to large developments. When degraded by developments such as the installation of wind turbines, raised bogs will emit carbon due to the decomposition of dry peat, switching from being a carbon sink to a carbon source. The viable long-term alternative for these bogs is to rewet them, thereby restoring Sphagnum-rich, actively peat-forming bog (Wilson et al., 2022)1. Interference with the peat on the surface or at any depth will further damage a valuable recovering wetland system. Ireland hosts more than half of the Atlantic sub-type of raised bog that remains in Europe and as such is obliged under EU law to prioritise their conservation

*Following ecological survey of just over 33% of Cloonbar Bog undertaken in 2024 by peatland expert ecologist Dr George Smith it was noted that the conservation value of Cloonbar Bog is "surprisingly high" and that a restoration plan be prepared on the basis that there is more Annex 1 Active Raised Bog (*7110) present than in 20% of Special Areas of Conservation in Ireland where Active Raised Bog (*7110)' is a qualifying interest.*

To place wind turbines on these three bogs is contrary to this European Law and Peatlands Regulation and European Parliament and Council on Nature Restoration. This would prevent any chance of the bogs being restored to mitigate climate change on a permanent basis in addition to destroying the range of ecosystem services they provide. Active Raised Bog is a priority habitat

listed under Annex I of the EU Habitats Directive (92/43/EEC) - “active raised bag (*71 10)”. Active and restored raised bogs contribute directly to permanent climate mitigation and biodiversity benefits through long-term storage of carbon. Wind turbines on raised bog also come with complex ecological risks such as the release of carbon, loss of biodiversity, peat instability and long-term degradation of ecosystem services. At sites such as those described above where raised bog conservation and restoration are not only possible but recommended by an independent peatland expert, ecological restoration should be the priority. National and local Climate/Heritage/Biodiversity plans strongly support the restoration of the bogs in and surrounding the proposed Shancloon Wind Farm primarily as a long-term solution to carbon sequestration along with benefits for biodiversity and other ecosystem services. The installation of a wind farm on these bogs is incompatible with these action plans.

3. Inadequate Consideration of Protected Invertebrates (Marsh Fritillary Butterfly)

The Marsh Fritillary (Annex II of the Habitats Directive) has been recorded by Professor Mike Gormally near Turbine 9. The EIAR records the species as absent based on a single day's survey of caterpillar webs in late August 2022 - a breach of best practice, which requires repeated surveys across multiple years and the inclusion of adult flight periods. The methodological deficiency renders the EIAR conclusions and exclusion of Marsh Fritillary as a key ecological receptor invalid. The proposed development risks fragmenting existing colonies and disrupting essential habitat connectivity, particularly given the up to 2 km dispersal requirement for the species between patches.

Proposal for translocation and grazing enhancement as a Marsh Fritillary habitat and species loss solution. Translocation success for Marsh Fritillary is variable; UK/Irish reviews show -25% survival > 3 years, often failing due to metapopulation dynamics. Report doesn't cite evidence of effectiveness or post-translocation monitoring. If ineffective, could breach Wildlife Acts by harming protected species. NPWS guidelines stress robust mitigation for Annex II species. There is no indication of the location of the required habitat patches within a 2km radius of this site to ensure the survival of the population. Details of the locations of supporting corridors between habitat patches to improve connectivity need to be provided on a map. Based on inadequate surveying and

a poorly considered Biodiversity and Habitat Enhancement Plan, the potential impacts of the Shancloon Wind Farm, particularly the associated drainage and road infrastructure cannot be determined with any confidence.

4. Misclassification and Underassessment of Cloonbar East Wetland

Cloonbar East Wetland (the "Commonage") has been incorrectly classified in the EIAR as Dry-Humid Acid Grassland (GS3). Independent botanical surveys by plant ecologists, Ors Sheehy Skeffington and Steven Sylvester, identified at least three potential EU Annex I habitats on this site, including Transition Mire (7140), Orchid-Rich Calcareous Grassland, and Wet Heath (4010). Over 90% of plant species recorded by the independent experts were absent from the EIAR species list, including the Near Threatened Autumn Gentian (*Gentianella amarella subsp. hibernica*). The omission of this data, coupled with surveys conducted largely outside the growing season, renders the EIAR habitat assessment for this site invalid.

Red listed near threatened moss carder bee (*bombus muscorum*) has been recorded by an ecologist which would question the assertion that the commonage is of limited use to pollinators. No vegetation sampling during July and August a time when pollinators are more active.

Cloonbar East Wetland (Commonage) vegetation sampling season 67% of the vegetation surveys took place in September, October and January outside the active growing season and no vegetation sampling was undertaken in July and August, the peak flowering time for most plant species. This means that some of the less common plant species and many of their pollinators will have been missed. The statement that the site "is of limited use to pollinators” cannot be substantiated. Inadequate vegetation sampling has led to key plant species which inform habitat types not being documented. Presence of notable plant species Gentianella_amarella subsp. hibernica (Autumn Gentian), a Near Threatened, Red Listed species of international significance (Jackson et al, 2016)2, is present on the site (Table 1) but was not noted in the EIAR, Appropriate Assessment or Natura Impact Statement.

Geological formation - The presence of an esker running primarily along the north-eastern boundary of the Cloonbar East Wetland was not recorded in the

EIAR. It would appear that much of this esker will be removed to facilitate the floated access road and turning head. The impacts on the function of the esker as an ecological corridor, natural aquifer with biodiversity value cannot, therefore, be determined with confidence.

Cloonbar East Wetland was not selected as a KER (Key Ecological Receptor) and the potential effects of the development on this site are not discussed. The impacts of the floated access road and turning head on each the potential EU Annex I habitats at Cloonbar East Wetland (Table 1) should be presented in detail. Potential impacts include: disruption of natural water flow, altered hydroperiods (threatening functional integrity), erosion, direct habitat loss, barrier effects as well as long-term effects such as chronic hydrological stress, restoration challenges and elevated human presence in a sensitive area. Do nothing scenario fails to address potential for restoration.

Given the fundamental deficiencies in survey methodology, data interpretation, it is not possible to determine the potential ecological impacts of the Shancloon Wind Farm with scientific or regulatory confidence. The proposed development threatens:

- Multiple EU Priority Habitats (turloughs, raised bogs, and Annex I wetlands);
- Annex I bird species and an Annex II invertebrate;
- Ongoing national and international biodiversity research based in the area; and Ireland's obligations under the EU Nature Restoration Law (2024) and EU Biodiversity Strategy for 2030.

EIAR omits key baseline ecological data, misapplies survey methodologies and disregards EU and national biodiversity legislation. ACP cannot make a lawful decision to permit the development.

Other

- Industrial waste concrete bases. Long term chemical analysis and monitoring of leaching from massive concrete bases.

- Concrete curing alkaline plume altering the sensitive pH and geochemistry of the acidic bog potentially leading to increased peat decomposition and carbon loss.
- Galway Windpark - Cumulative Impact
- Flawed mitigation strategy
- Aggregate fill dust particles.
- Carbon emission legacy. Not green energy. Green grabbing and creation of environmental sacrifice zones. Sustainability contradiction Carbon and resource intensity, peat and ecology risk.
- Inappropriate reliance on 2006 guidelines despite advice from An Coimisiún Pleanála to follow 2019 draft wind energy development guidelines.
- Clientelism
- Insufficient turbine to turbine distances. Wake effect of turbines. Ref Webster&Anor v Meenacloughspar (Wind) Limited and Shorten & anor v Meenacloughspar (Wind) Ltd. Gibbett Wind Farm. WEDG 2006 guidelines recommend “In general to ensure optimal performance and to account for turbulence and wake effects the minimum distance 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. It should be noted that the prevailing winds, those requiring 7 rotor diameter separation distance between turbines, are not only from the southwest direction. Map 1 shows that in reality there are strong and frequent winds from 140 deg. Southeast to 300 deg. northwest in a clockwise direction. The turbine spacing arrangements fail the required WEDG 2006 guidelines as follows: In the case of prevailing wind direction - T6 to T7, T6 to T8, T7 to T11, T5 to T6, T4 to T1, T2 to T1 and T3 to T1. And in the case of cross wind directions Tl0 to T9.
- Unforeseen modification of local weather by arrays of wind turbines. Wake effect downstream of turbines effecting rainfall etc. - not addressed.
- Impact of wake effect on peatland ecosystem.

- Peatlands unit of the NPWS has met to advise on setting out a roadmap for potential restoration. Friends of Kilconly Wetlands currently working with local landowners to restore sections of the bog with a view to expanding efforts once successful. Placing of turbines will prevent restoration under the Nature Restoration Law while damaging bog irreversibly.
- Project rushed and poorly considered.
- National Renewable Energy Action Plan N-REAP, National Energy and Climate Plan 2021-2030 both adopted without carrying out SEA under Directive 2001/42/EC. Consents illegal if adopted in breach of EU law obligations.
- Misrepresentation of turbine output and SID eligibility. Claimed output of 61.6-72.6 MW conflicts with actual 11.495 MW based on site wind speed (pp.8-9, 17). Reliance on "Export Capacity" rather than actual output, misleading SID qualification (p.17).
- Survival wind speed of Nordex turbine of 54.4m is inadequate for West of Ireland gusts (p.6).
- If turbines are proposed on cutaway bog why is the developer planning to extract and store 97,731 cubic meters of peat.
- If permission is granted a condition required to ensure full restoration of the landscape.
- Cumulative Impacts Assessment Section does not address potential synergistic EMI from multiple farms (e.g., if nearby turbines amplify scattering). EPA (2022) and WEG 2006 require cumulative assessments considering "in-combination" effects. While logical (no individual impact = no cumulative), guidelines encourage broader evaluation, especially in areas with clustered wind farms of which there are many proposed for the Tuam hinterland.
- Alternatives – Industrial estates in Galway which could facilitate solar
- Lightning strikes relatively common.
- Procedural shortcuts- whether deferring critical decisions, inadequately examining alternatives, or dismissing expert recommendations without detailed

justification-are incompatible with the protective objectives of the Habitats and EIA Directives." Brian Holohan and Others v An Bord Pleanala C-461/17

- Scottish 'Carbon Calculator' was developed for "high ground on peatlands which contain forestry in a similar climate" clearly different to the landscape at Shancloon. Local conditions not addressed. Inappropriate default values have been used.
- Reliance on 2006 Guidelines despite recommendation of ACP to consider more up to date methodologies in 2019 guidelines.
- Inappropriate Site Selection – contrary to the law of EIA in terms of Consideration of Alternatives, notional.

5.2 Applicant's Response

The Chief Executives report, the submissions from prescribed bodies and public submissions were circulated to the applicant for comment. The response received from the applicant sets out to addresses the submissions received and is summarised as follows:

In relation to the **Planning Authority** Report it is noted that the submission from Galway County Council was not in accordance with the timeline set out in the Act. Response to matters raised:

- Regarding cumulative assessment as Cooloo Windfarm is located 21.3km from the proposed Shancloon windfarm it falls outside the 20km study area.
- In relation to Heritage and Archaeology, the applicant commits to pre-construction geophysical survey by a suitably qualified archaeological consultant followed by a programme of archaeological test trenching. All ground works will be supervised and monitored during the construction phase by an archaeological consultant.
- Regarding concerns raised by the roads department in terms of the ability of the surrounding local road network to serve the site, chapter 14 of the EIAR sets out a detailed assessment. The effects on the local road network are short term in duration and slight to moderate in magnitude. Appendix 14.2 Traffic

Management Plan provides detailed analysis of local road capacity and includes proposals for road widening and construction of passing bays at 7 locations along the L6483 and L2234. The grid route and substation access has been assessed for passing opportunities and road capacity. The necessary infrastructure to allow for contraflow manoeuvres in accordance with TII Publications DN-GEO-03031 rural road linked design is designed for in the project.

- A detailed swept path analysis and wheel tracking for abnormal loads (Appendix 14) shows all accommodation works necessary to accommodate delivery to the site. Accommodation works including road widening and load bearing surfaces have been fully assessed in the EIAR.
- The applicant commits to pavement condition rating and video survey to establish legal footprint of the road conditions, falling weight deflectometer testing, post construction audit and rectification to a standard meeting or exceeding the original condition. As per standard practice permission likely to be subject to financial security bond
- Bridge inspection report included at Appendix 2.5. Guidance adhered to in the design of the windfarm and preparation of the traffic management plan includes:

  Traffic and Transport Assessment Guidelines – May 2014, TII

  DN-GEO-03060: Geometric Design of Junctions, May 2023, TII

  DN-GEO-03031: Rural Link Design May 2023, TII.
- Traffic Management Plan addresses public road crossing points / junctions and presents measures for the management of traffic streams and service access.
- Sightlines achievable at the site entrances accord with acceptable standards.
- Measure include peak traffic management, a road safety and courtesy protocol and restricted hours delivery schedule.
- With regard to issues raised by climate unit regarding **circular economy** the CEMP requires that material selection will aim to ensure selection of materials that are recyclable on decommissioning."

- The recommended conditions set out in Section 11 of the Planning Authority's report are noted. The applicant commits to carrying out the development strictly in accordance with the mitigation measures and monitoring proposals and in accordance with the timelines set in the EIAR, CEMP and NIS.

Department of Defence and Irish Aviation Authority.

- Regarding obstacle lighting and Irish Air Corps Activities, specialist technical studies carried out by aviation experts AiBridges determined that the project would not adversely impact aviation. (Appendix 17.1 of the EIAR).
- It is recognised that IAC requirements are separate to IAA requirements.
- 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 reference the N84. Where 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 closest grid reference of the Low Flying Areas 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.
- As set out in the aviation review statement appendix 17.1 the nearest Air Corps restricted areas to the proposed site is the 5NM restricted zone around the army barracks at Renmore, Co Galway (The Galway Zone), 19km away. Therefore there will be no impacts on air corps activities. The Connaught Zone is located 36km north of the windfarm site. In the unlikely event that the air corps aircraft are flying in the Shancloon area as part of movements between the Galway Zone and Connaught Zone it should be noted that all modern aircraft are equipped with a range of global navigation satellite systems providing pilots with accurate navigation information including data to avoid obstacles during VFR operations. In the event of permission turbine locations will be submitted to the IAA and aviation charts and GNSS databases updated accordingly.

- Applicant fully aligns with requirements of the DoD and IAA regarding obstacle lighting and notification of windfarm co-ordinates. Owner will engage with the Department of Defence and provide suitable mitigations as soon as practical in the event of negative impacts on future military radar systems.

Regarding the submission of IFI.

- Note that the design construction methodology and mitigation as 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".
- Regarding compliance with WFD cable crossing of the Black River will be HDD negating the need for instream works, thereby avoiding potential for hydromorphological effects. Crossing of Togher river will be clear span bridge with no permanent instream structures. All other crossings will be by piped culvert and are associated with land drains. IFI will be consulted in advance in relation to all crossing and flow diversion or fluming. Re confirmatory biological water quality assessment and hydromorphological baseline (RHAR) assessment will be carried out at pre construction, during construction and post construction. Design will ensure that natural flow paths are not interrupted or diverted. 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 restoration to good status.
- Surface water drainage system utilises sustainable drainage devices and methods incorporating the main components of SUDS. A fundamental principle provides that clean water flowing in the upstream catchment including overland flow and flow in existing drains will bypass the works areas without being contaminated by silt from the works. This will be achieved by piping it or diverting it by means of new drains. Design seeks to maintain normal flow patterns. Comprehensive mitigation measures for pollution control to protect water quality are set out in EIAR, CEMP and SWMP.

- Regarding fisheries specific mitigation provides for protection of lamprey and salmonids including spawning and nursery habitats. In-stream works will be carried out outside of the salmonid spawning season (Ist July to 30th of September).
- Regarding waste management and construction material, addressed within the CEMP and Peat and spoil management plan.
- 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.

Regarding Health Service Executive HSE National Environmental Health Service NEHS

- Note that the HSE "Position paper on wind turbines and public health" referenced in the EIAR was withdrawn in October 2025 subsequent to the submission of the EIAR. Withdrawal of the position paper does not affect the findings of the EIAR.
- Regarding 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 control modules and short a period for blades to slow to a stop. During operation of the development any complaints relating to shadow flicker will be fully investigated and control system updated accordingly.
- Regarding noise and vibration 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 in the absence of wind turbine noise.
- Where low background noise levels are found the 2006 WEDG recommend a limit of 35 to 50dB LA90. In section 8.5.2 of chapter 8 of the EIAR reference is made to these limits and ETSU-R97 which recommends that the following three factors be considered when determining the fixed limit within the range 35 to 50dB

Number of dwellings in the neighbourhood of the windfarm

The effect of noise limits on kWh

Duration and level of exposure.

Using these criteria the EIAR recommended that a 40dBLA90 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.

Assessment of operational wind turbine noise against levels presented in the 2018 WHO document is not considered to be appropriate or necessary. Relative level BS4142 this is not 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.

- In relation to recent judgements 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.
- Work on Sundays / public holidays will only be conducted in exceptional circumstances and subject to prior consultation and notification.
- Considerations set out in the NEHs in the interest of protection of public health can be complied with.

Transport Infrastructure Ireland

- Traffic and transport chapter of the EIAR 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.
- Abnormal loads will be transported via specialised convoys off peak to ensure minimal impact on the capacity of the road network. Trial run prior to first delivery.
- 110kV loop-in connection to Cashla-Dalton line has been designed to comply with DoT Circular RW07 of 2025. Grid connection infrastructure will be designed and constructed in line with ESB and EirGrid standards and specifications. Trenching is limited to local roads (less than 495m). Cable ducting will be installed to a minimum depth of 1500mm to ensure no conflict with existing or future road drainage and pavement strengthening works.

- Formal consultation completed with Gas Networks Ireland regarding Mayo-Galway high pressure gas main and Uisce Éireann regarding 250mm water trunk main. Both authorities confirmed feasibility of the crossings subject to supervised open cut trenching and specific separation distances 600mm from GNI tape. Applicant commits to liaison throughout the detailed design and construction phases.

Ecology / Ornithology.

- Regarding the robustness of the ecology survey the importance of Cloonbar East wetland and Cloonbar Bog Complex is recognised in the EIAR. Layout aligns to areas of lower habitat value within land boundaries. Floated road will be proximate to existing turbary roads with deep parallel drains. Existing infrastructure has historically impacted habitats within the wetland. 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.
- While marsh fritillary is present in the locality the EIAR notes that larval webs for the species was found at Tonacooleen West wetland (outside the development boundary). Whilst the suitability of the broader area to support Marsh Fritillary is recognised within the EIAR it is also shown that habitats within the footprint of the development have lower value for the species. BEMP includes extensive areas to be managed to promote the foodplant (Devils-bit scabious) for marsh fritillary.
- Autumn Gentian are not growing they are not within the 5ha of the development boundary. Botanical survey focused within the zone of influence of the development and did not include the entirety of the Cloonbar East wetland (35ha). The proposed development boundary within the commonage does not host any annex I habitat as evidenced in the habitat survey and by geotechnical assessment.
- Moths, butterflies and bees associated with Cloonbar Bog and Cloonbar East Wetland referenced in submission of friends of Kilconly are noted however records of same do not appear to have been submitted to NBDC, are not available in the public domain and locations are not provided. Works

in Cloonbar Bog and Cloonbar East Wetland are along the periphery of these habitats within marginal habitats of lower value to pollinators. As such there will be no significant effects on the habitats that support these pollinator species.

- Regarding turloughs and waterbirds the EIAR has full regard to the changing turlough landscape. Review of OPW drainage and flood maps include surface water flood models but also GSI historic ground water flood maps and predicted flood mapping which presents probabilistic flood extents for locations of recurrent karst groundwater flooding i.e. from turloughs. Predictive groundwater mapping was created using groundwater levels measured in the field, satellite images and hydrological models. Probabilistic flood extends are presented as high, medium and low probability and as such account for the variability in turlough flooding. Historic flood data and predictive flood data was reviewed in the context of available bird usage data to allow a picture of bird landscape usage to be formed. Desk based study informed the scope of ornithology surveys which are appropriate to the zone of influence.
- EIAR survey area for wintering waterbirds was extended from the recommended 5km buffer of the proposed development (SNH 2017) to 6km in order to cover turloughs and loughs in the wider area which were considered suitable for foraging and roosting wintering waterbirds. Surveys were undertaken over three winters (non breeding 2019-2020, non breeding 2020-2021 and non breeding 2023-24) which exceeds the recommended two years of ornithological surveys set out in SNH 2018. Surveys were undertaken in line with best practice for windfarm developments. A robust picture of bird movements and patterns between turloughs in the wider area. 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. 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 site was recorded indicating that the proposed

development lands are not a key corridor for movement of waterbirds between the turloughs in the wider environment.

- Whooper swan were recorded flying through the site - a total of 26 flights recorded over the three-year period with maximum number of birds recorded in a single flight - 14. 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. CRM model includes a nocturnal activity factor and an expression of uncertainty factor. Collisions arising from the proposed development will not affect species at a population level such that it would cause a significant effect. Thermal imaging and acoustic monitoring are not required given the low level of wintering waterbird activity recorded in any year over the three years of bird survey.
- Table 5.8 and 5.9 of the NIS clearly sets out observed interactions of SCI bird species of the Lough Corrib SPA and Lough Mask SPA with the turloughs of the area. NIS clearly sets out that the proposed development will not alter the hydrology of 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 ensuring a robust picture of bird movements and patterns between turloughs in the wider area and across the site. CRM accounts for the changes in interactions from season to season and year to year between birds using turloughs and the SPAs, and how this relates to movements through and near the proposed development site.
- Ornithologists who undertook bird activity surveys are experienced and competent particularly in surveys for windfarm developments for which the estimation of flight height and distance is an integral part of the survey requirement. Potential for inaccuracies for flight line observations Is low.

- CRM has been prepared in accordance with SNH best practice guidelines and is based on complete and accurate data which extends beyond the recommended 2 year survey period and covers the fully flight risk volume / flight risk window and ground truthed viewsheds.
- Regarding bats as per appendix 9.2 of the EIAR survey limitations for bats are noted. Given the multiple years of data, notwithstanding technical issues with detectors D19 and D16, activity levels were consistent and there has been no development or indication that activity would have changed during the planning process. Data collected for the duration of deployment was appropriate for the assessment. Bat surveys were undertaken in compliance with SNH et al (2019), NatureScot et al 2021 guidelines as such microphone heights were in accordance with the guidelines. No bat tree roosts were recorded within the site which will require felling. Curtailment proposed during year 1-3 while post construction surveys are undertaken. The curtailment will involve operating the selected wind turbine from 30 minutes prior to 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)". Carcass searches and removal trials will be done following best recommended practice and with due cognisance of published effects of searcher efficiency.
- Regarding cumulative impact the development will have no significant effect on bat roosts and the BEMP includes measures to ensure no loss of foraging habitat or landscape connectivitiy. Site level collision risk for bat species was low to medium. No significant cumulative effects.
- The ecological structure of the site will not be significantly altered. Habitat losses as presented in Table 9.12 shows that the majority of habitat that will be affected is improved agricultural grassland. Additionally the BEMP includes for new planting of 49,653.72m2 of native woodland.
- The low level of wintering waterbird activity recorded in any year over the proposed development and 500m turbine buffer did not warrant the deployment of thermal imaging and acoustic monitoring methods. Of the wintering waterbirds that were recorded during VP watches and 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 500m turbine buffer.

- The CRM conclusion was rated negligible for species at a population level where collision mediate mortality would not add >1% to the background levels of mortality. Chapter 10 of the EIAR contains a robust impact assessment of the proposed development on the ornithology baseline.
- Buzzard and kestrel utilising habitats within the proposed development and 500m turbine buffer ie: collision risk zone, were considered in the CRM.
- Regarding barn owl, a desk based study of recent ornithological records for the proposed development and 10km grid square in which it is located included records of barn owl. Therefore the subsequent scope of ornithology surveys considered these records and listed barn owl as a target species for VP watches, and dusk surveys targeting crepuscular and nocturnal species including owls. No observations of barn owl were recorded during the ornithological surveys.
- No observations of marsh harrier. No hen harrier, peregrine or merlin were recorded during breeding raptor surveys within the 2km turbine buffer. Kestrel and buzzard were recorded in the breeding season. Hen harrier was observed using the site in the winter but only one flight was observed during the breeding season. Neither hen harrier nor marsh harrier are breeding on site.
- The potential for bird displacement and fragmentation is reduced by design. EIAR concluded that the impacts on birds through loss of habitat or disturbance will be short term or permanent but not significant. No notable flight corridors pass through the site and the CRM and associated assessment has determined no significant effects.
- Regarding loss of habitat the dominant habitat in which the wind farm will be constructed is agricultural grassland with an area of 99,174.78m^2 being

directly impacted. This is a low value habitat from an ecological perspective. An area of 71,112.2m^2 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 32,403.71m^2 of cutover bog that will be impacted has low species richness. BEMP Appendix 9.1 includes for new planting of 49,653.72m^2 of native woodland which will contribute positively to the biodiversity in the local area and proposed rehabilitation of 5,201.16m^2 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 hardstandings to avoid removal of more mature and intact hedgerows. Only 2,032m of treeline/hedgerow will be removed and will be offset by planting 2,454m of new treeline and hedgerow. Location of planting has been specifically identified to provide landscape connectivity for mammals and birds.

Peatland

- Regarding peatland restoration it is noted that the field survey informing the report by Friends of Kilconly wetlands was carried out on 28th March 2024 outside the optimal botanical survey season and the ecotope points presented as Appendix A to that report do not extend into the development boundary of the proposed wind farm.
- No turbines are proposed within areas of raised /high bog. Lands selected for windfarm development have been purposefully identified (heavily cutover bog and improved agricultural grassland). Restoration is impractical and unachievable at these locations. Ony 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. Access road infrastructure 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. BEMP included in appendix 9.1 includes bog restoration measures which will be complimentary to any actions of the Friends of Kilconly Wetlands to protect the bog.

Fisheries / Water Quality.

- Regarding Atlantic Salmon, the importance of the Togher and Black (Shrule) catchments for salmonids is fully recognised. Extensive aquatic survey (including fishery) was conducted within these catchments and the fishery status watercourses along with the existing and future catchment pressures / threats to the aquatic system is fully understood. Detailed and site specific drainage design SWMP and Peat and Spoil Management Plan and CEMP and specific measures as set out in hydrology and biodiversity chapters include best practice and bespoke construction and operation measures to ensure no deterioration in fishery habitat and protection of water quality. Design and layout uses existing watercourse crossings where feasible in order to avoid new infrastructure on the watercourses. The new bridge crossing (WC1) will be clear span, setback 2.5m from the river bank. Construction method in river will be by fluming the watercourse to allow continued fish passage.

- Regarding Water Issues and Karst Issues - for clarity the proposed development is not located within the zone of influence of any turlough habitat. No karst features located within 1km of the proposed development lands. Field survey found a turlough feature 800m from T5 and beyond the ZoI of the proposed development. Intrusive ground investigation (11.4.11 of EIAR) suggests that the limestone encountered within the boreholes belongs to the Ardnissallagh formation with lower susceptibility to karstification. No karst features were found during extensive site investigation. Only dolines were observed (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.) Potential pollutant pathways have been fully called out in the EIAR and mitigated for accordingly.
- Regarding location in Karst Environment the constraints led approach ensures impacts on karst features will be avoided such that the potential for effects post mitigation will be imperceptible.
- Turbines have been located to avoid karst features. Piled foundation will be constructed using standard reinforced concrete construction techniques. Rock socket piles will be used to embed the piles into solid rock. 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.
- It is not proposed to remove an esker and there are no audited or unaudited geological heritage sites within the site or wider study area. The closest GHSs are located approximately 4.4km east Dunmore Esker and 5km to the south Knockmaa.
- Primary flood risk can be attributed to a fluvial flood event in the Togher River, the Cloonbar River and Beagh Beg river the Shancloon River and or the Black River. Screening assessment undertaken as part of the SSFRA indicates that the site is not at risk of pluvial or groundwater flooding.
- Location of substation and grid connection route and loop in infrastructure and turbines T01, T02. T03. T04, T05, T06, T08 T09 T10 and T11 fall within flood

zone C. T07 falls within a delineated predictive fluvial flood zone A and Flood Zone B. The type and form of development proposed at T07 is classified as less vulnerable development. Measures have been built into the design to manage against flood risk and to ensure a robust and sustainable development.

- No predicted adverse impact to the existing hydrological regime in the area or increase flood risk elsewhere. Storm / surface water management and run off design is in accordance with 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.
- No significant effects on surface water receptors predicted and no deterioration of the status of any waterbody under the WFD. Constraints led design and mitigation far exceeds standard. Following the implementation of mitigation the residual impact on geological and hydrogeological receptors is assessed as imperceptible. Excavations will remain within the overlying glacial till and will not extend to the underlying bedrock aquifer. 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. Potential impact on public water supplies is imperceptible.

Community Engagement.

- Regarding community engagement and intangible cultural heritage extensive community consultation took place over several years during the project design and EIAR process.
- Chapter 15 complies with 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. Assessment also carried out in accordance with the guidelines for the assessment on cultural heritage resource as published by the International Council on Monuments and Sites (ICOMOS 2011). 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.

Aviation

- Regarding impact on Local Airfield - Appendix 17.1 provides a detailed assessment of impact on airfields and concludes no impact.

Health and Safety

- Bisphenol A (BPA). 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.
- Regarding health impacts and reference to autism, stress and mental health it is noted that there is no evidence of a direct link between the wind turbines and adverse impact related to human health and wellbeing. Related impacts are 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 it is noted that the HSE provided a statement on 11th December 2025 in response to a parliamentary question on alleged human health impacts from wind turbines. The HSE noted that in relation to infrasound, this is below the usual limit of human hearing. The 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. 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 is stated that adequate setback distance such as for the 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. Proposal adheres to the requirements in terms of noise and shadow flicker. Noise from operational 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. The curtilage of the nearest sensitive receptor is over 720m from the nearest turbine therefore the level of noise and vibration is significantly below any thresholds of perceptibility

Policy

- The 2006 guidelines remain valid. The 2019 guidelines have not been adopted and will be subject to significant change. The proposed development goes beyond the requirements of the guidelines e.g turbine layout has imposed a 4 times tip height set back from residential receptors and the applicant is committed to minimising shadow flicker.
- Regarding Red III directive absence of National Territory mapping is not a material consideration for the purposes of this planning application. The site is designated for wind energy development as set out in the Galway County Council Development Plan which has been subject to Strategic Environmental Assessment and is currently the statutory plan to which ACP must have regard. The designation of RAAs would not change the status of the County Development Plan.
- Regarding the wider policy context the EIAR focusses on the most relevant and pertinent policies with specific sectoral policies addressed.
- Regarding nature restoration law - it is not clear how the proposed development would interfere with Nature restoration law.

Landscape and Visual

- Regarding landscape and visual impacts it is acknowledged that the proposed turbines will be visible within the broad scale rural landscape setting. While they may be prominent in some instances, due to the slender form and setback distances from roads and residences they do not appear overbearing or spatially dominant within views. LVIA acknowledges several mid to high range effects but none are deemed significant.
- Although the ZTV indicates potential for visibility across the vast majority of the 20km radius study area this is based on bare ground visibility hence is theoretical. From considerable experience in lowland rural areas and based on

consistent vegetation patterns in the form of hedgerows, treelines, woodlands and forestry visibility is always lower than ZTV map. Beyond 5-8km from the site the ZTV pattern covering the central study area begins to become sporadic even in the context of relatively low rolling ground. Actual visibility is likely to be very limited in the outer reaches of the study area.

- Photomontage set shows VP6, VP 16 and VP 17 representing local community viewpoint only register 'slight' visual impacts due to the combination of intervening screening and increased distance from the site. From 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 degree of intervening screening. It is not considered that the proposed turbines will be extensively visible across broad areas of County Galway and County Mayo.
- There are few scenic designations contained within the study area and the nearest and most relevant relates to designated scenic view 33 in the County Development Plan which is nearly 9km away from the nearest proposed turbine and a relatively contained setting and represented by VP18 where overall significance was deemed to be slight. While the turbines will generate a small increase in intensity of built development they will only have a very limited impact on the visual amenity.
- There are few recognised heritage and amenity features 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 limited) have a higher concentration of such features particularly in the context of Lough Corrib and Lough Mask. Assessment of visual effects reinforces that effects on scenic amenity heritage receptors are in the mid to low range and not significant.
- Regarding allegations of industrialisation of a rural landscape it is noted that the landscape is predominantly a productive and modified landscape rather than a pristine and naturalistic one. LARES for Galway identifies that the development falls within an area "open for consideration" for wind energy development, this

being the median classification of five categories. Wind turbines have become synonymous with rural upland and cutover peatland areas in the last 25 years.

- Regarding visual effects of aviation lighting this will be of low intensity and can be baffled such that it is not readily visible from ground below the turbines. Effects from turbine aviation lighting will be subtle and dispersed and not considered to generate significant effects on night time visual amenity and enjoyment of dark skies.

Impact on residential amenity

- Regarding shadow flicker the applicant is committed to minimising potential for shadow flicker to occur at any dwelling within the study area and will utilise shadow flicker control measures for each turbine. Shadow flicker was considered for 130 receptors within 10 rotor diameters. Based on total theoretical hours per year shadow flicker may exceed the WEDG 2006 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 average annual sunshine hours per day the number of receptors exceeding shadow flicker thresholds was reduced to 17 receptors when considering the 155m rotor diameter and 15 when considered the 150m rotor diameter. Mitigation measures (turbine control software) will ensure that the potential for shadow flicker effects is effectively eliminated for all residential dwellings and amenities within 10 rotor diameters of the turbines. Proposed development will meet the requirements of both WEDG 2006 and 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 area.
- One submission highlighted that the coordinates for T5 in appendix 13.2 of the shadow flicker assessment lists T5 as easting 53307, Northing 754159 wheras chapter 2 and other sections of the EIAR reference Easting 533285.84, northing 7541 79.26. The location modelled in the assessment is shown on Figure 13.1 and coordinate listed in shadow flicker report is an error in the model. However this error represents a worst case scenario given that the 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 properties identified in figure 13.1.

- Regarding noise, the proposal adheres to WEDG 2006 in terms of operational noise. Construction noise levels will be below the relevant noise limit for operations exceeding one month and will not be significant. Potential for temporary elevated noise levels due to grid connection works may affect up to 10 properties, however the impact of these works at any particular receptor will be for a short duration. Where required over an extended period greater than 3 days a temporary barrier or screen will be used to reduce noise levels. Noise impact will also be minimised by limiting the number of plant items operating simultaneously where reasonably practicable.
- Predicted noise levels for the 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 are below daytime and night time noise limits at all except for three noise sensitive locations :Location R183 an involved landowner close to T1 and T4 will experience a level exceeding daytime noise limits by up to 5.1dB and night time by up to 3.6dB. This dwelling will be vacated on operation of the windfarm. Locations R184 and R185 are marginally above daytime limit at 6m/s (the limit is exceeded by 1.0dB at R184 and by 0.3dB at R185. The two locations are north and centre of the proposed windfarm. 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.
- Regarding amplitude modulation and wake effect it is noted that WEDG 2006 does not specifically reference wake effects with regard to noise. The ETSU0R-97 document only refers to wake effects with respect to the measurement of windspeeds for noise compliance measurement (post construction). The Institute of Acoustics good practice Guide (2013) refers to wake effects is relation to the method of wind speed measurement for post construction compliance monitoring.
- Recent UK document “A review of Noise Guidance for Onshore Wind Turbines WSP Department for Business, Energy and Industrial Strategy. September

2023 comprises a review of the current onshore commercial wind turbine noise assessment guidance applied in the UK. This considers wake effects from wind turbines as one of the factors that influence amplitude modulation (AM). 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. Outer AM (OAM) can occur at longer ranges and over different directions from turbines compared with blade swish. OAM has varying and complex mechanisms and factors. One of the factors for OAM includes complex turbine wake effects. The WSP report notes that OAM is less well understood and contributing factors are subject to ongoing research. Where AM occurs, which is a typically intermittent occurrence, it would need to be measured over a long period. The generally accepted method derived by 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 the measurement methods, it offers the best balance between reliability and practicality." Wind Energy Ireland 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.

Other

- Regarding property values extensive literature associated with property valuation demonstrates that at international level wind farms have not impacted on property values. An Irish study which collected data from seven counties along the western seaboard based on data from Irish property website wwwdaft.ie is noted. Though the 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 quantitate data. It is contended that the provision of a windfarm at the proposed location would not impact on the property values in the local area. The operation of the proposed windfarm does not preclude other development in the area. The

community benefit scheme will provide funding for the community led and community owned projects which have been known to bolster associated property value.

- Regarding livestock and equine - impact screened out at an early stage of the EIAR process. No evidence to suggest ongoing effect.
- Regarding fire risk as set out in Chapter 6 extensive mitigation will be in place to minimise the risk of fire and the environmental impact of a fire on the receiving environment. Potential effects are negligible.
- Regarding Air Quality potential effects would be slight to moderate during construction and decommissioning (temporary) and imperceptible during operation. Measures to control dust emissions during construction which are proven best practice measures.
- Regarding traffic and damage to roads, the applicant acknowledges concerns regarding the suitability of rural roads specifically new line and L-6483 local roads and the potential for disruption. The applicant commits to measures to ensure no permanent degradation of the local road network. Accommodation works will ensure that risks of road edge failure are eliminated. Lodgement of a financial security bond with Galway County Council roads department is standard practice.
- The application is the culmination of a multi year, proactive consultation framework involving statutory bodies, environmental protection agencies and local engineering departments. The applicant is committed to a transparent protocol for the local community during the 24 month construction phase. A dedicated community liaison officer will be appointed as local point of contact.
- Regarding construction of cable in the road, application is made pursuant to Section 37E of the Planning and Development Act 2000 as amended. Applicant confirms that the proposed development of cabling 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). Regarding specific query of

Mr Kevin Browne, clarify that no access will be required at location of swepth path and no widening into private lands will be required.

- No uncertainty about the risk of a peat slide. Geotechnical and Peat Stability Assessment demonstrates that the design is informed by intrusive peat depth probing, geophysical survey boreholes and trial pits, desk study, stability analysis and hazard and risk assessments. A factor of safety analysis has determined a low risk of peat instability. Mitigation / control measures are given to ensure an acceptable standard of safety for work in peatlands. Floated road construction within the periphery of Cloonbar Bog will involve a double sheet pile wall with reinforced ties. Peat and spoil management plan ensures no adverse impact on peat stability.
- Regarding carbon assessment and climate goals assuming a turbine power rating of 5.6-6.6MW 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) 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.
- Regarding **Archaeology** and concerns in relation to proximity to a children's burial ground it is assumed that the observer submission refers to the well preserved ecclesiastical building (GA028-012001) and associated children's burial ground (GA028-012003) located 700m north of T2. 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 adverse, moderate and long term. 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 of these constraints.
- The proposed renewable energy project is an important part of contribution towards lowering CO_2 levels and in meeting statutory renewable energy targets.

6 Planning History

EIAR Appendix 2.4 lists the projects considered in the cumulative assessment and in doing so identifies decision made in the previous 5 years and decisions pending, as follows:

- decisions or those pending within the boundary of the subject site
- decisions or those pending within 500m of the site
- approved or pending energy development within 20km of the site
- all planning decisions within 20km of the site
- pending large-scale applications within 20km of subject site.

The date of the planning search conducted by the applicant is not stated, however I note that pending decisions relate mostly to applications lodged in mid-2024 therefore I consider it necessary to provide a brief overview of any relevant decisions in the intervening period.

The list shows that there were no planning decisions or decisions pending within the application site within the previous 5 year period and one pending decision within 500m of the site. Developments within 500m of the EIAR site boundary comprise largely small scale residential development and farm related development. Pending large scale developments within 20km comprised sand extraction 19km to the east near Tuam and commercial development c. 20km to the southwest at Oughterard.

A review of the planning authority's planning portal indicates a number of permissions granted / pending since mid 2024. Of note are the following:

P.A. Ref. 2561471 – refers to a 2025 grant of permission by Galway County Council to EirGrid for the replacement ("restringing") of the existing OHL circuit conductor wire on the Cashla-Dalton 110 kV OHL with the project intersecting with the red line of the wind farm application at the proposed point of a grid connection. The OHL continues into County Mayo, with corresponding permission granted by that planning authority under P.A. ref. 2560709.

P.A. Ref. 2560676 – refers to a 2025 grant of permission by Galway County Council at Sylane Hurling Club c. 3km southeast of T11 for additional facilities including pitches, community walkway, running track, memorial garden, outdoor gym and children's playground.

P.A. Ref. 2460229 – refers to a 2024 grant of permission by Mayo County Council for a new one-off dwelling at Dalgan Demesne, c. 1.8km west of T2.

4.1. Permitted and pending energy development listed within 20km of the site comprise wind farms, solar farms, electricity installations and refurbishment of power lines. Those energy projects permitted within 10km of the site comprise a relatively small Uisce Eireann PV project, substations at an existing quarry and sawmill and refurbishment of existing Castlebar-Cloon 110kV overhead line. Pending energy projects within 20km comprise a solar farm at c. 20km distance north towards Claremorris. Existing, permitted and in-planning wind farms within 20km of the development site area shown in Figure 2.5, comprising the following:

- existing 2 turbine windfarm at Cloonlusk, Co. Galway (ABP Ref. 232902),
- permitted but not constructed 1 wind turbine at Cloonascragh, Co. Galway (Galway CoCo ref. 221175)
- proposed 8 turbine windfarm at Laurclavagh, Co. Galway (ACP ref. 319307) – decision still pending at the time of writing this report.
- proposed 11 turbine windfarm at Clonberne, Co. Galway (ACP ref. 320089) – decision still pending at the time of writing this report.

I also note that the applicant's response to Galway County Council's CE report makes reference to the Cooloo Wind Farm (9 turbines, ACP-323761-25 – REDIII application – decision pending), noting its location at a distance of c. 21.3km from the proposed Shancloon wind farm, and thus outside the 20km study area.

4.2. A Part 8 project of note is the R332 Kilmaine to Foxhall Road Realignment, Widening and Resurfacing. Haul Route B (from Cong Quarry) for the Shancloon windfarm passes the section of the R332 to be upgraded. Chapter 14 of the EIAR identified that the road upgrade

works may coincide with the windfarm construction stage. However during a site visit, I observed that the road upgrade project has commenced.

7 Policy Context

7.1 European Policy

- RED III (European Renewable Energy Directive (EU/2023/2413))
- European Wind Power Action Plan
- REPowerEU Plan 2022 and Directive EU 2018/2001, as amended 18.05.2022
- European Green Deal 2020

7.2 Relevant National Legislation, Policy and Guidelines

National policy documents are relevant in respect of the proposed development and include, inter alia:

7.2.1 Climate Action and Low Carbon Development Act, 2015, as amended.

The Act commits Ireland to the objective of becoming a carbon-neutral economy by 2050, reducing emissions by 51% by the end of the decade. Section 17 of the Climate Action and Low Carbon Development (Amendment) Act, 2021 amends the principle act such that Section 15(1) requires:

"(*1) A relevant body shall, in so far as practicable, perform its functions in a manner consistent with—*

a) the most recent approved climate action plan,

b) the most recent approved national long term climate action strategy,

c) the most recent approved national adaptation framework and approved sectoral adaptation plans,

d) the furtherance of the national climate objective, and

e) the objective of mitigating greenhouse gas emissions and adapting to the effects of climate change in the State".

"Relevant body" means a prescribed body or a public body

7.2.2 Climate Action Plan (CAP) 2024 ("CAP24") and 2025 ("CAP25")

Under the Climate Action and Low Carbon Development Act, 2015, as amended, Irelands national climate objective requires the State to transition to a resilient, biodiversity rich, environmentally sustainable and climate neutral economy by no later than the end of 2050. This national climate objective meets Irelands obligations under EU and international treaties, including the Paris Agreement (2015), the European Green Deal and the EU's objective to reduce GHG emissions by at least 51% by 2030 (compared to 2018) and achieve climate neutrality by 2050. To meet its targets and obligations CAP 24 sets a course for Ireland to halve emissions by 2030 and reach net-zero no later than 2050. In terms of the electricity sector a 75% reduction in emissions based on 2018 levels is required by 2030 and CAP 24 provides that central to achieving this is the strategic increase in the share of renewable electricity to 80% by 2030 including ambitious targets of deploying 9GW of onshore wind, 8GW of solar power and at least 5GW from offshore wind projects. CAP 2025 was published on 15th April, 2025. It re-affirms the previous commitment to increase the share of renewable electricity generation to 50% by 2025 and 80% by 2030 including solar targets of up to 5GWs by 2025 and 8 GWs by 2030.

It is noted that consultation phase for the annual update of CAP closed on 17th August 2026 and publication of CAP 2025 is awaited. An Coimisiún Pleanála should satisfy itself regarding status at time of decision.

7.2.3 Ireland's Long-term Strategy on Greenhouse Gas Emissions Reductions 2024

The National long-term Climate Action Strategy, entitled Ireland's Long-term Strategy on Greenhouse Gas Emissions Reductions 2024, sets out indicative pathways, beyond 2030, towards achieving carbon neutrality for Ireland by 2050. The Strategy provides a pathway to a whole-of-society transformation and serves as a vital link between shorter-term Climate Action Plans and Carbon Budgets and

the longer-term objective of the European Climate Law and Ireland's National Climate Objective

7.2.4 The National Adaptation Framework; Planning for a Climate Resilient Ireland (June 2024)

The most recent approved national adaptation framework, the National Adaptation Framework; Planning for a Climate Resilient Ireland June 2024 (NAF) is Ireland's second statutory National Adaptation Framework (NAF) and was published on 5th of June 2024. The NAF and its successors do not identify specific locations or propose adaptation measures or projects in individual sectors, but sets out the context to ensure local authorities, regions and key sectors can assess the key risks and vulnerabilities of climate change, implement climate resilience actions and ensure climate adaptation considerations are mainstreamed into all local, regional and national policy making. The NAF identifies 13 (previously 12) priority sectors under 7 lead Departments that are required to prepare sectoral adaptation plans under the Climate Act in accordance with the Sectoral Planning Guidelines for Climate Change Adaptation which were published in 2018 and updated in 2024. 13 sectoral Plans were prepared in 2025 including an Electricity and Gas Sectoral Plan.

7.2.5 Project Ireland 2040: National Planning Framework ("NPF"), First Revision of the NPF and the National Development Plan ("NDP 2018-2027)

Project Ireland 2040 is the Government's long-term overarching strategy to make Ireland a better country for all and to build a more resilient and sustainable future. The NPF and the NDP combine to for Project Ireland 2040. The NPF sets out to deliver a spatial strategy through a set of National Strategic Outcomes ("NSO's"), including: 'Transition to a Low Carbon and Climate Resilient Society' which establishes a national objective of achieving transition to a competitive, low carbon, climate resilient and environmentally sustainable economy by 2050. The first revision of the NPF has been approved by both Houses of the Oireachtas, following the decision of the Government to approve the final revised NPF on 8th April, 2025. The 'First Revision' introduces regional renewable electricity capacity allocations for each of the three Regional Assemblies to be achieved by 2030 which for the

Eastern and Midland Regional Area is an additional 3,294MW, for solar PV or 45% of the National share in 2030. This is the minimum required for solar generation to meet the 2030 emission reductions in the electricity sector. The NDP 2018-2027 sets out the investment priorities that will underpin the implementation of the National Planning Framework, through a total investment of approx. €116 billion. It recognises that Ireland's energy system requires radical transformation in order to achieve its 2030 and 2050 targets and objectives. It recognises that investment in renewable energy sources affords Ireland an opportunity to decarbonise our energy generation, but that this must be complemented by wider measures to moderate growth in energy demand, increase energy security, diversify supply sources and facilitate more variable electricity generation on the grid.

7.2.6 National Biodiversity Plan 2023-2030

Ireland's 4th NBAP sets the biodiversity agenda for the period 2023 – 2030. The NBAP has a list of Objectives which promotes biodiversity as follows; **Objective 1** Adopt a whole of government, whole of society approach to biodiversity; **Objective 2** Meet urgent conservation and restoration needs; **Objective 3** Secure nature's contribution to people; **Objective 4** Enhance the evidence base for action on biodiversity; **Objective 5** Strengthen Irelands contribution to international biodiversity initiatives. The Wildlife (Amendment) Act 2023 provides that every public body, as listed in the Act, is obliged to have regard to the objectives and targets in the National Biodiversity Action Plan.

7.3 Wind Energy Guidelines

7.3.1 The Wind Energy Development Guidelines, Guidelines for Planning Authorities (June 2006) (WEDG, 2006)

The following sections of the Guidelines are considered to be of particular relevance:

Noise

Section 5.6 - noise impacts should be assessed by reference to the nature and character of noise sensitive locations. In terms of noise, a lower fixed rate limit of

45 dB(A) or a maximum increase at 5 dB(A) above background noise at nearby noise sensitive locations is considered to be appropriate to provide protection to wind energy neighbours. However, in very quiet areas the use of a margin of 5dB(A) above the background noise level at nearby noise sensitive properties may unduly restrict wind energy developments which have wider national and global benefits.

In low noise environments where the background noise is less than 30dB(A) it is recommended that the daytime level of LA90, 10min of the Wind Energy Development Noise be limited to an absolute level with the range of 35 to 40 dB(A). Separate noise limits should apply for daytime and for night-time. A fixed limit of 43dB(A) will protect sleep inside properties during the night.

In general, noise is unlikely to be a significant problem where the distance from the nearest noise sensitive property is more than 500m.

Shadow Flicker

Section 5.12 - careful site selection, design and planning and good use of relevant software can help to reduce the possibility of shadow flicker in the first instance. Shadow flicker at neighbouring offices and dwellings within 500m should not exceed 30 hours per year or 30 minutes per day. The potential for shadow flicker is very low at distances greater than 10 rotor diameters from a turbine.

Landscape

Chapter 6 - aesthetic considerations in siting and design. Regard should be had to profile, numbers, spacing, visual impact and the landscape character. Account should be taken of inter-visibility of sites and the cumulative impact of developments.

7.3.2 Draft Wind Energy Development Guidelines 2019

In December 2013, the Minister for Housing and Planning announced a public consultation process with respect to a focused review of the 2006 Guidelines and a ‘preferred draft approach’ to the review was announced in June 2017.

Consultation on the draft Guidelines ended in February 2020. The draft guidelines identify Specific Planning Policy Requirements (SPPR), and subject to formal adoption of the Guidelines, it is intended that these SPPRs would be applied by planning authorities and An Bord Pleanála in the performance of their functions, as well as having regard to additional matters for consideration in assessing wind energy developments. Notable changes in the draft guidelines when compared with the 2006 wind energy guidelines are summarised as follows:

Noise

Section 5.7.4 - The "preferred draft approach", proposes noise restriction limits consistent with World Health Organisation Guidelines, proposing a relative rated noise limit of 5dB(A) above existing background noise within the range of 35 to 43dB(A), with 43dB(A) being the maximum noise limit permitted, day or night. The noise limits will apply to outdoor locations at any residential or noise sensitive properties.

Shadow Flicker

Section 5.8.1 - The relevant planning authority or An Bord Pleanála should require that the Applicant shall provide evidence as part of the planning application that shadow flicker control mechanisms will be in place for the operational duration of the wind energy development project.

Community Investment

Section 5.10 - The Code of Practice for Wind Energy Development in Ireland Guidelines for Community Engagement issued by the Department of Communications, Climate Action and Environment (December 2016) sets out to ensure that wind energy development in Ireland is undertaken in observance with the best industry practices, and with the full engagement of communities around the country. Community dividend – measures to ensure enduring economic benefit to the community.

Visual Impact

Section 6.4 - Siting of wind energy projects.

Set back

Section 6.18.1 Appropriate setback distance to apply - The potential for visual disturbance can be considered as dependent on the scale of the proposed turbine and the associated distance. Thus, a setback which is the function of size of the turbine should be key to setting the appropriate setback. Taking account of the various factors outlined above, a setback distance for visual amenity purposes of 4 times the tip height should apply between a wind turbine and the nearest point of the curtilage of any residential property in the vicinity of the proposed development, subject to a mandatory minimum setback of 500 metres. Policy SPPR 2 – Set back.

Section 6.18.2 Exceptions to the mandatory minimum setbacks - An exception may be provided for a lower setback requirement from existing or permitted dwellings or other sensitive properties to new turbines where the owner(s) and occupier(s) of the relevant property or properties are agreeable to same, but the noise requirements of these Guidelines must be capable of being complied with in all cases.

Grid connections – underground to be the standard approach.

7.4 Regional Policy

7.4.1 Regional Spatial and Economic Strategy 2020-2032 (RSES): Northern and Western Region

The RSES provides a 12-year high-level development framework for the Northern and Western Region that supports the implementation of the National Planning Framework (NPF) and the relevant economic policies and objectives of Government. A relevant section of the RSES is 'Renewable Energy and Low Carbon Future'. This includes policies supportive of renewable energy developments e.g. Regional Policy Objectives (RPO) 4.17 and 4.18 which seeks to support the development of secure, reliable and safe supplies of renewable energy, to maximise their value, maintain the inward investment, support indigenous industry and create jobs.

7.5 Other Relevant Guidance

- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (EPA 2022)
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, Department of Housing, Planning, Community and Local Government (2018)
- Guidelines for Landscape and Visual Impact Assessment (3rd Edition) Landscape Institute and Institute of Environmental Management & Assessment 2013 (IEMA)
- Guidelines for Ecological Impact Assessment 2018 Chartered Institute of Ecology and Environmental Management (ICEEM)
- Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009)
- Scottish Natural Heritage (SNH) Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation 2019

7.6 Galway County Development Plan 2022-2028

The site lies within the administrative area of Galway County Council, and the statutory plan is the Galway County Development Plan 2022-2028 (Galway CDP), which came into effect on the 20th June 2022. The CDP contains policies in respect of rural living, transport, infrastructure, climate and renewable energy, tourism, landscape and natural and built heritage. Of note are the following provisions of the CDP:

Chapter 4: Rural Living and Development

Overarching aim, to support the role of rural areas in maintaining a stable population base through a strong network of villages and small towns and strengthening rural communities by supporting a resilient rural economy and the sustainable management of land and resources.

Chapter 8: Tourism and Landscape

This chapter of the CDP recognises the significant role that tourism plays in the economy of the county and states that '*the protection of the landscapes is of*

significant importance… as it is recognised as one of the key attributes within the county'. The Landscape Character Assessment (LCA) for the county is contained in Appendix 4 of the CDP, with the policy framework in respect of same set out under CDP Chapter 8.

The whole of the site lies within the Landscape Character Area described as the 'North Galway Complex Landscape' and north of the 'Central Galway Complex Landscape' (Map 8.1, CDP), with both landscape areas identified as being of Low Landscape Sensitivity (Map 8.2, CDP), which is defined as a landscape 'Unlikely to be adversely affected by change'. For context, and with reference to Chapter 8, Section 8.13.2 and Section 4.3 of the Landscape Character Assessment, the 'Sensitivity Rating' applied by the local authority is as follows:

- Class 1 - Low: Unlikely to be adversely affected by change
- Class 2 - High: Elevated sensitivity to change
- Class 3 - Special: High sensitivity to change
- Class 4 - Iconic: Unique Landscape with high sensitivity to change

The LCAs are sub divided into landscape character units (section 3, Appendix 4, CDP). With regards the North Galway Complex Landscape, the site is contained within the Northern River Clare Basin Landscape Unit, described as *'Extensive, largely level plain with low enclosure. A long-settled working landscape of large regular stone-walled fields. Extensive areas of bog in east. Transition zone from bog areas to east'*. With regards the Central Galway Complex Landscape, the site lies north of the Black River Basin Landscape Unit, described as '*Undulating long-occupied working landscape with high levels of settlement. Large regular fields and numerous parkland remnants. Low enclosure except for localised areas of mature parkland trees'*. Relevant policies are:

LCM 1 Preserve and enhance character of the landscape, preserve views and prospects and the amenities and places and features of natural beauty and interest.

LCM 2 The Planning Authority shall have regard to the landscape sensitivity classification of sites in the consideration of any significant development proposals and, where necessary, require a Landscape/Visual Impact Assessment to accompany such proposals. This shall be balanced

against the need to develop key strategic infrastructure to meet the strategic aims of the plan.

LCM 3 Consideration of landscape sensitivity ratings shall be an important factor in determining development uses in areas of the County. In areas of high landscape sensitivity, the design and the choice of location of proposed development in the landscape will also be critical considerations.

Scenic Routes and Protected Views are identified in the Landscape Character Assessment and shown on CDP Maps 8.3 and 8.4, respectively. The closest identified scenic route to the application site is the southeastern section of the Lough Corrib Scenic Route and Galway Clifden Scenic Route, both of which are aligned along with N59, southwest of Lough Corrib. These scenic routes come within c. 20km southwest of the proposed turbines located towards the southwestern end of the site (T1, T2, T3 and T4), and c. 19km and c. 18.5km, respectively, southwest of the proposed 110kV substation and 16m high steel loop-in lattice tower end masts.

With reference to CDP Map 8.4 and the LCA in CDP Appendix 4, there are no protected views directly intersecting with the site. The closest protected view is Viewpoint 33 (county level significance), which relates to a localised view of Ross Friary ruins located c. 2km northwest of Headford town, with this view orientated to the north / north-west from the approach road to the Friary. There is also an array of views further southwest and west associated with Lough Corrib (Viewpoints 20, 23, 24, 25, 27, 28 and 31 refers). Of these, Viewpoints 23, 24 and 25 have a viewscape orientated in a direction that includes the direction of the proposed windfarm. Viewpoint 23 is of Regional level significance whilst Viewpoints 24 and 25 are of County level significance.

Policy PVSR 1 Preserve the protected views and scenic routes as detailed in Maps 8.3 and 8.4 from development that in the view of the Planning Authority would negatively impact on said protected views and scenic routes. This shall be balanced against the need to develop key infrastructure to meet the strategic aims of the plan.

Chapter 14: Climate Change, Energy and Renewable Resource

One of the climate-action related strategic aims of the CDP is to reduce the county's dependency on imported fossil fuels and to provide alternative energy sources by harnessing the County's potential for renewable energy sources while strengthening the grid transmission networks.

Chapter 14 includes the following policy objectives:

CC 6 To support the implementation of the Renewable Energy Strategy contained in Appendix 1 of the Galway County Development Plan to facilitate the transition to a low carbon county.

RE 1 To facilitate and support appropriate levels of renewable energy generation and ancillary facilities in the county to meet national, regional and county renewable energy targets, to facilitate a reduction in CO2 emissions and the promotion of a low carbon economy.

RE 2 The policy objectives and Development Management Standards set out in the Local Authority Renewable Energy Strategy for County Galway shall be deemed the policy objectives and development management standards for the purpose of the Galway County Development Plan 2022-2028.

RE 3 Promote and facilitate wind farm developments in suitable locations, having regard to areas of the County designated for this purpose in the Local Authority Renewable Energy Strategy. The Planning Authority will assess any planning application proposals for wind energy production in accordance with the Local Authority Renewable Energy Strategy, the DoEHLG Guidelines for Planning Authorities on Wind Energy Development, 2006 (or any updated/superseded documents), having due regard to the Habitats Directive and to the detailed policy objectives and Development Standards set out in the Local Authority Renewable Energy Strategy.

RE 5 Support and facilitate the sustainable development and the use of appropriate renewable energy resources and associated infrastructure within the County having due regard to the Habitats Directive and to the detailed policy objectives and Development Standards set out in the Local Authority Renewable Energy Strategy…

Chapter 15: Development Management Standards

DM Standard 28: Sight Distances Required for Access onto National, Regional, Local and Private Roads

DM Standard 33: Traffic Impact Assessment, Traffic & Transport Assessment, Road Safety Audit & Noise Assessment

DM Standard 69: States that the PA will have regard to the Wind Energy Development Guidelines for Planning Authorities, DoEHLG (2006) and any amendments to these and the LARES. In addition, it sets out certain local, non-exhaustive, considerations to be taken into account by the planning authority in relation to any planning application. These include for example, impact on the visual amenities including with respect to protected views, scenic routes and sensitive landscapes (Class 2, 3 and 4), impact on residential amenities, cumulative impacts, environmental effects, impacts on the road network and human health.

CDP Appendix 1 – Local Authority Renewable Energy Strategy (LARES)

The LARES sets out areas of the county within which wind energy development is 'Acceptable in Principle', 'Open to Consideration', 'Generally to be Discouraged' or 'Not Normally Permissible' (Map 15). Cross referencing the submitted Site Location Map (dwg. no. P20-306-0100-0001 REV A) with Map 15 of the LARES indicates that the 11 no. proposed wind turbines are located within an area for which wind energy development is 'Open to Consideration'. For clarity, I note that the application red line boundary extends into areas for which wind energy development is 'Generally to be Discouraged'. Development within this part of the site includes the proposed 110kV substation, lattice tower end masts and part of the underground grid connection cabling, all on the southwestern end of the site, whilst to the northeast the red line includes part of access route from the R332.

For areas 'Open to Consideration' for wind energy development, Section 12 of the LARES describes these as *Areas where Wind Energy development is likely to be favourable considered - subject to the results of more detailed assessment of polices and potential effects*. For these areas LARES Policy Objective 16 applies - '*Wind energy development proposals in areas that are identified as 'Open to Consideration' for wind energy development will be considered in accordance with the LARES and the proper planning and sustainable development of the area.*'

Further, the LARES document on page 84 states '*Although wind energy developments located in areas identified as 'Strategic Areas' or 'Acceptable in Principle' will be considered favourably, they will still need to be assessed against the policies and provisions of the Wind Energy Guidelines, the County Development Plan and any other relevant policy documents'*.

The submission received from Galway County Council outlines that the 11 no. turbines are located on land for which it is identified that wind energy development is 'Open to Consideration', and as such, and that having regard to CDP Policy Objectives RE3, RES and RE7, the proposal is acceptable in principle.

Other relevant chapters of the CDP are Chapter 6 (Transport and Movement), Chapter 10 (Natural Heritage, Biodiversity and Green/Blue Infrastructure) and Chapter 12 (Architectural, Archaeological and Cultural Heritage).

Chapter 6: Transport and Movement

NR 1 To protect the strategic transport function of national roads and associated national road junctions, including motorways through the implementation of the 'Spatial Planning and National Roads Guidelines for Planning Authorities' DECLG, (2012) and the Trans-European Networks (TEN-T) Regulations.

NR 3 Require all applications for significant development proposals which have the potential to impact on the National Road Network to be accompanied by a Traffic and Transport Assessment (TTA) and Road Safety Audit (RSA), carried out by suitably competent persons, in accordance with the TII's Traffic and Transport Assessment Guidelines and TII Publications (Standard) GE-STY-01024 (Road Safety Audit) respectively.

NNR 2 To safeguard the carrying capacity and safety of the County's regional and local road network.

Chapter 10: Natural Heritage, Biodiversity and Green/blue Infrastructure

NHB 1 Protect and where possible enhance the natural heritage sites designated under EU Legislation and National Legislation (Habitats Directive, Birds Directive, European Communities (Birds and Natural

Habitats) Regulations 2011 and Wildlife Acts) and extend to any additions or alterations to sites that may occur during the lifetime of this plan….

NHB 2 To implement Article 6 of the Habitats Directive and to ensure that Appropriate Assessment is carried out in relation to works, plans and projects likely to impact on European sites (SACs and SPAs), whether directly or indirectly or in combination with any other plan(s) or project(s)…

NHB 3 No plans, programmes, or projects etc. giving rise to significant cumulative, direct, indirect or secondary impacts on European sites arising from their size or scale, land take, proximity, resource requirements, emissions (disposal to land, water or air), transportation requirements, duration of construction, operation, decommissioning or from any other effects shall be permitted on the basis of this Plan (either individually or in combination with other plans, programmes, etc. or projects.

NHB 4 Ensure, where appropriate, the protection and conservation of areas, sites, species and ecological/networks of biodiversity value outside designated sites. Where appropriate require an ecological appraisal, for development not directly connected with or necessary to the management of European Sites, or a proposed European Site and which are likely to have significant effects on that site either individually or cumulatively.

NHB 5 Support the protection and enhancement of biodiversity and ecological connectivity in non-designated sites, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, stonewalls, geological and geo-morphological systems, other landscape features and associated wildlife areas where these form part of the ecological network and/or may be considered as ecological corridors in the context of Article 10 of the Habitats Directive.

WTWF 1 Protect and conserve the ecological and biodiversity heritage of the wetland sites in the County. Ensure that an appropriate level of

assessment is completed in relation to wetland habitats that are subject to proposals which would involve drainage or reclamation that might destroy, fragment or degrade any wetland in the county. This includes lakes and ponds, turloughs, watercourses, springs and swamps, marshes, fens, heath, peatlands, some woodlands as well as some coastal and marine habitats. Protect Ramsar sites under The Convention on Wetlands of International Importance (especially as Waterfowl Habitat).

P1 P **Protection of Peatlands**

Ensure that peatland areas which are designated (or proposed for designation) as NHAs, SACs or SPAs are conserved for their ecological, climate regulation, education and culture, archaeological potential including any ancient walkways (toghers) through bogs.

Chapter 12: Architectural, Archaeological and Cultural Heritage

AH 1 Ensure the protection of the architectural heritage of County Galway which is a unique and special resource, having regard to the policy guidance contained in the Architectural Heritage Protection Guidelines 2011 (and any updated/superseding document).

AH 2 (a) Ensure the protection and sympathetic enhancement of structures including their curtilage and attendant grounds included and proposed for inclusion in the Record of Protected Structures (RPS) that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest, together with the integrity of their character and setting.

(d) Ensure high-quality architectural design of all new developments relating to or which may impact on structures (and their settings) included in the Record of Protected Structures.

AH 3 Give regard to and consideration of all structures which are included in the NIAH for County Galway, which are not currently included in the Record of Protected Structures, in development management functions.

ARC 4 Protect archaeological sites and monuments their settings and visual amenity and archaeological objects and underwater archaeological sites that are listed in the Record of Monuments and Places, in the ownership/guardianship of the State, or that are subject of Preservation Orders or have been registered in the Register of Historic Monuments, or that are newly discovered and seek to protect important archaeological landscapes.

CUH 1 Protect and promote the cultural heritage assets and the intangible cultural heritage assets of County Galway as important social and economic assets.

7.7 Mayo County Development Plan 2022-2028

The proposed wind farm site is located adjacent to County Mayo, the border with which follows the Black River. All 11 no. proposed turbines are located within c. 3km of the border whilst noting that Turbine no. 2 is located within c. 100m of the border. The Mayo County Development Plan 2022-2028 came into effect on the 10th August 2022.

Landscape is addressed in section 10.4.7 of the CDP and refers to the 'Landscape Appraisal' contained in Volume 4 of the CDP. The Landscape Appraisal identifies and describes the landscape character of each part of the County (Landscape Character Units) and Scenic Routes and Views.

Figure 24 of the Landscape Appraisal identifies the area to the west of the proposed wind farm site and within County Mayo as Landscape Character Unit *Area L - South-East Mayo Plains*. The appraisal notes that the *'mildly undulating topography as represented in this character unit by low drumlins, has the ability to both shelter and absorbs the visual impact of development.'*

Scenic Routes and Scenic Views are identified on CDP Map 10.2. The closest such routes and views are c. 24km northwest of the border with County Galway located along the western side of Lough Mask and the northern end of Lough Carra.

The Landscape Appraisal identifies 4 no. broad categories for the purpose of formulating policies. Referring to CDP Map 10.1, Landscape Character Unit *Area L* falls within Policy Area 4, categorised as 'Drumlins and Inland Lowlands', and which generally applies to the relatively low-lying areas of the county to the east and southeast of Castlebar. Associated policy that includes:

Policy 14 Encourage development that will not interrupt or penetrate distinct linear sections of primary ridge lines when viewed from areas of the public realm.

Policy 15 Facilitate developments that have a locational requirement to be situated on elevated sites (e.g. telecommunications and wind energy structures). It is necessary however to ensure that adverse visual impacts are avoided or mitigated wherever possible.

Policy 21 Recognise that these areas are made up of a variety of working landscapes and contain the vast proportion of the Counties population within principal towns and on rural holdings. These also incorporate all of the major national primary and regional roads, and railways.

Policy 22 Continue to permit development that can utilise existing infrastructure, whilst taking account of absorption opportunities provided by the landscape and prevailing vegetation.

Policy 23 Encourage development that will not significantly interfere or detract from scenic lakeland vistas, as identified in the Development Plan, when viewed from areas of the public realm.

Policy 24 Encourage development that will not result in detrimental impacts (through excessive bulk, scale or inappropriate siting) on the landscape at a local or micro level as viewed from areas of the public realm.

The Landscape Appraisal also includes a 'Development Impact - landscape Sensitivity Matrix', the stated purpose of which is to provide guidance on the suitability of development within each landscape type / policy area. The matric

indicates that windfarm developments in Policy Area 4 have a medium to high potential to create adverse impacts on the existing landscape character.

With regards renewable energy, CDP Objective REO 7 sought to commence the review of the Mayo County Renewable Energy Strategy 2011-2022 within one year of adopting the CDP. In this regard, Variation No. 2 to the CDP, adopted in July 2026, relates to a new Renewable Energy Strategy for the county. The strategy shows that much of the lowlands in the southeastern end of the county, including the area to the west / northwest of the appeal site, is categorised as 'Open for Consideration' for wind energy.

7.8 Natural Heritage Designations

There are no designated sites within or immediately adjacent to the site. The Lough Corrib SAC (Site code: 000297) extends upstream on the Black River northeast of Lough Corrib to a point immediately south of Shrule village and approximately 1.5km west of the southwestern end of the application site. The Lough Corrib SAC also extends upstream on the Clare River east to northeast of Lough Corrib, coming to within c. 5.5km to the east of the northeastern end of the site.

Other sites that lie in the wider area of the subject site are set out below. Also refer to the EIA and AA sections of this report below.

Special Areas of Protection (SACs)

- Shrule Turlough SAC (Site Code: 000525)
- Mocorha Lough SAC (Site Code: 001536)
- Clyard Kettle-holes SAC (Site Code: 000480)
- Skealoghan Turlough SAC (Site Code: 000541)
- Ardkill Turlough SAC (Site Code: 000461)
- Greaghans Turlough SAC (Site Code: 000503)
- Kilglassan/Caheravoostia Turlough Complex SAC (Site Code: 000504)
- Galway Bay Complex SAC (Site Code: 000268)

Special Protection Areas (SPAs)

- Lough Corrib SPA (Site Code: 004042)
- Lough Mask SPA (Site Code: 004062)
- Lough Carra SPA (Site Code: 004051)
- Inner Galway Bay SPA (Site Code: 004031)

Proposed Natural Heritage Areas (pNHAs)

- Shrule Turlough pNHA (Site Code: 000525)
- Lough Hacket pNHA (Site Code: 001294)
- Turlough O'Gall pNHA (Site Code: 000331)
- Rostaff Turlough pNHA (Site Code: 000385)
- Cloughmoyne pNHA (Site Code: 000479)
- Lough Corrib pNHA (Site Code: 000297)
- Galway Bay Complex pNHA (Site Code: 000268)

8 Planning Assessment

8.1 I have read the entire contents of the file, visited the site and surroundings, and have had particular regard to the national and local policy in respect of wind farm development. I have also had regard to all the submissions contained on file including the submissions of the various third-party observers, the prescribed bodies and submissions from Galway County Council. All three following sections of this report (Planning Assessment, EIAR Assessment and the Appropriate Assessment) are intended to be read in conjunction so as to enable holistic analysis of the proposed development and to avoid unnecessary repetition under each of the sections.

8.2 An Coimisiún Pleanála engaged a specialist Ecologist and specialist Hydrogeologist and their technical reports have also informed the Planning Assessment, Appropriate Assessment and Environmental Impact Assessment carried out. The specialist reports are included as Appendices to this Inspectors report. I concur with the conclusions reached within both reports – which now form part of this report.

8.3 Having examined the application details and all other documentation on file, including all of the submissions received in relation to the application, and having inspected the site, I consider that the main issues in the planning assessment relate to the following matters:

Principle of Development and Planning Policy
Legal and Procedural Issues

8.4 The question of **conditions** which might apply in the event that an Coimisiún Pleanála decides to grant permission also needs to be considered. Matters arising in respect of EIA and significant effects of the proposed development are addressed in section 10 of this report and are not recited within the planning assessment to avoid duplication. Matters arising in respect of appropriate assessment are addressed in section 11 of this report.

8.5 Principle of Development Compliance with Policy

8.5.1 National Policy recognises the need to urgently move towards a low carbon and climate resilient society with a sustainable renewable energy supply and associated grid infrastructure provision. Ireland is committed to achieving climate neutrality no later than 2050 with a 51% reduction in greenhouse gas emissions by 2030. These legally binding objectives are set out in the Climate Action and Low Carbon Development (Amendment) Act of 2021. The Climate Action Plan, 2025 sets out a roadmap for taking decisive action to halve our emissions by 2030 and reach net zero no later than 2050. Climate Action 2025 includes the key national target of 9GW for onshore wind by 2030. Transitioning to a low carbon and climate resilient society is a National Strategic Outcome of Project Ireland 2040 National Planning Framework (First Revision April 2024). NPO30 seeks to facilitate the development of the rural economy in a manner consistent with the national climate objective through supporting a sustainable and economically efficient agricultural and food sector, together with forestry fishing and aquaculture, energy and extractive industries, the bio economy and diversification into alternative on-farm and off farm activities, while at the same time noting the importance of maintaining and protecting biodiversity and the natural landscape and built heritage which are vital to rural tourism. NPO 32 seeks to enhance

the competitiveness of rural areas by supporting innovation in rural economic development and enterprise through the diversification of the rural economy into new sectors and services, including ICT based industries and those addressing climate change and sustainability. NPO 69 seeks to reduce carbon footprint by integrating climate into the planning system in support of national targets for climate policy mitigation and adaption objectives as well as targets for greenhouse gas emission reductions as expressed in the most recently adopted carbon budgets. National Policy Objective 55 will seek to "promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050." The transition to a low carbon energy future requires a shift from predominately fossil fuels to predominately renewable energy sources.

8.5.2 At a regional level, within the Regional Spatial & Economic Strategy for the Northern and Western Region 2020-2032 it is noted that the region plays a pivotal role in delivering a successful transition. RPO 4.19 is to support the appropriate development of onshore wind energy production through the adequate provision of land based infrastructure and services, in line with national policy and in a manner that is compatible with environmental, ecological and landscape considerations.

8.5.3 At the local level Galway County Development Plan encourages and supports the principle of development of indigenous renewable sources in order to reduce dependence on fossil fuels and improve security of supply and the move to a competitive low carbon economy. The Development Plan has climate Action as a core component. The Renewable Energy Strategy for County Galway is contained in Appendix 1 of the Galway County Development Plan. The strategy sets out specific wind energy policies to encourage renewable energy, referencing requirement to comply with National Wind Energy Development Guidelines or any subsequent version thereof. The proposed 11 no. turbines are sited on land identified within the wind energy strategy as being 'Open to Consideration' for wind energy development, areas where wind energy development will be considered in accordance with the LARES and the proper planning and sustainable development of the area.

8.5.4 It is clear from the foregoing review, that policy at all levels acknowledges that significant increases in wind energy capacity will be required to meet the mandatory

national targets set out in relation to tackling climate change. The proposed 11 turbine wind farm, with a projected maximum output of up to 76.2 megawatts, will deliver and build upon the renewable energy resource available in Ireland and will assist in progress to a low carbon economy and to a reduced dependence on fossil fuels. The Proposed Development complies with the overriding aim set out in the climate action plan 2025 of tackling climate breakdown by reducing greenhouse gas emissions and by contributing towards the provision of 9GW of renewable energy capacity over the period to 2030. The additional wind generated energy will enable the decarbonisation of the electricity sector in line with European and national climate strategies. Having regard to the overarching policy statements contained in the various documents at national and local level, it is reasonable to assume that the proposed development, subject to qualitative safeguards, is acceptable in principle. It is appropriate that this application should be assessed on its merits having regard to impacts on the surrounding environment and the proper planning and sustainable development of the area. I note that some of the third parties question the very principle of windfarm development in the context of its performance relative to alternative renewable energy sources. I note that this is considered in some detail in the context of alternatives as part of the Environmental Impact Assessment of the proposal. With regard to assertions that the treatment and prioritisation of wind energy proposals over one off rural housing development is inherently unjust, regard must be had to the policy context for same, renewable energy targets and wider societal benefit.

8.5.5 It is noted that significant concerns are raised in observer, prescribed body and local authority elected member submissions on the suitability of the Wind Energy Development Guidelines, Guidelines for Planning Authorities (DoEHLG, 2006) WEDG which are considered outdated and not fit for purpose given the nature, location and scale of the proposed development. It is argued that An Coimisiún Pleanála should have regard to the provisions of the Draft Revised Wind Energy Development Guidelines 2019 (DWEDG 2019). I note that Section 28(2) of the Planning and development Act as amended requires An Coimisiún Pleanála to have regard to guidelines issued under Section 28(1) and it is the case that the 2006 guidelines remain in force. I note that it is appropriate that regard is had to the Draft 2019 Guidelines particularly in the context of the advancement of knowledge and technical detail in relation to noise, shadow flicker and knowledge with regard to mitigation

measures to offset negative impacts. This issue arose in the context of the judgement of the supreme court in Balz v ABP 2019, IESC 90 and I note that the then prospective applicant was advised to have regard to the draft guidelines within the application during the Shancloon pre application process 321507-24.

Wake Effect

8.5.6 Submissions have raised concerns regarding the layout and spacing of turbines in the context of the wake effect. One observer makes an argument that the prevailing winds, those requiring 7 rotor diameter separation distance between turbines, are not only from the southwest direction and that in reality there are strong and frequent winds from 140 degrees southeast to 300 degrees northwest in a clockwise direction. By association, the observer argues that turbine spacing arrangements fail the required 2006 wind energy guidelines in a number of instances, namely T6 to T7, T6 to T8, T7 to T11, T5 to T6, T4 to T1, T2 to T1 and T3 to T1 for prevailing wind, and Tl0 to T9 for cross wind. The applicant's response is centred on noise effects in the context of amplitude modulation associated with the movement of the blades and, by association, the wake effect or wind take. The applicant contends that in line with best UK practice that post construction management of amplitude modulation is best placed through an operational phase complaints based monitoring system. In Chapter 3 of the EIAR, the applicant outlines that the objective of the design process was the avoidance of significant environmental effects while designing a project which is technically feasible and maximising wind resource. The iterative design process outlined in Chapter 3 concludes that the 11-turbine layout selected for the site has the smallest development footprint of the alternatives considered, while still achieving the optimum output at a more consistent level than would be achievable using different turbines. Having reviewed the proposed turbine layout, I note turbines are grouped yet staggered and broadly orientated towards the prevailing wind from the south / southwest / west as per Met Eireann data for the Claremorris station and presents a predominately crosswind layout.

8.5.7 Regarding the observer submission regarding prevailing wind, the closest Met Eireann station for which wind data is available is Claremorris. An examination of daily wind data for 2025 shows that on 225 days of that year wind was blowing from the south east, south, south west, west or northwest (140 degrees through to 300 degrees). Of

these 225 days, the wind was blowing from slightly east of south (170 degrees), southwest, west or slightly north of west (280 degrees) on 182 days, which equates to 80% of days on which the wind was blowing within that arc of 140 degrees through to 300 degrees. The observer also refers to strong and frequent winds. A review of the same data shows that of the 49 days that the wind was blowing from the southeast (120 degrees through to 160 degrees) wind gusts were between 20 and 30 knots on 26 days (53%), between 20 and 30 knots on 6 days (12%), and exceeded 30 knots on 1 day, indicating that wind gusts of less than 20 knots were experienced on 36% of the days and that of the 34 days that the wind was blowing from the northwest (290 degrees through to 330 degrees) wind gusts were between 20 and 30 knots on 18 days (50%), between 20 and 30 knots on 1 days (<1%), and did not exceed 30 knots on any day, indicating that wind gusts of less than 20 knots were experienced on 50% of the days. In contrast, of the 182 days that the wind was blowing from the south / southwest / west (170 degrees through to 280 degrees) wind gusts were between 20 and 30 knots on 128 days (70%), between 20 and 30 knots on 39 days (21%), and exceeded 30 knots on 7 days (4%), indicating that wind gusts of less than 20 knots were experienced on just 9 days or 5% of the total.

8.5.8 In summary, I am satisfied that based on public available wind data, south-easterly and north-westerly winds are atypical and not dominant winds for the area, and that wind gusts from those directions are of lesser magnitude and less common than those normally experienced from the dominant south-westerly wind direction. In terms of separation distances, for the cluster of turbines to the southwest (T1 to T4), turbine separation distance in the cross wind direction is between 3.6 and 4.1 x rotor diameter (RD), whilst for the northeastern cluster (T5 to T11) turbine separation distance in the cross wind direction ranges from 2.56 x RD (T9 and T10) to 3.8 x RD (T6 and T8). In the downwind direction (wind blowing towards the northeast and east), separation distances are greater by reason of layout with separation distances of between 4.8 and 15 RD achieved.

8.5.9 Notwithstanding the above, in regard to the 2006 Guidelines and the draft 2019 Guidelines, the references to wind take relate to the development potential of adjoining wind farm sites and not spacing of turbines within a proposed development. For adjacent wind farms, the two guidelines state the same, specifically “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." There are no adjacent cumulative wind farm developments. In reference to industry standards, I note the spacing of turbines within a proposed wind farm is noted to be a commercial decision as outlined by Irish Wind Energy Association guidelines depending largely on orientation, prevailing wind and wind analysis (March 2012). I note the standard design approach for optimising energy yield and performance include wind analysis, turbine separation distance in the interest of minimising wake effects and turbulence to optimise individual turbine performance, and turbines numbers to increase overall energy yield. Turbine separation distance is also noted to be a consideration for turbine manufacturing warranty, noting that incorrect spacing could impact on the performance and wear and tear of the turbines. Furthermore, the increased height and blade length of modern turbines are noted to capture more wind energy at lower wind speed and more consistent wind given the higher altitude with less turbulence created by surrounding vegetation and buildings. The modern wind turbine design generally incorporates features which allows for wake adjustments.

8.5.10 Having regard to the above, I am satisfied that the proposed turbine layout and the met masts appear to have been largely orientated towards the prevailing wind direction. Whilst spacing of turbines and number of turbines are commercial decisions within the overall iterative design process, I note that bar one instance of separation distances below 3 RD in the cross wind direction (T9 to T10, 2.56 RD), all other cross wind separation is above 3 RD, which is consistent with the 3 RD spacing required towards other wind farms located crosswind as per both the 2006 Guidelines and the Draft 2019 Guidelines.

8.6 Legal and Procedural Issues

8.6.1 Regarding public consultation a number of third parties outline deficiencies in consultation with the local community noting that timing and location of public meetings limited the opportunity for the local community to meaningfully participate in the process. Concerns are also raised with regard to the number and siting and

maintenance of public notices. I note the provisions and advice set out in the Department of the Environment's "Wind Energy Development Guidelines 2006" under Section 4.4 titled 'Public Consultation with the Local Community' as follows: "Planning authorities should encourage developers to engage in public consultation with the local community. While it is not a mandatory requirement, it is strongly recommended that the developer of a wind energy project should engage in active consultation and dialogue with the local community at an early stage in the planning process, ideally prior to submitting a planning application." The guidelines explore the consultation process at all stages of the project and set out best practice guidance on pre application public consultation in Appendix 2. It is noted that the provision of a good flow of information to the public about a proposed wind energy development prior to formal application can avoid conflict.

8.6.1 Chapter 5 of Volume 2 of the EIAR - Scoping and Consultation sets out the details of the consultation carried out during the pre-application timeline. It is noted that in April 2023 the Community Liaison Officer (CLO) carried out an initial eight week consultation with residents around the Shancloon Wind Farm Study Area where letters were issued to residents within 2km of the windfarm and door to door visits were also conducted. A dedicated phone number and email address were set up to enable residents to make an appointment suitable for discussions with the development team. Feedback was passed to the project design team and EIAR team on an ongoing basis. The project website was set up to inform the public and letter drops conducted for project updates. Elected local representatives were emailed with copy of letter of introduction and a soft copy of the proposed windfarm brochure. A detailed community consultation report is provided in Appendix 5.2 and a summary of consultation within Table 5.2.

8.6.2 Consultation report notes that feedback from door to door meetings raised three main issues namely shadow flicker, noise and visual impact. In response to criticism of consultation effort the applicant asserts that the application is the culmination of a multi-year, proactive consultation framework involving statutory bodies, environmental protection agencies and local engineering departments. A commitment is given to a transparent protocol for the local community during the 24 month construction phase with the appointment of a dedicated community liaison officer as local point of contact.

8.6.3 With regard to public notices, it is not possibly to retrospectively analyse the display and maintenance of public notices however I note that it is evident from the numerous observer submissions that many within the local community were aware of the application and indeed took the opportunity to actively engage in the planning process. Whilst I acknowledge observer concerns regarding inclusion and the evident difficulties posed by the complex nature of the development, having considered the information provided in the EIAR, I am satisfied that the level of consultation undertaken had regard to the relevant guidance for wind farms and meets the statutory obligations. It is therefore acceptable in this regard.

8.6.4 Regarding the question of sufficient legal interest to carry out the development with respect to various elements of work and various individual land portfolios, I consider that it is not a matter for the Board to adjudicate on such matters. With regard to works to install cabling in the road the applicant has confirmed that the proposed development of cabling is to be undertaken by a statutory undertaker having a right or interest to provide services in connection with the proposed development. With regard to observer submissions alleging encroachment of works or access requirement onto private land for road widening for swepth path the applicant has indicated that no such access to private land is required. I note that such matters raised are essentially civil matters between the relevant parties and are not strictly matters for determination within the scope of planning legislation. In this regard I would refer the parties to Section 34(13) of the Planning and Development Act 2000, as amended as follows: “A person shall not be entitled solely by reason of a permission under this section to carry out any development”.

8.6.5 With regard to the issue raised in the applicant’s response to the submission of the local planning authority report outside the specified 10 week timeline for the making of the planning application as specified within the Act it is acknowledged that the Local Authority was advised in correspondence from An Coimisiún Pleanála dated 23 September 2025 of receipt of the application and invited under Section 37E(4) of the Planning and Development Act 2000 the submission of the views of the authority on the effects of the proposed development on the environment and the proper planning and sustainable development of the area of the authority within a period of 10 weeks by from the making of the application to the Commission ie by 28th November 2025. It

is acknowledged that the Planning Authority informative workshop for elected members, the subsequent plenary meeting of elected members and the submission of the report to An Coimisiún Pleanála all occurred after this date in December 2025. I note from the case narrative that in light of the late submission receipt An Coimisiún Pleanála requested the resubmission of the Planning Authority submission on 31 December 2025. I note that it is not suggested by the applicant that the observations of the planning authority are in any way prejudicial to the application.

8.6.6 I note that a number of inaccuracies, errata have been identified within the submitted documentation and reports ranging from minor typos or formatting, drafting issues to more technical errors and inconsistencies. These have not however been deemed to be materially significant in terms of precluding An Coimisiún Pleanála from conducting its decision making process.

8.6.7 In light of the foregoing I consider that the legal and procedural matters do not constrain An Coimisiún Pleanála from the assessment of the application on its planning merit.

8.7 Conditions

8.7.1 In response to the application the Planning Authority, prescribed bodies and third parties recommended certain conditions to be attached in the event of permission. These recommendations have been contemplated with regard to their relevance and appropriateness in the event of a permission.

8.7.2 The following table provides a summary of considerations with regard to the recommendation to include or exclude within a potential schedule of conditions.

Table C 1: Consideration of Conditions	
Condition recommendations	Included / Excluded & reasoning
Galway County Council	
Development in accordance with plans and particulars 10 year duration, 30 year operation Mitigation and monitoring measures set out in CEMP Employment of suitably qualified and experienced environmental professional to oversee and supervise.	Appropriate for inclusion - standard conditions. Development in accordance with plans and particulars.

Mitigation measures as set out in NIS. External finish white /grey matt colour.	
Underground cables, blade rotation, no advertising, Gravel/hard core access tracks. Transformers switchgear within turbine mast structure or appropriately screened.	Appropriate for inclusion
Reinstatement programme. Bond to secure reinstatement	Condition requiring bond for reinstatement.
Irish Aviation Authority to be informed.	Condition re notification
Noise level limits	Noise condition
Shadow flicker control and limits.	Condition to ensure zero shadow flicker Best practice
Radio telecommunications interference mitigation measures.	Condition regarding protocol
Archaeological appraisal	Archaeological condition
<u>Road Safety and Traffic</u> (i) Technical & structural pavement analysis. (ii) Structural evaluation of regional and local road network structures. (iii) Road safety audit (stage 1 / stage 2 audit) (iv) Design report. (v) Revised site layout plan to demonstrate sight distance triangles (vi) Letter of consent from any adjoining landowner and relevant third parties consenting to set back their boundary to permanently achieve clear and obstructed sight distances. (vii) Applicant to demonstrate that land required for sight distances is in their control. (viii) Sight distance triangles to be maintained. Surface water disposal road side drainage.	 Appropriate for inclusion. Appropriate for inclusion. Road safety audit condition. Appropriate for inclusion. N/A. Sight distance triangles have been demonstrated. N/A relevant consent included. N/A relevant consent included. Appropriate for inclusion. Appropriately worded surface water management condition.

(i) Independent vehicular lazer road condition pavement survey for all surrounding local roads and bridges along the haul routes	Appropriate for inclusion.
(ii) Road survey and scheme of works detailing works to repair any damage to these routes.	Appropriate for inclusion.
(iii) Completion of aforementioned agreed works.	Appropriate for inclusion.
Measures to prevent spillage or deposit of clay rubble or debris on the road	Standard condition.
(i) Revised Traffic Management Plan to incorporate existing road conditions, including detailed design of temporary traffic measures and signs for roadworks measures best practice to be implemented during the construction phase.	Traffic Management Condition
(ii) Road opening license and an abnormal load license.	Traffic Management Condition
(iii) The applicant shall avoid deliveries utilizing the R332 during the Kilbannon to Kilconly road widening and realignment works	Traffic Management Condition, however this road project has commenced and likely to be completed prior to commencement of windfarm project.
(iv) Reinstatement of public road including areas within public road margins.	Appropriate for inclusion.
Transportation bond to secure reinstatement or public road and road markings	Appropriate for inclusion
On completion Stage 3 road safety audit and any safety issues highlighted in audit reviewed and addressed by the developer at their expense.	Appropriate for inclusion
(i) Liaison with Uisce Eireann or the local Kilcoona/Caherlistrane DBO Group Water Scheme in respect to the existing water services and infrastructure within the public road	Appropriate for inclusion
(ii) Liaison with ESB Networks in respect to the existing electrical services and infrastructure within the public road vicinity.	Appropriate for inclusion

(iii) Any proposal by the applicant to divert or build over/under existing water or services shall be submitted to relevant provider. (iv) Separation distances in accordance with Uisce Eireann Code of Practice for water infrastructure and water infrastructure Standard Details & ESB Networks Standards Development (v) All development shall be carried out in compliance with Uisce Eireann Standards and ESB Networks codes and practices Colour of control building roof black or slate grey, Wall of natural limestone finish Licensed waste collection. Construction Hours Waste Management in accordance with best practice	Appropriate for inclusion Excluded. Outside the planning code. Excluded. Outside the planning code. Appropriate for inclusion Waste management condition Standard condition Standard condition
Community Gain.	Community Gain condition
Development Contribution €781,176.00 in accordance with the provisions of the S48 Development Contribution Scheme. A charge of €10,760 per megawatt capacity applies. The application details refer to an output of 72.6MW (10,760 x 72.6 = 781,176.00)	Development Contribution Condition
Department of Defence Irish Aviation Authority IAA	
Obstacle lighting. Notification of Co-ordinates	Suitably worded condition
Inland Fisheries Ireland	
Pre-development and post development assessment of aquatic biodiversity Hydrology- flowpaths. Surace water management Waste Management Watercourse crossings and instream works	Mitigation measures CEMP Suitably worded conditions
Transport Infrastructure Ireland	
Damage to public roads to be rectified. Permits	Suitably worded condition
Gas Networks Ireland	
Works in accordance with code of practice	Suitably worded condition

9.0 Environmental Impact Assessment

9.1 Statutory Provisions

9.1.1 The proposed development has been determined by An Coimisiún Pleanála 321507.24 to comprise strategic infrastructure under section 37B(4)(a) of the Planning and Development Act, 2000 (as amended). Consequently, as per the requirements of section 37E (1) of the Act, an application for permission is required to be accompanied by an EIAR.

9.2 EIA Structure

9.2.1 This section of the report comprises the environmental impact assessment of the proposed development in accordance with Planning and Development Act 2000 (as amended) and the associated Regulations, which incorporate the European directives on environmental impact assessment (Directive 2011/92/EU as amended by 2014/52/EU). Section 171 of the Planning and Development Act, 2000 (as amended) defines EIA as:

a. consisting of the preparation of an EIAR by the applicant, the carrying out of consultations, the examination of the EIAR and relevant supplementary information by the Board, the reasoned conclusions of the Board and the integration of the reasoned conclusion into the decision of the Board, and includes an examination, analysis and evaluation, by the Board, that identifies, describes and assesses the likely direct and indirect significant effects of the proposed development on defined environmental parameters and the interaction of these factors, and which includes significant effects arising from the vulnerability of the project to risks of major accidents and/or disasters.

9.2.2 This EIA section of the report is therefore divided into two sections. The first section assesses compliance with the requirements of Article 94 and Schedule 6 of the Regulations. The second section provides an examination, analysis and evaluation of the development and an assessment of the likely direct and indirect

significant effects of it on the following defined environmental parameters, having regard to the EIAR and relevant supplementary information:

- population and human health,
- biodiversity, with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive,
- land, soil, water, air and climate,
- material assets, cultural heritage and the landscape,
- the interaction between the above factors, and

the vulnerability of the proposed development to risks of major accidents and/or disasters.

9.2.3 The assessment provides a reasoned conclusion and allows for integration of the reasoned conclusions into An Coimisiún Pleanála's decision, should An Coimisiún Pleanála agree with the recommendation made. Adequacy of the consultations carried out by the applicant is also considered.

9.3 Compliance with the Requirements of Article 94 and Schedule 6 of the Regulations 2001.

9.3.1 In terms of content and structure of the EIAR, by Fehily Timoney And Company (FT) Consultants, it is set out in grouped format in 4 volumes as follows:

Volume 1 Non-technical summary

Volume 2 Main EIAR

Volume 3 Appendices to the Main EIAR

Volume 4 Figures and Photomontages

The EIAR provides a description of the project, comprising information on the site, design, size and other relevant features of the proposed development. It identifies, describes and assesses in an appropriate manner, the direct and indirect significant effects of the project on the following environmental factors:

(a) population and human health;

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage and the landscape and it considers the interaction between the factors referred to in points (a) to (d). It provides an adequate description of forecasting methods and evidence used to identify and assess the significant effects on the environment. It also provides a description of measures envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects. The mitigation measures are presented in each chapter. Where proposed, monitoring arrangements are also outlined. Chapter 6 of the EIAR provides a consideration of the effects deriving from the vulnerability of the project to risks of major accidents and or natural disasters. Any difficulties which were encountered in compiling the required information are set out under the respective environmental topics. A description of the main alternatives studied by the developer and alternative layouts considered is provided and reasons set out for the preferred choice.

9.3.2 I am satisfied that the information provided in the EIAR is generally up to date, adequately identifies and describes the direct and indirect and cumulative effects of the proposed development on the environment and complies with article 94 of the Planning and Development Regulations 2001, as amended. I note the details of the project team members, their qualifications and experience provided at Section 1.8.1 of the EIAR. I am satisfied that the EIAR has been prepared by competent experts to ensure its completeness and quality. I am satisfied that the information provided is in the main reasonable and sufficient to allow the Board to reach a reasoned conclusion on the significant effects of the project on the environment, taking into account current knowledge and methods of assessment. I note certain concerns scrutinised in detail within reports of the specialist consultants engaged by An Coimisúin Pleanála with regard to the basis on which peatland condition, conservation value and restoration potential has been assessed and the expert opinion that insufficient detail is provided to fully resolve the implications of the proposed development for peatland ecology and

bog restoration outcomes. Further concern arises with regard to hydrology and hydrogeology. These matters are further detailed in the biodiversity and hydrology hydrogeology sections of the EIA below. I am satisfied that the information contained in the EIAR generally complies with the provisions of Articles 3, 5 and Annex (IV) of EU Directive 2014/52/EU amending Directive 2011/92/EU and Article 94 of the Planning and Development Regulations 2001, as amended.

9.3.3 Compliance with the requirements of Article 94 and Schedule 6 of the Regulations is assessed below:

Article 94 (a) Information to be contained in an EIAR (Schedule 6, paragraph 1)
A description of the proposed development comprising information on the site, design, size and other relevant features of the proposed development (including the additional information referred to under section 94(b).
A description of the proposed development is provided in Chapter 2 of the EIAR. It includes details on the proposed development site, the design and size of the proposed development, temporary and permanent land take, requirement for materials, details of the construction programme and operation and decommissioning phases. Further details on the development site are provided in the technical chapters of the EIAR. Aspects of the information presented in relation to the site have been shown to be flawed particularly with regard to karst. The classification of Cloonbar East Wetland has also been called into question and the need for more spatially explicit supporting evidence with regard to habitat classification has been identified. A further residual EIA limitation is noted in relation to Marsh Fritillary Annex II listed species habitat appraisal and survey coverage and in relation to Greenland White Fronted Goose and the extent to which the wider landscape functionality has been demonstrated.
A description of the likely significant effects on the environment of the proposed development (including the additional information referred to under section 94(b).

An assessment of the likely significant direct, indirect, and cumulative effects of the development is carried out for each of the technical chapters of the EIAR. These are considered within the technical assessment of this EIA set out below. I am satisfied that the likely significant effects of the development on the environment have largely been described. I note the concerns scrutinised in detail within the ACP specialist consultants' reports with regard to the ecological basis on which peatland condition, conservation value and restoration potential has been assessed and with regard to hydrological and hydrogeological aspects. Given detail provided is not sufficient to fully resolve the implications for peatland ecology and bog restoration outcomes. With regard to hydrology and hydrogeology it is noted that conceptually the effectiveness of mitigation measures proposed and residual impacts related to groundwater may be correct the low level of confidence in field data analysis means that mitigation measures and therefore residual impacts cannot be supported. Furthermore failure to factor groundwater risks during construction and their potential impact on surface water management is noted.

A description of the features, if any, of the proposed development and the measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment of the development (including the additional information referred to under section 94(b).

Measures to mitigate predicted environmental effects are set out in each technical chapter of the EIAR (where relevant), and in the CEMP. Having regard to my examination of the EIAR and the submissions made, and my assessment of the likely significant effects of the development on the environment, I am satisfied that the EIAR provides a description of the features and measures to avoid, prevent or reduce significant adverse effects. Mitigation measures are largely capable of offsetting significant adverse effects identified in the EIAR. I note the identified deficiencies with regard to peatland condition and the relationship between the affected bog habitat and the wider Cloonbar bog unit and groundwater risks and thus it is not possible to ascertain with certainty likely significant adverse effects. As outlined in both expert reports this limitation means that a clear site specific data based and conditionable impact avoidance, mitigation and restoration strategy cannot be defined on the basis of the evidence provided.

A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the proposed development on the environment (including the additional information referred to under section 94(b).
Alternatives are considered in Chapter 3 of the EIAR and include the 'do nothing' scenario, alternative locations, alternative renewable energy technologies, alternative turbine numbers layout and design, alternative transport routes and site access and alternative substation and associated grid infrastructure. Having regard to the details presented, I am satisfied that the applicant has provided a description of the reasonable alternatives relevant the proposed wind energy development, a comparison of environmental effects and an indication of the main reasons for the resultant proposed development with reference to effects on the environment.
Article 94(b) Additional information, relevant to the specific characteristics of the development and to the environmental features likely to be affected (Schedule 6, Paragraph 2).
A description of the baseline environment and likely evolution in the absence of the development.
A description of the baseline environment is typically included in each technical chapter of the EIAR and an assessment of the likely evolution of it, in the absence of the development (do nothing scenario). Where it has not been addressed in the EIAR, the baseline environment and its likely evolution can be readily assessed from the information on the file/inspection of the development site.
A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved

A description of the forecasting methods or evidence used to identify and assess the significance of effects is included in each technical chapter of the EIAR. Any difficulties encountered, or areas of uncertainty, are also identified in the technical chapters. Having regard to my review of the EIAR I note uncertainty with regard to the likely effects of the proposed development for peatland ecology and bog restoration and with regard to hydrology and hydrogeology.
A description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it.
Vulnerability of the proposed development to environmental effects arising from the risks of major accidents and/or disasters is appropriately considered in Chapters, 2, 6 and 12 of the EIAR.
Article 94 (c) A summary of the information in non-technical language.
Volume 1 of the EIAR contains a Non-Technical Summary (NTS) of the proposed development. I have read this report, and it summarises, in non-technical language, the information contained in the EIAR and likely environmental effects of the development. I am satisfied therefore that the EIAR complies with the requirements of the Regulations in respect of Article 94(c).
Article 94 (d) Sources used for the description and the assessments used in the report
The sources used to inform the description, and the assessment of the environmental effects of the development are set out in each chapter, typically at the beginning of the technical assessment under methodology. I consider the sources relied upon are generally appropriate and sufficient.
Article 94 (e) A list of the experts who contributed to the preparation of the report

A list of the various experts who contributed to the EIAR is set out in Table 1-2 of the EIAR. Where relevant, this information is repeated in the introductory sector of each chapter. Details include the name and qualification of the expert, their area of expertise and years of relevant experience. I have reviewed each of the technical sections of the report, and I am satisfied that it has been prepared by experts with competency in the technical subject areas.

9.3.4 Issues Raised in Respect of EIA

9.3.4.1I have carried out an examination of the information presented by the applicant, including the EIAR and the submissions made during the course of the application. A summary of the submissions made by the local authority, prescribed bodies and observers, during the course of the application have been set out at Section 5.0 above. The main issues raised in respect of EIA by parties to the application are:

- Adequacy of expertise and survey effort. Credibility and perceived pro project bias.
- Adequacy of alternatives.
- Visual Impact – Magnitude of Effect
- Impacts on population and human health, illumination of turbines, tourism, traffic, material assets
- Biodiversity, birds, soils, water, climate,
- Cumulative effects, with other development

9.3.4.2 These issues are addressed below under the relevant headings and as appropriate, in the reasoned conclusion and recommendation.

9.3.5. Consideration of Alternatives

9.3.5.1 Article 5(1)(d) of the 2014 EIA Directive requires: that an EIAR contain a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment." Chapter 3 of the EIAR addresses the matter of alternatives in terms of the "do nothing" option, strategic site selection, alternative renewable electricity technologies (comparison of environmental effects for alternative solar technology), alternative turbine numbers, layout and design, alternative transport routes and site access, alternative substation and associated grid infrastructure.

9.3.5.2In a 'do-nothing' scenario, the site would continue to be managed for agricultural peatland and forestry use. It is noted that the surrounding land uses can and will continue in conjunction with the proposed use. In this 'do-nothing' scenario the opportunity to capture a significant part of Galway's renewable energy resource would be missed as well as the opportunity to contribute to meeting the Government and EU 2030 targets for production and consumption of energy from renewables and reduction in greenhouse gases. The opportunity for generation of local employment, development contributions, rates would also be lost. Table 3-1 provides a comparison of environmental effects in the 'do nothing' alternative scenario.

9.3.5.2 Regarding alternative locations and strategic site selection it is outlined that a detailed screening process, through GIS software using a number of criteria and stages was conducted to assess the potential of a large number of possible sites. The identification of Shancloon followed detailed desktop screening of all available sites. The main policy planning and environmental considerations include site location relative to the Galway LARES classification of areas considered suitable for windfarm development from a planning policy perspective, access to national electricity grid within a viable distance, location outside of areas designated for protection of ecological species and habitats, and consistently high average annual windspeeds, medium housing density and favourable visual amenity classification. Following site specific assessment Shancloon was selected as a site with relatively low potential for environmental effects.

9.3.5.3 Regarding alternative renewable energy technologies, solar energy was considered however it was outlined that this would require a significantly larger development footprint due to capacity factors and would give rise to potential for higher environmental effect in terms of habitat loss, increased drain crossings hydrology interactions and potential for sediment run off, traffic and transport during construction phase. A comparison of the potential environmental effects is set out in table 3-2 of the EIAR.

9.3.5.4 Regarding alternative turbine numbers, layout and design options the use of smaller turbines would necessitate the installation of a significantly larger footprint and larger amount of supporting infrastructure and would not result in as efficient use of the wind resource. Increased infrastructure requirements and increased potential for negative environmental impacts on population (noise and vibration shadow flicker), biodiversity, ornithology, land, soils and geology, hydrology, traffic and transportation, archaeology and cultural heritage, landscape and visual, telecoms and aviation would also arise. (Table 3.3)

9.3.5.5 Regarding alternative turbine layout and design, it is outlined that the approach has been a collaborative and iterative process. Turbine layout iterations have been based on constraints mapping to optimise site layout. The selection of turbine number and layout has had regard to wind take, noise and shadow flicker impacts and separation distance. Comparative environmental effects of initial design iterations of DI1 and DI2 turbines is set out against the proposed DI3 11 turbine layout in Table 3.4.

9.3.5.6 In relation to alternative transport routes and construction / operation access these were considered in relation to turbine components, general construction related traffic and site access locations. As regards turbine delivery route options, Galway Port was selected as port of entry due to proximity and road connections, and capacity. The use of the R332 to access the site reduces potential for interaction with third party lands and uses the most direct route. Regarding location of construction compounds the main compound and substation compound were selected relative to respective access locations while alternatives for location of secondary smaller compound were considered and ultimate location between T2 and T3 was selected based on site topography and to minimise need for earthworks and fill. Location proximate to farm buildings was ruled out to limit potential for disturbance on confirmed bat roost. Alternative substation and grid infrastructure locations are set out.

9.3.5.7 It is outlined that alternative layouts were established through the project philosophy of mitigation by design. It is asserted that the final layout is assessed to be the optimal design which minimises effects on the receiving environment while providing significant renewable electricity to the national grid in line with national energy and climate policy.

9.3.5.8 I note that some of the third party observers criticise the consideration of alternatives asserting that it is notional, limited in extent and also question whether for example the provision of solar energy within industrial estates in Galway would be a more appropriate development. Further submissions question the viability of wind energy. The applicant outlined that site selection followed a detailed screening process. It is noted that smaller turbines would require a significant increase in the number of turbines and increased footprint resulting in a greater visual impact. With regard to the viability of wind energy as outlined above there is strong policy support and ambitious targets for the development of wind energy to meet our commitment to halve greenhouse gas emissions by 2030 and reach net zero by 2050. Having reviewed and assessed the EIAR I consider that the process of site selection, consideration of alternative layouts, configurations and technologies followed a comprehensive process. It is clearly outlined how the proposed development evolved and how it was adjusted to take into consideration the environmental effects and also seeks to maximise the available wind resource to address climate obligations. On balance I consider that the requirements in terms of reasonable alternatives have been satisfactorily discharged and in this regard the requirements of the EIA Directive in this regard have been met.

9.3.6 Vulnerability to risks of major accidents and/or disasters

9.3.6.1 Article 3(2) of the Directive requires a consideration of the vulnerability of the project to risks of major accidents and/or disaster that are relevant to the project concerned. This is addressed in detail in chapter 6 of the EIAR. Sources of pollution on site during construction operational and decommissioning phases are limited. Primary sources with potential to cause significant environmental pollution and associated negative effects on human health and the environment include storage of hydrocarbons, chemicals and waste. Potential natural disasters that may occur are limited to flooding, fire, major incidents involving dangerous substances, catastrophic events and landslides.

9.3.6.2 Risk of flooding is addressed in Chapter 12 and the Flood Risk Assessment Appendix 12.3.

9.3.6.3 With regard to fire risk it is noted that risk of electrical fire has potential to be significant and negative resulting in potential injury or fatality, property damage, infrastructural damage loss of forested lands and damage to ecosystems.

9.3.6.4 Risk of major accidents involving dangerous substances is negligible given the nature of the proposed development and lack of proximity to established Seveso sites. Potential catastrophic events associated with operational wind turbines which may endanger health and safety are considered and mitigation is primarily by siting and set back. Spacing of the turbines and distance from any properties and siting with consideration to existing ground conditions limits the potential for impact on human health.

9.3.6.5 Slope stability is addressed within chapter 6 and chapter 11 and associated appendices.

9.3.6.6 In terms of mitigation an Emergency Response Plan (ERP) is set out in Section 6 of the Construction Environmental Management Plan (CEMP) which is included at Appendix 2.1 of the EIAR.

9.3.6.7 Further analysis in relation to vulnerability to risk of major accidents and/or disasters is outlined in the assessment of likely significant effects below.

9.4 Assessment of Likely Significant Effects on the Environment

9.4.1 This section of the report sets out an assessment of the likely environmental effects of the proposed development environmental parameters set out Section 171A of the Planning and Development Act 2000 (as amended). In accordance with section 171A of the Act, which defines EIA, this assessment includes an examination, analysis and evaluation of the application documents, including the EIAR and submissions received and identifies, describes and assesses the likely direct and indirect significant effects (including cumulative effects) of the development on these environmental parameters and the interaction of these. Each topic section is structured around the following headings:

- Issues raised.
- Examination of the EIAR.
- Analysis, Evaluation and Assessment: Direct and indirect effects.
- Conclusion: Direct and indirect effects.

9.5 Population and Human Health

9.5.1 Issues raised

Issues raised in respect of population and human health centre around questions of employment and economic benefits, impact on property values, existing and potential future land use and residential amenity, landscape and visual effects, impact on dark skies and direct impacts during construction. In relation to indirect effects the potential impacts on tourism, cultural heritage, water and risk of accident have been raised. These matters are considered and addressed in the relevant sections of this environmental impact assessment. Concerns are raised regarding health impacts particularly to vulnerable persons with underlying health issues, sensory sensitivities and potential impact on mental health and wellbeing.

Galway County Council notes that the proposal will result in intensification of wind energy development in the landscape context, however asserts that the proposed development will not have any adverse impacts on population, human health and residential amenity. The National Environmental Health Service NEHS of the Health Service Executive HSE notes proximity to a number of private wells and recommends a population health approach to the sensitivity of receptors. Noting case law with regard to noise emissions in particular Webster / Rollo v Meenacloher (Wind) Ltd 2024 (IEHC 136) evaluation of significance of effect should be based on the most up to date knowledge and data. Tabulation of predicted change in the noise environment from the proposed development and the cumulative change in the original baseline noise environment is the most informative way of reporting likely effect. The Department of Defence and Irish Aviation Authority outline their requirement for obstacle warning light in the interest of aviation safety. TII request

consideration of the proposal with regard to the Section 28 Guidelines to ensure road safety.

9.5.2 Examination of the EIAR

9.5.2.1 Context

Chapter 6 of the EIAR deals with Population and Human Health. The methodology has regard to the Guidelines on the Information to be Contained in EIAR's (EPA, 2022) the European Commission's guidance document: Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report as per Directive 2011/92/EU as amended by 2014/52/EU and other relevant government and industry guidelines. The EIAR also refers to the conclusions of other technical chapters, for example, in respect of traffic or landscape effects, to assess likely effects. Other environmental factors with the potential to impact on population and human health, such as air quality, noise, traffic and transport, landscape and visual impacts soil and water are addressed in the respective relevant chapters of the EIAR.

9.5.2.2 Baseline

In terms of baseline environment the location of the site is within a rural area with a relatively low population density. The study area for population was defined in terms of the District Electoral Divisions within which the proposed development is located. A socio-economic profile of the existing environment was established using live register data (2016 to 2023) and census (2022) data to outline an employment profile of the area. Existing land uses include agriculture, historic peat extraction and pockets of forestry, recreational and tourism amenities with settlement consisting of one-off houses focused on the local road network. A total of 224 residential properties (or permitted residential developments) are noted within 2 km of the turbine array, and 49 residential properties (or permitted) within 1km of the turbine array are noted. The closest property to a turbine (Eircode H54 KH73) is located c. 357m from Turbine T01, however this property belongs to a landowner involved in the project and is no longer in residential use. The next nearest property is a derelict building (currently uninhabitable property) located c. 720.4m south-east of T1. The closest inhabited residential property to the Project is located 728m east of T11 (Eircode H54 XC65).

The on-site substation is located within the south-west of the Site and is c. 440 m from the nearest residential neighbour.

Operational wind energy development in the area includes Cloonlusk Windfarm, (Two no 2 MW turbines on 785m towers) located circa 17km south of the site. The proposed Laurclavagh renewable energy development (8 turbines overall tip height 185m PA07.319307) is c11.4km southwest. Cloonascragh (1 turbine tip height 168m) 13.5km southeast and Cloonlusk (2 turbines circa 17.1km east). Clonberne (11 turbines PA07.320089) is circa 18km east.

Regarding tourism and amenities there are no major tourist attractions in proximity to the site. Local facilities include trail walking, glamping, camping and sports grounds and the cultural amenity associated with a number of abbeys and castles. Community facilities and services are centred on towns and villages including Shrule 1.2km west, Headford located circa 5.9km southwest, and Tuam c. 8km south east[3].

9.5.2.3 Potential Effects

EIAR identifies potential effects of the development on population and human health and the predicted effects have been summarised in the Table below.

Table PHH1 Summary of Potential Effects Population and Human Health.

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do-nothing	Existing land uses will continue. Lost opportunity to harness wind energy capacity, employment opportunities, economic activity and financial payments (e.g. rates, development contribution, Community Benefit Fund CBF). Continuance of excessive greenhouse gas emissions and consumption of fossil fuels. No emissions generated from construction works and no potential for noise, shadow flicker or visual effects associated with wind turbines on the site.
Construction	Population, demographic change, employment and economic effects. Between 79 direct and 129 indirect jobs could be

[3] EIAR incorrectly references direction of nearby towns (Shrule to the east, Headford to north east and Tuam to west). I have referenced the correct direction above.

	created. Workers likely to travel from surrounds. Short term significant positive effect on the local economy local businesses, services and employment opportunities. Rates payments within the county. Community Benefit Fund CBF. Upskilling opportunities to local workers. Landuse, settlement patterns, baseline population and demographic trends: Existing land uses in proximity to the development site to remain broadly the same. Some impacts on communities and roads along delivery route. Some short-term disturbance to electricity telecommunications network in the area. Human health: Temporary slight negative impact on residential land use due to noise nuisance. Risk of health and safety hazards for construction workers and the public including increased traffic, transport of heavy or bulky materials, noise and dust emissions, excavation. Including increased traffic, transport of heavy or bulky materials, noise and dust. Short-term increase in emissions to air, including vehicular and fugitive dust. Potential for effects on human health from contamination of ground water. Landslides. Temporary negligible and imperceptible. (Proposed infrastructure located within areas of 'low' susceptibility with localised areas classified as 'high'. Impact on human health during construction works over 24 month period expected to be temporary, negligible and imperceptible. Flood risk negligible. Tourism and Amenity. No significant tourism attractions in proximity. No expected direct impacts.
Operation	Population, demographic change, employment and economic effects: Direct and indirect employment (73.8-87.2long term jobs) Contribution to achieving national renewable energy targets. Development contributions will provide funds to Galway County Council. CBF will provide investment into the local community. In accordance with RESS 4 CBF will provide a minimum €1,000 to each household within a distance of 7km. (Average of €378,000 per annum every year for 15 years. Long term socio economic benefits. Dependent on final capacity and electricity generation) Substation and grid connection will form part of the national electricity grid with long term slight positive economic effect. Landuse, settlement patterns, baseline population and demographic trend: Once operational, the prevailing land use

	will remain. Development will occupy small proportion of site area minimal impact on existing land uses. Cutover bog and agricultural grassland affected by change of use for access tracks, wind turbines hardstanding areas and other infrastructure. No likely significant negative impact to existing agricultural land use. Biodiversity enhancement areas includes additional woodland, treeline and hedgerow planting. Felling of 0.43ha and 0.35ha of coniferous forestry to accommodate turbine delivery and construction of on-site cabling respectively. Upgrade of existing agricultural and forestry tracks provides long term slight positive impact to these land uses. Long term imperceptible impact on property values. Recreation Amenity and tourism: Proposal will result in intensification of wind energy development within the landscape context. Human health: Net positive impact on air quality long term (displacement of fossil fuel). Reduction in annual emissions in the electricity sector of c94.2 tonnes of CO_2 per annum. Potential for adverse effects on human health and safety including falling ice, accidents, fire (low risk). Maintenance staff health and safety protocol. Operational wind farm noise levels exceeds the 40dB daytime noise limit marginally at 6m/s at two properties north and centre of the proposed development. Long term slight to moderate significance of impact for dwellings within the 35dB LA90 study area with a moderate significance of impact on the closest dwellings to the proposed windfarm. Closest dwelling c357m from T1 belongs to involved landowner and is no longer in use as a residential dwelling. No potential for effects on human health from electromagnetic radiation from turbines or underground electricity cables (EMFs significantly below ICNIRP guidelines). Negligible imperceptible potential impact to human health arising from electromagnetic interference. Shadow flicker: Potential to introduce shadow flicker : at 103 receptors (155m rotor diameter), 95 receptors (150m diameter) and 94 (149.1m diameter). The predicted maximum theoretical hours per day of shadow flicker exceeds 30minutes at 80 receptors (155m rotor diameter), at 77 receptors (150m diameter) and 76 receptors (149.1m rotor diameter). Developer commits to zero shadow flicker though monitoring and software management measures. When considering total theoretical hours year 30 hour threshold (WEDG 2006) 61 receptors (155m rotor diameter) 58 (150m rotor diameter or 149.1m diameter). When accounting for more likely scenario taking into account

	annual average sunshine hours 17 for 155m rotor diameter, 15 for 150m rotor diameter and 14 for 149.1m rotor diameter. Modelling shows that proposed development meets required guidelines in relation to noise. Visual impact. No significant impact on residential visual amenity. No impact on telecommunications
Decommissioning	Population, economy, land use and settlement patterns: Similar to construction but reduced magnitude. Due to temporary nature insignificant and temporary impact on recreation amenity and tourism.
Cumulative	Cumulative impact in combination with Laurglavagh Renewable Energy Development, Cloonascragh and Cloonlusk. Increased temporary employment with an estimated 79 direct and 112 indirect jobs respectively created during the construction phase. Short term slight positive impact on local business and services in nearby towns and villages within the wider area. VPRs indicate that in most instances the proposed Shancloon turbines will not be viewed in combination with other existing, permitted or in planning wind turbines. Potential for cumulative effects with other existing and permitted wind farms, in particular traffic effects employment and economic activity during construction. Not considered to be a significant impact on population or human health. Positive cumulative effects reducing CO_2 emissions, with moderate effects on climate change mitigation. No significant cumulative impacts on land use. No potential for cumulative shadow flicker. Electricity generating capacity of the project will have long term significant positive cumulative impact on utility infrastructure and renewable energy resources and positive impact on national renewable energy resources as well as reduction in requirement for use of non renewable fossil fuels.

9.5.2.4 Mitigation

The EIAR notes the main designed mitigation measures to offset effects on population and human health relates to layout and setback from sensitive

receptors. As potential effects of the project are predominantly positive in respect of socio economics, employment and economic activity no mitigation measures are considered necessary. Mitigation measures for land use are primarily related to preliminary design stage. Specific measures during construction and operation in accordance with all relevant health and safety legislation, hazard and risk identification and mitigation in accordance with CEMP. Other measures relate to noise mitigation, dust suppression and traffic management. Public safety is addressed by restricting access to the public in the vicinity of site, works during construction and decommissioning period. The measures outlined are typically standard good practice construction operational practices.

9.5.2.5 Residual Effects

With the implementation of mitigation the EIAR predicts residual effects with respect to population to be temporary neutral. Residual effect to socio economics is considered to be slight positive with respect to employment and temporary slight positive with respect to income spent by construction workers in the local area. The Community Benefit Fund (CBF) will provide significant long term, positive impact to socio economic profile for the community and wider area. Rates payments and development contributions have the potential to improve service provision throughout Co Galway and in the local area resulting in slight positive residual effect on resources of the local authority. A positive residual effect is envisaged in terms of decreased cost of electricity. Regarding land use sight temporary impact on land use during the construction operation and decommissioning phases. No significant adverse negative residual effects are predicted due to low intensity land use of the site and the wider area. Permanent imperceptible and neutral impact following decommissioning.

No significant adverse impacts are predicted to recreation amenity and tourism. Construction phase expected to have a non-significant neutral impact on local recreation and amenity. Given the buffering of residential receptors in the operational phase prediction of impacts ranging from high medium in the immediate environs reduced to low and negligible beyond 5km. The CBF will likely have a moderate positive long-term impact on the amenities of nearby villages and the

surrounding area. Best practice construction methods and improved safety measures on public roads have been identified as measures to prevent potential accidents during the construction, operation and decommissioning works. Potential health impacts from noise and electromagnetic fields during the operational phase are considered negligible. Following mitigation an imperceptible negative residual impact on human health is predicted. There will be short term potential slight negative residual impact on health and safety during the construction stage but this is not predicted to be significant. Long term positive imperceptible residual impacts will occur due to the provision of clean renewable electricity and net displacement of c80,079 to c94,379 tonnes of CO_2 per annum which would otherwise be emitted through the burning of fossil fuels. No significant in combination impacts are identified.

9.5.2.6 Analysis, Evaluation and Assessment: Direct and Indirect Effects.

I have examined, analysed and evaluated Chapter 6 of the EIAR, and other relevant chapters with regard to the assessment of effect on population and human health. I am broadly satisfied that the assessment is consistent with the published guidelines on the assessment of effects on population and human health as set out in the EPA Guidelines on EIA and EIAR. I am satisfied that the applicant has presented a reasonable understanding of the baseline environment and that the key impacts in respect of the likely effects on population and human health, have been identified.

I consider that the key direct and indirect effects arising will be short term effects on people living, working and travelling in the area during construction including noise, dust, additional traffic and potential short term road closures. Direct and indirect positive effects will arise in terms of the local economy with long term positive effect particularly from the Community Benefit Fund. During operation potential noise, shadow flicker and landscape and visual effects on residential amenity will arise however the extent of setback from residential properties and settlements and technical mitigation measures lessens the potential significance of such effects.

Effects of the development on landscape and tourism are further addressed in the landscape and cultural heritage sections of this report. Having regard to the location of the development in a rural area with a relatively low population density, I am satisfied that the construction and operation of the development will not give rise to significant adverse effects on employment, settlement or land use patterns, baseline population or demographic trends. Short term employment opportunities will arise during the construction period and to a much lesser extent during operation. The local economic benefits associated with the community benefit fund (CBF) and development contributions are noted. The CBF which is estimated to total of approximately €378,000 per annum for 15 years (dependent on generation capacity). Within the terms and conditions of RESS - an annual payment of €1000 for every household within 1km of any proposed turbine. 40% of the fund will be allocated to not for profit community enterprises with an emphasis on low carbon initiatives. Up to 10% of the fund will be administered by an independent administrator with the remainder of the fund directed towards local clubs societies and other initiatives.

Regarding turbine lighting, the proposed development will require obstacle lighting for aviation safety purposes. It is my view that given the topography and separation distance to sensitive receptors I do not consider that visual effects of obstacle lighting will be so significant as to cause nuisance or significant effects on residential amenity. In relation to impact on dark skies I acknowledge that the development of the windfarm including lighting will alter the context however such effects are balanced against the established anthropogenic effects on the landscape and the wider climate benefit of the development.

Regarding effects on property values I note the evidence presented by the applicant with research findings and literature (at international level) supporting the applicant’s contention that the provision of wind farms do not necessarily impact on property values in the local area. I also note research carried out nationally with respect to public perception in respect of wind farms indicating an upward trend in terms of support for onshore wind energy. I also note submissions by the observers and reference to study by Gillespie and McHale, University of Galway which studied house prices along Ireland's west and southern coasts and revealed

reductions (14.7%) of property values within 1km of a turbine. It is reported that the negative effect was stronger for taller turbines, a greater number of turbines; and in areas with more "urban influence" and it is also noted that the price-depressing effect decays over time, becoming statistically insignificant after about 10 years of turbine operation. Having considered the various submissions I consider that it is appropriate to have regard to the complexity of multiple factors and temporal patterns which influence property value however I conclude that there is no evidence that the proposed development will have a long term significant negative impact on property values. Regarding potential to affect potential future land use particularly concern raised with regard to perceived difficulties in securing planning permission for residential development. I note that main difference between one off rural housing and renewable energy development in terms of the policy context within which both are considered. The development of renewable energy to address climate change and meet renewable energy targets is a national policy which benefits society as a whole with structures decommissioned and removed after a specified timeframe. The development of permanent one off houses in a rural area has no wider benefit save to the individuals involved. I consider that given the location and nature of the proposed development, I am satisfied that there is no likely significant effect on the implementation of rural housing policy.

Regarding effects on health and well-being, I note that submissions of the applicant argue that there is no credible scientific evidence to positively link wind turbines with adverse health effects. While wind energy developments themselves could not be classified as a direct safety or health hazard I am cognisant of the considerations of the less understood impacts on mental health and wellbeing and varied sensitivity to impact factors. I have had regard to the population health approach as referenced within the submission of the NEHS of the HSE. It is appropriate therefore that due regard is had to the potential for reduced residential amenity and wellbeing. I note that as outlined in respect of noise emissions and dust below there is potential for negative effects on human health during wind farm construction phase however subject to the mitigation as outlined it has been demonstrated that residual impacts are not significant. With regard to operational noise this is addressed in detail at Section 9.11 below. I note that concerns have been expressed with regard to impact on vulnerable children / adults and potential

impact of shadow flicker on persons with epilepsy and sensory sensitivity. I acknowledge the concerns and anxiety expressed. I note that relevant limits and set backs are designed to protect receiving environments. The setback distances provided for in the Draft Wind Energy Guidelines provide for a set back of 4-times the tip height between turbines and the nearest point of curtilage of nearby residential properties. The closest property H54KH73 is 357m from T01 however this is owned by an involved landowner and is no longer in use as a residential residence. The closest inhabited residential property is located 728m east of T11 while there is a derelict building (currently uninhabitable) c720.4m south east of T1. The proposed development achieves the minimum separation distance in excess of the 720m (4 times tip height). I consider that having regard to the separation distance from receptors no significant adverse impact on the population including vulnerable persons will arise.

Having reviewed the EIAR and shadow flicker assessment as set out in Chapter 13 and associated appendices I acknowledge the potential for confusion with regard to the potential effects of shadow flicker where the applicant references compliance with the 2006 Wind Energy Development Guidelines while within the mitigation strategy outlining a commitment to the application of technology to ensure that there are no occurrences of shadow flicker within 10 rotor diameter. I note that within the applicant's response to submissions it is reiterated that shadow flicker control modules can be used to ensure a near zero level of shadow flicker is achieved, allowing for the reaction time of the control modules and time for turbine blades to slow to a stop. It is outlined that during the operation of the proposed development any complaints relating to shadow flicker will be fully investigated by the developer and shadow flicker control system updated accordingly. The Commission will note that while the Draft 2019 Guidelines are still draft, it is now considered best practice to implement a zero shadow flicker mitigation strategy for wind farms in Ireland. In the event of permission therefore a condition should apply to ensure no shadow flicker effects. I am satisfied having regard to my conclusions under the relevant environmental factors that there are no likely significant health effects arising from the proposed development.

With regard to changes to visual amenity, this is addressed in the landscape section below. I am satisfied that given the separation distance to residential properties and the detailed design and layout and available screening the proposed development will not have a significant effect on visual amenity from nearby residential properties.

With regard to mitigation measures these typically comprise standard good practice and or operational practices, which if implemented will largely offset predicted negative effects. With regard to cumulative effects consideration is given particularly to potential renewable energy cumulative effects were the proposed development to be developed concurrently in tandem with proposed Laurclavagh windfarm, Cloonascragh and Cloonlusk. I am satisfied however that standard good practice, co-ordination, implementation of CEMP and best practice construction methods such effects will be effectively mitigated. With regard to cumulative visual effects the increased presence of wind energy infrastructure within the landscape is acknowledged and this is further discussed within the landscape section of the EIA.

9.5.2.7 Conclusion

Having regard to the foregoing it is considered that the main significant direct and indirect effects on population and human health are:

Short term direct and indirect negative effects arising from the construction phase on residential and rural amenity and use of the public road. Longer-term the potential for noise, shadow flicker and landscape and visual effects arises with impact ranging from high medium in the immediate vicinity to low negligible beyond 5km. Negative effects will be mitigated by the distance of dwellings from the construction site, implementation of standard good construction practices, management of construction traffic, distance of turbines from residential dwellings and intervening topography and vegetation. Short term positive effects will arise for the local economy during construction and longer term positive effects for the local community with the community benefit fund. I am satisfied that potential effects on population and human health as a result of the proposed wind farm would be avoided, managed and mitigated by the measures which form part of the proposed

project, the proposed mitigation measures and through suitable conditions. I am therefore, satisfied that the proposed wind farm would not have any unacceptable direct, indirect or cumulative effects on population and human health.

9.6 Biodiversity

9.6.1 Issues Raised

Concerns are raised in third party submissions in relation to the sensitivity of the site and surrounds, the level of assessment in a turlough dense landscape, placement on raised bogs, impact on Cloonbar Bog, inadequate assessment of karst landscape and misclassification and underassessment of Cloonbar East wetland.

Galway County Council assert that the Commission should satisfy itself that the NIS adequately addresses the likely impact on Natura 2000 sites.

The NPWS did not make any submission in relation to the application. It is noted that the applicant outlines within the EIAR that consultations were held with NPWS staff during the scoping process with an online meeting 10th October 2023 in relation to biodiversity receptors within the study area. I note that the meeting involved a presentation of ecological field surveys and focussed in particular on the new access road that would be crossing along the periphery of Cloonbar Bog (Active raised bog – Annex I habitat).

9.6.2 Examination of the EIAR

9.6.2.1 Context

Chapter 9 of the EIAR deals with biodiversity, flora and fauna (excluding ornithology). A Natura Impact Statement also accompanies the application with respect to the implications of the proposed development for Natura 2000 sites and this is further addressed in the Appropriate Assessment section below. Chapter 9 is supported by figures in Volume IV, planning drawings and a number of appendices including Appendix 2.1 Construction Environment Management Plan

(CEMP), Appendix 9.1 Biodiversity Enhancement and Management Plan (BEMP), Appendix 9.2 Aquatic Survey Report and Appendix 9.3 Bat Survey Report.

The assessment of biodiversity effects outlines legislation at National and European level and also has regard to industry best practice guidelines. The appraisal methodology includes desk study, scoping and consultation, and field surveys including:

- Multidisciplinary habitat and botanical surveys were undertaken on 06th 07th and 08th October 2021 , 19th and 20th January 2022 26th September 2022, 22nd June 2023 and from 01st to 03rd March 2025.

- Marsh Fritillary surveys. Potential suitable habitat identified during walkover surveys August- September 2022 and targeted larval web surveys on 31st August 2022.

- Whorl Snail Surveys 8th October 2021, and 27 September 2022.

- Mammal surveys 26th September 2022 and revised 1 June 2024.

- Bat activity transect surveys in 2020 and 2021. Some surveys affected by non compliant weather conditions and detector failures. Walkover survey of potential roosting features on 31st August 2020, 9th September 2021 and 7th June 2022. Static detector surveys were completed during 2020, 2021 and 2023 with static detector survey at height in 2022.

- Surveys to inform the aquatic assessment were completed in 12 locations within the Black (Shrule) river and its tributaries. Surveys included walkover surveys, catchment wide electro fishing, white clawed crayfish surveys (conventional methods and eDNA survey) Freshwater Pearl Mussel Survey, biological water quality survey.

No limitations in the scope, scale or context of botanical and habitat surveys, mammal, invertebrate and herpetofauna surveys were encountered. With regard to bat surveys it is noted that while detectors failed to record for the compliant 10 nights during autumn 2020 the data collected shows activity as soon as weather conditions were compliant. As there was interference by livestock and detector

failure during 2021 spring deployment the detectors were redeployed covering 22 nights between spring and summer deployments. Thus it is contended that there was compensation for potential limitations.

Methodology sets out to evaluate receptors on a scale ranging from international to national to county and local level. Habitats and species were evaluated following NRA 2009 document “Guidelines for Assessment of Ecological Impacts of National Roads Schemes”. Once the value of the identified ecological receptors (features and resources) was determined, the assessment of potential effect of the project on the identified key ecological receptor, follows the EPA evaluation criteria. Assessment of effect considers construction, operational and decommissioning effects with reference to the potential for direct, indirect and cumulative effects. The assessment also takes account of any residual effects that may persist following the implementation of any mitigation or best practice design.

The EIAR uses the EPA (2022) classification of effects in order to describe the quality, significance, duration and type of effect. The magnitude of effect is based on probability of the likely effect occurring, its spatial scale and duration. The ecological significance of the effect is determined following the precautionary principle and in accordance with the methodology set out in Section 5 of CIEEM (2018), whereby an ecologically significant effect is an effect that either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity in general through impacts on the ecological structure and function. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/local nature conservation policy) or more wide ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local. Considerations in terms of determination of significance include whether

- Any processes or key characteristics of key ecological receptors will be removed or changed
- There will be an effect on the nature, extent, structure and function of important ecological features

- There is an effect on the average population size and viability of ecologically important species.
- There is an effect on the conservation status of important ecological habitats and species.

Cumulative effects are assessed in terms of both additive incremental effects and associated /connected effects.

9.6.2.2 Baseline

In terms of sites of international and national importance there is one SAC with potential Source Pathwater Receptor (S-P-R) connectivity namely Lough Corrib SAC (000297). The Proposed Development is located within the Corrib-Togher-BeaghMore, Corrib-Togher-Bellanagarraun and Corrib-Black-CloghansBeg waterbody catchments. The drains and watercourses within these catchments flow to the BLACK (SHRULE)_020 river which is part of the Lough Corrib SAC designated for bog habitats and associated woodland, grasslands, lake habitats, springs and fens, limestone pavement, old oak woodland, freshwater species including salmon, otter and lamprey, freshwater pearl mussel and crayfish, lesser horseshoe bat and flora species: Slender Naiad and Slender Green Feather-moss.

The turbine delivery route uses the road network which crosses the CLARE (GALWAY)_060 river and its tributaries (part of the Lough Corrib SAC), however there are no accommodation works proposed at or near any of the water crossings in this catchment, and as such there is no tangible hydrological connection between the SAC and the turbine delivery works.

In terms of the Lesser Horseshoe Bat the site is not within a distance of any SAC designated to protect habitat which supports the structure and function of lesser horseshoe bat. Field surveys and desktop assessment identified that there are no summer or winter roosts for lesser horseshoe bat within the core foraging range nor within 5-10km of the proposed development. The nearest SAC for lesser horseshoe bats is Kildun Soutterain [002320] circa 13.5km west of the site.

No tangible hydrological connection is identified between the Shrule Turlough SAC and the Proposed Development. Consideration is given to potential hydrogeological connection to the Shrule Turlough as a Groundwater Dependent Terrestrial Ecosystems (GWDTE). It is noted that excavation of peat and soil during the construction phase of the Proposed Development has the potential to cause localised disruption and interruption to groundwater flow. The potential for interruption of groundwater flow to alter the hydrology of the turlough is assessed as negligible having regard to SEPA Land Use Planning System (2017) i.e. the Turlough is beyond the S-P-R zone of influence for hydrological change due to the Proposed Development.[4]

Other SACs designated for the protection of turlough or fen habitats (i.e. GWDTEs) have no hydrogeological, ecological or hydrological S-P-R connectivity with the proposed development having regard to distance from the development, the absence of potential for hydrogeological interaction (ref. the SEPA Land Use Planning System, 2017) and lack of surface water connectivity.

With regard to SPAs initial study area of 20km identified Lough Corrib SPA (004042), Lough Carra SPA (004051) and Lough Mask SPA (004062) protected for wetland and waterbirds and their associated habitats. TDR includes minor accommodation works Galway Harbour designated as part of the Inner Galway Bay SPA (004031) designated for various wetland and waterbirds however given the minor nature of works and urban context no landscape/ecological connectivity to the SPA.

With regard to sites of national importance no NHAs and seventeen pNHAs are located within 15km - Rathbaun Turlough (000215), Altore Lake (000224), Belclare Turlough (000234), Drumbulcaun Bog (000263), Killower Turlough (000282), Knockavanny Turlough (000289), Lough Corrib (000297), Turlough O'Gall (000331), Rostaff Turlough (000385), Ardkill Turlough (000461), Carrowkeel Turlough (000475), Cloughmoyne (000479), Clyard Kettle-Holes (000480),

[4] As per report of ACP consultant hydrologist the evidence presented does not robustly support the lack of potential effects on Shrule Turlough SAC.

Greaghans Turlough (000503), Kilglassan/Caheravoostia Turlough (000504), Shrule Turlough (000525) and Skealoghan Turlough (000541).

Two pNHAs have a potential S-P-R connectivity: Rostaff Turlough pNHA and Lough Corrib pNHA. Rostaff Turlough is located downstream of the Proposed Development and the BLACK (SHRULE)_030 is hydrologically connected to this turlough whereby during flood conditions the turlough and river spill into each other. Similarly, the BLACK (SHRULE)_030 flows in to the Lough Corrib pNHA.

With regard to other habitats of interest, Cloonbar Bog (Active Raised Bog - Annex I habitat type code 7110) – the Article 17 mapping for this habitat is based upon an assessment of aerial photography carried out in 2013. The mapped extent of the bog is 1.04km^2 with the extent of active raised bog being mapped as 0.25ha (given as a minimum, based on aerial photographs). The proposed access track for the wind farm will traverse the periphery of the bog, parallel with the Black (Shrule) river. Cloonbar Bog is mapped in the Map of Irish Wetlands (site code: WMI_GA559). Habitat characterisation of the lands to be traversed by the proposed development determined that the peatland is heavily encroached by scrub at this location and does not correlate to active raised bog habitat. Regarding the commonage area / Cloonbar East Wetland (Dry Heath - Annex I habitat type code 4030) – the data used to inform the Article 17 mapping came from multiple sources and ranges in age from the years 1998 to 2010. The commonage area is located south of T11 and will be traversed by the turbine access track. The commonage area was surveyed in 2021/22 and mapped as part of the Map of Irish Wetlands (site code: WMI_GA560) and is given a 'C Rating: Local conservation value (high value)'. The Map of Irish Wetlands describes the lands as follows: *"Sward height particularly in the grassland is low due to grazing. Heath dominates in the south but grades into grassland throughout. It also has bog characteristics with abundant Calluna vulgaris, Eriophorum angustifolium and Narthecium ossifragum*".

The habitat characterisation of the lands to be traversed by the proposed development, as carried out as part of this EIAR reflects the findings of the Map of Irish Wetlands studies, in that the heath habitat is present only to the south of the mapped extent of the Article 17 mapping indicating the following Annex I habitats.

- Lands west of the proposed new bridge crossing and adjacent to T5 at Beagh More North Cutover (Dry Heath - Annex I habitat type code 4030) – these lands are mapped in Article 17 mapping as dry heath. However, Article 17 mapping here is inaccurate as reflected in the Map of Irish Wetlands (WMI_GA566), and habitat survey carried out for the purpose of this EIAR (as informed by aerial survey in 2022) which shows the habitat to the west of the bridge crossing as agricultural grassland and at Beagh More North Cutover as a mosaic of cutover bog and raised bog habitat.

- Lands at Cloonsheen-Shancloon bog and cutover complex (Dry Heath - Annex I habitat type code 4030)– these lands are included in the Map of Irish Wetlands (WMI_GA562) as a mosaic of wet grassland, raised bog, scrub, fen and cutover bog. There are no works proposed within the lands mapped as Annex 1 type habitat dry heath.

Cloonmweelaun-Cloonaglasha cutover complex (WMI_GA558) which bounds the L6483 local road to the north and south. This road will be used to access the development and will include passing bays, and accommodation works for turbine delivery. Passing bays are located within the road verge, outside wetland habitats associated with the Cloonmweelaun-Cloonaglasha cutover complex. The turbine accommodation works will oversail and overrun into third party land where a load bearing surface will be laid, and a drainage ditch temporarily culverted. Trees and vegetation will be cleared, and one utility pole removed. Affected lands comprise planted mixed conifer woodland dominated by Sitka Spruce (Picea sitchensis) with scattered Ash (Fraxinus excelsior) and Beech (Fagus sylvatica) as well as cutover bog with peripheral growth of willow (Salix sp.) and gorse (Ulex europaeus) scrub. None of these habitats correlate to Annex I type habitats.

With regard to habitats and flora within the site a habitat map (Fossit 2000) classification provided in figure 9.3a, fig 9.3b and fig 9.3c and fig 9.3d. The proposed development is predominantly located within improved agricultural grassland habitat (GA1) often in mosaic with wet grassland (GS4) and within cutover bog (PB4), areas of willow scrub (WS1), conifer plantation (WD4), raised bog (PB1) and calcareous and neutral grassland (GS1) in mosaic with dry calcareous heath (HH2). There is also a large area of dry-humid acid grassland

(GS3) associated with Cloonbar East Wetland. Waterbodies within the Site include a network of drainage ditches, small streams/watercours9es classified as lowland depositing rivers, many of which are the subject of arterial drainage. The hedgerows and treelines within the site are mainly associated with the agricultural lands and waterbody riparian areas.

Table 9.11 sets out all environmental receptors KER and the rationale for their identification as such which include:

- European Designated Sites – Lough Corrib SAC (000297), Lough Corrib SPA (004042), Lough Carra SPA (004051) and Lough Mask SPA
- Nationally Designated Sites Rostaff Turlough pNHA (000385) and Lough Corrib pNHA (000297)
- Terrestrial Habitats. Hedgerows (WL1), Treelines (WL2), Stone Walls (BL1) and Scrub (WS1) – including small area of Bog woodland (WN7) , Cutover bog (PB4), Uncut Raised bog (PB1), Dry calcareous and neutral grassland (GS1) and Dry calcareous heath (HH2), Broadleaved woodland (WD1) and Derelict buildings which are bat roosts. (BL3).
- Aquatic habitats and associated species. Depositing/lowland rivers (FW2), drainage ditches (FW4), White-clawed crayfish Austropotamobius pallipes Fisheries - European eel (Anguilla anguilla), brown trout (Salmo trutta sp.) and salmon (Salmo salar) and lamprey spp
- Protected flora - Eurasian Badger (Meles meles), Otter (lutra lutra)
- Protected terrestrial mammals – Bats

9.6.2.3 Potential Effects.

Likely significant effects of the development are summarised in Table B1 below.

Table B1 Summary of Potential Effects Biodiversity.

Project Phase	Potential Direct, Indirect and Cumulative Effects

Do-nothing	Existing land uses agriculture, turbary, forestry and arterial drainage would continue. General biodiversity on the site would remain similar to current state. Encroaching scrub across the cutover bog would likely continue to colonise drier areas and provide potential habitat for a range of bird and mammal species. Wet grassland habitat near T2 would likely become overgrown with scrub, as such species richness would likely reduce. The Cloonbar East Wetland would likely continue to be heavily grazed. Turbary at the bogs within the study are: Cloonbar bog, Shancloon Bog and Beagh More West Bog is expected to continue. Otter would likely continue to use the streams and rivers within and surrounding the site for commuting and foraging.
Construction	Loss of areas of habitats of local importance (higher value) long term direct habitat loss within the development footprint. temporary to short term deterioration in habitat adjacent to works area, temporary to short term deterioration of aquatic habitat due to runoff from construction areas. Long term loss of Hedgerows (WL1), Treelines (WL2), Stone Walls (BL1) and Scrub (WS1) – including small area of Bog woodland (WN7), Cutover bog (PB4), Uncut Raised bog (PB1), Dry calcareous and neutral grassland (GS1) and Dry calcareous heath (HH2), Broadleaved woodland (WD1), Buildings and artificial surfaces (BL3) (whereby identified as bat roost), and Drainage ditches (FW4). There is potential also for the temporary deterioration of aquatic habitats of watercourses which drain the site due to run-off of pollutants during the construction. Loss of habitat -removal of hedgerow and treeline (2,032m) will constitute a long term but reversible negative effect on the habitat within the site. This equates to a slight long-term effect given the majority of hedgerow and treeline within the site is species poor, gappy and provides a low level of linear connectivity to the wider landscape. Where areas of more established/mature treeline and hedgerow are to be removed (i.e. at T4 and T9), this would constitute a significant long-term effect on a local scale. Loss of scrub habitat (71,112.2m^2) is a slight long-term effect as it covers a very small percentage of the overall scrub habitat within the wider landscape. With regard to raised bog, the construction of floated access road to T11 along the periphery of Cloonbar Bog is within scrub habitat. Construction platform will be required which will encroach into uncut raised bog with temporary loss of this

	habitat. Excavation will result in permanent loss of this habitat with localised disruption and interruption to groundwater flow causing alteration/change in quality or quantity of groundwater feeding the groundwater dependent terrestrial ecosystem. Considered a moderate permanent effect as drying out of peat at this location is ongoing and consistent with existing and emerging baseline trends. No significant drainage related effects on uncut raised bog habitat is anticipated. Permanent loss of degraded peat habitat at the location of the access track is a moderate permanent effect. Potential that piling could act as a barrier to the artificial draw down of peat soil moisture content (created by the artificially deepened and channelized Black (Shrule) river) potentially providing an opportunity for degraded intact bog habitat to be rewetted. This would be a significant permanent positive effect. Alternatively piles can be designed to allow the continuation of the existing hydrological regime at this location on the bog. Cutover Bog. Construction will result in direct loss of 32,403.71m^2 of cutover bog. Reduction in overall area is a permanent slight negative effect at local scale. Disturbance to and loss of heath/grassland mosaic considered a moderate effect as it covers a small percentage of the overall habitat within the wider landscape. Neutral effects on broadleaved woodland and no potential for significant effects on buildings and artificial surfaces. Potential for spread of invasive alien plant species- Japanese knotweed would be a significant short term but reversible effect. Effect of spread of water fern, canadian pondweed in the Togher and crayfish in Corrib would be significant and long term albeit reversible. Potential for degradation or loss of aquatic habitat of ecological value through indirect effects resulting from water pollution. Potential for disturbance to aquatic fauna during in stream works as associated with sheet piling adjacent to Cloonbar Bog and at culvert and bridge crossings and at culvert and bridge crossings. Loss of riparian habitat within the footprint of bridge/culvert and piling works. Such effects are significant long term negative effects. Culvert crossing near source of Black (Shule) river potential disturbance to instream or riparian habitat of moderate effect with moderate long term negative effect to fisheries. Bridge crossing on Togher River. Flume pipe potential to result in scouring of riverbed and bank, impediment of fish passage and damage to fishery habitat through compaction and isolation

	from river flow and sedimentation of downstream watercourses through bed disturbance during installation and removal. Potential negative effect on fishery habitat and access to upstream supporting habitat significant long term negative effect. Moderate temporary effect through loss of smaller ammoceotes. No potential for significant effects as a result of direct habitat loss for fisheries and aquatic fauna on arterial drainage channels. For arterial drainage channel CH4/13/5 farm access crossing to be extended has potential to cause degradation of spawning habitat, sedimentation of downstream fishery habitat and impediment to fishery movement. Significant short term effect. HDD crossing for 33 kV cable on Togher River. Will not affect riparian habitat, No instream works. Potential for loss or damage to aquatic or riparian environment temporary and not significant. Potential runoff an infiltration of pollutants including silts hydrocarbon and cementation material to drains and watercourses represents potential indirect short term significant effect on aquatic receptors in the form of habitat degradation. Terrestrial Fauna - Habitat loss and disturbance – not significant. Badger sett located 10m from proposed floated road infrastructure. Potential for damage to badger sett through ground compaction above tunnel site, would have permanent slight negative effect at a local level. Potential for injury to badgers through interaction with open excavations slight negative effect at local level. No fragmentation of badger habitat as no barriers to movement. Small scale reduction in available foraging habitat. Otter - No permanent fragmentation of otter habitat. No potential for direct effects on otter resting or breeding sites however potential for temporary interruption to otter commuting along the riverbanks at location of culvert and bridge crossings and sheet piling works. Resulting in short term slight negative effect. Indirect effect of water pollution in the absence of mitigation has potential to be short term negative significant effect. Bats - loss or damage to commuting and foraging habitat. Slight effect from removal of riparian vegetation. Loss of forestry / woodland habitat permanent slight effect on bat foraging and commuting landscape. Loss or damage to bat roosts – No significant effects. Neutral effects no potential bat tree roost features. No potential for

	damage or destruction to confirmed roosts identified in buildings and structures. Displacement. Confirmed bat roosts within and proximate to site F1, F2 and F3 may potentially be disturbed during construction through noise and lighting effects. Temporary significant effect.
Operation	Potential pathway for effects via local hydrology. No effects on protected sites are likely. Effects on habitats and fauna, - habitat enhancement measures as part of the Biodiversity Enhancement and Management Plan. Potential effects on aquatic environments and associated aquatic fauna. Increased surface runoff. Potential for runoff of pollutants unlikely. Significant effects on water quality are not anticipated at any geographic scale during operation. Operational phase effects on terrestrial fauna. Biodiversity enhancement and management measures will have an overall long term positive significant effect on local biodiversity relative to the baseline scenario and likely evolution thereof through natural changes. Collision risk - average bat risk low to moderate. With regard to indirect effect on bat roosts through collision and barotrauma as roosts are outside 200m plus rotor buffer effects on roosts unlikely.
Decommissioning	Similar to construction but on a lesser scale.
Cumulative	No significant cumulative impacts predicted.

9.6.2.4 Mitigation

Regarding mitigation measures for biodiversity key mitigation by avoidance and design including avoidance of direct impact on designated sites, potentially sensitive habitats, provision of adequate buffers and avoidance of instream works. In addition the EIAR proposes a suite of mitigation measures to offset potential effects on biodiversity for all phases of the development. Mitigation measures include standard best practice construction measures and practices in particular for the management of surface water and the prevention of release of

contaminants. A biodiversity management and enhancement plan BMEP (Appendix 9.1) is also included. Biodiversity mitigation measures include :

BEMP Measures.

- drain-blocking peat reprofiling at the location of cutover bog near T11 and immediately adjacent to the facebank at Cloonbar Bog
- management of scrub encroachment within the dry calcareous and neutral grassland (GS1) and dry calcareous heath (HH2) near the main construction compound for the Site,
- enhance habitat availability for bats within the landscape through mixed woodland planting,
- translocation of wet grassland turves from lands at T2 and management of same for Marsh Fritillary,
- Installation of bat bricks on the new bridge crossing,
- Creation of two woodland corridors adjacent to existing conifer forestry plots located adjacent to (outside) of the red line boundary so as to ensure future commuting and foraging edge habitat for bats following the future felling of these conifer plantations.

Construction Stage Mitigation following best practice guidelines.

Project Ecologist /Ecological Clerk of Works (ECoW) employed for the duration of construction phase

Implementation of mitigation measures, environmental commitments as well as monitoring and supervision to be managed through the CEMP.

Works within and adjacent to watercourses, as part of HDD, culvert and new bridge construction, will adhere the guidelines set out in the best practice documents for the control of water pollution:

Installation of flume on Togher river and construction of culvert on arterial drainage channel CH4/13/5 will be carried out outside of the salmonid and lamprey spawning seasons.

HDD crossing for Togher River outside of the salmonid and lamprey spawning seasons.

For all in-stream works the flows will be either over-pumped or flumed. Mitigation for the prevention of downstream pollution/ sedimentation of the watercourses

Electrofishing will be carried out in accordance with 'Guidelines for Electric Fishing Best Practice' by Beaumont et al., (2002) and 'Electrofishing team leader training manual' by SFCC (2007) and Guidance for wadable stretches CFB (2008). Fish salvage / translocation operations will only be conducted by qualified ecologists/technicians and under licence issued under Section 14 of the Fisheries (Consolidation) Act, 1959 as substituted by Section 4 of the Fisheries (Amendment) Act, 1962.

Specific mitigation targeted towards the protection of aquatic species at three locations namely:

1. The fluming of the Togher River to accommodate the new bridge crossing will require mitigation for lamprey juvenile and the protection of other fisheries.

2. Piling works on the Black (Shrule) River – the riverbed is suitable for juvenile lamprey, albeit no spawning habitat exists on this channel. Notwithstanding as a precautionary measure mitigation is proposed for juvenile lamprey.

3. The new culvert on arterial drainage channel CH4/13/5 will require mitigation for suitable lamprey and brown trout spawning gravels

Habitats and Flora.

Hedgerow / treeline reinstatement

Mitigation measures for tree felling.

Management of spread of non native invasive species and aquatic invasive species.

Check clean dry protocol to be rigidly employed under the supervision of Project Ecologist (ECoW).

Mammals (excluding bats) Preconstruction mammal survey

Ecologist to supervise areas where vegetation removal and tree felling will occur prior to and during construction to reconfirm site specific issues.

Construction operations will take place predominantly during the hours of daylight to minimise disturbances to faunal species at night. Where works must occur at night all artificial lighting will be cowled away from treelines and hedgerows and dense scrub.

Badger sett. Badgers to be excluded from sett prior to commencement as necessary. Monitoring. Pre mitigation monitoring and ecological supervision,

Otter - Pre construction mammal survey to reconfirm the existing environment as described in the EIAR and, if an otter holt is encountered at any point, NPWS informed and NRA Guidelines followed.

Red squirrel- Felling limited to periods outside which red squirrel may have young in dreys.

Irish hare pygmy shrew and hedgehog. Ecologist supervision and instruction.

Bats - Supervision of vegetation clearance. Retention of trees. Protection of roots by exclusions zones. Compensation for loss of commuting routes / diversion from felling buffers. Hedgerow maintenance. Lighting restrictions.

Amphibian species. Pre construction surveys, translocation under licence where active breeding drains are within the development footprint.

Mitigation during operation

Hydrology and Water quality measures to ensure that there will be no contamination of water bodies due to siltation or contaminated run-off during the operational phase.

Monitoring and where required treatment of invasive species in accordance with invasive species management measures.

Bats. Setback buffers. Vegetation clearance buffer zone. 90m for all turbines with the exception of T4 which uses a 100m buffer on the basis that a feature height of 20m was used to represent the larger tree species at this location.

Blade feathering in low wind speeds.

Cut in speeds / curtailment. -Smart curtailment regime from year four of operation. Post construction surveys to be undertaken for the first three years of operation.

Acoustic monitoring and thermal imaging.

Lighting. Red aviation obstruction lights on permitter turbines subject to approval by the IAA.

Management of tree buffer zones.

Bat fatality monitoring.

Aquatic Ecology

Weekly inspection of erosion and sediment control measures.

Monitoring of mitigation measures.

9.6.2.5 Residual Effects

With the implementation of proposed mitigation measures, no significant residual effects on key ecological receptors are predicted. Impacts on European sites are considered in the Appropriate Assessment section of this report. No residual effects are predicted for habitats and flora and no significant loss of aquatic habitat. BEMP includes overall uplift in biodiversity through woodland planting and grassland management. Loss of hedgerow, scrub and treelines will be fully compensated for by replanting. No significant residual negative effect on raised bog habitat. The BEMP provides for the protection of existing degraded bog through peat infilling of

cutover and associated drain blocking measures designed to improve the overall condition of the habitat by maintaining water levels close to the surface of the peat.

Measures to protect mammals include restricting felling operations to outside their breeding periods, and pre-felling surveys are proposed where this cannot be facilitated. Pre-clearance vegetation checks to protect Badger, Irish Hare, Pygmy Shrew and Hedgehog will be carried out by an ecologist as required. The badger sett which is to be removed is not considered to be significant to the population. Some permanent loss of areas of grassland and plantation forestry habitats which could be used by foraging and breeding mammals for shelter/breeding will occur. The implementation of mitigation measures will reduce residual impacts during construction, operation and decommissioning phases to long-term imperceptible negative reversible impacts in the local context. Following the implementation of mitigation, there will be no significant residual effect on mammals.

Regarding bats. Design and standard best practice measures proposed during construction combined with the purposeful design of the development to avoid high value bat habitat will ensure no significant residual effect on local bat populations.

Following the implementation of mitigation, there will be no significant residual effect on aquatic habitats or species. The design of the Proposed Development (including a 50m buffer between the main watercourses within the Proposed Development and the main infrastructure and the best practice measures to be implemented for the protection of water quality will ensure that there is no significant residual effect on watercourses or aquatic fauna.

No significant residual impacts are predicted on biodiversity.

9.6.2.6 Analysis, Evaluation and Assessment: Direct and Indirect Effects

I have examined, analysed, and evaluated Chapter 9 of the EIAR, all of the associated documentation and submissions on file in respect of effects on biodiversity. I also refer to the two specialist consultants reports prepared for An Coimisiún Pleanála appended to this Inspector's report : Specialist Consultant Report to The Assistant Director of Planning Prepared for An Coimisiún Pleanála (ACP) Case Ref. No.: ACP-323699**,** BW Consulting

Engineer Ltd, dated 10 June 2026 and 323699 Shancloon Windfarm, Co Galway, Hydrogeological Review, JD Solutions dated June 2026.

I am satisfied that the applicant has demonstrated a good understanding of the baseline environment and the likely environmental effects of the development. The application notes that the proposed development is situated predominantly within agricultural grassland habitat (GA1) often in mosaic with wet grassland (GS4) and within cutover bog (PB4) areas of willow scrub (WS1), conifer plantation (WD4), raised bog (PB1) and calcareous and neutral grassland (GS1) in mosaic with dry calcareous heath (HH2) and a large area of dry-humid acid grassland (GS3) associated with Cloonbar East Wetland. Waterbodies within the site include a network of drainage ditches, small streams / watercourses classified as lowland depositing rivers many of which are subject to arterial drainage. Hedgerows and treelines within the site are mainly associated with fields boundaries and waterbody riparian areas.

With regard to the habitat classification of Cloonbar East Wetland, which is raised in a number of observer submissions, I note the specialist consultant's report BW Consultant Engineer at 3, Section 2. Para 3.1 highlights some inconsistency in the submitted reports regarding habitat accounts for Cloonbar East Wetland and draws the conclusion that the submitted information does not fully resolve the range, distribution and spatial extent of the habitats present within the area. The specialist consultant notes that his site visit confirmed that the habitat mosaic on the ground appears more varied than is outlined in the submitted material and that the extent of the Dry humid acid grassland (GS3) expression may be overstated in places. His site observations indicate that the submitted material underrepresents local variation and transitional expressions within the wetland. It is noted that a survey during the optimal botanical period would be required to fully resolve habitat types, spatial extents and floristic composition. It is further submitted that based on field observations the habitat classification presented is too broad, certain onsite features are not clearly distinguished and on this basis the adequacy of the habitat classification is not fully demonstrated by the level of detail presented.

Reference is made to the submission by Professor Mike Gormally, Dr Micheline Sheehy Skeffington (Past President of the Botanical Society of Britain and Ireland)

Dr Steven Sylvester (Plant Taxonomist and Ecologist) which noted following visit to the area reported the occurrence of protected flora within the site /wider wetland area. Dr Skeffington's submission further indicates that the site may support at least three potential EU Annex I habitats including Transition Mire [7140], orchid rich calcareous grassland, and wet heath [4010]. The specialist consultant asserts that while the submission points do not in themselves entirely displace the applicant's habitat classification, they are material, in that they identify a credible alternative botanical interpretation of parts of the site. In that context, the absence of sufficiently clear and spatially explicit supporting botanical survey coverage in the applicant's submitted material limits the extent to which those competing classifications can be independently resolved from the EIAR documentation. Additional survey work during the optimal botanical survey season would be required to ensure a more definitive independent view on the adequacy of botanical surveys completed.

With regard to the conservation value of Cloonbar Bog and the implications of the proposed development on peatland ecology and bog restoration it is noted that peatland habitats appear to have been classified mainly by reference to desktop study, walkover surveys and habitat / botanical survey methods with no separate peatland condition methodology within chapter 9 biodiversity. Although peat probing studies and geotechnical investigations are described in chapter 11 and supporting appendices, no clear evidential linkage is presented between these investigations and the ecological classification of Cloonbar Bog habitat and its condition. The chapter 11 investigations were instead directed to site ground conditions, including peat depth, slope stability, karst characterisation and engineering design. The submitted material does not clearly define the extent, condition and functional relationship of the relevant bog habits within the ZoI.

With regard to the implications of the proposed development on peatland ecology and bog restoration it is noted that at Chapter 9 Table 9.15 of the EIAR summarising the effects of the development on uncut raised bog (BB1), reference is made to active raised bog habitat within Cloonbar Bog beyond the footprint of the development and uncut raised bog which does not correlate to Annex I type habitat. Reference is made to habitat within the redline boundary being assigned

a conservation value of local importance (higher value) which is in contrast to active raised bog within Cloonbar Bog, beyond the footprint of development - assigned a conservation value of national importance. The defined boundary between the active raised bog Annex I and uncut raised bog (which does not correlate to Annex I) is not set out in the submitted materials nor is the particular ZoI for the listed active raised bog in terms of the potential construction, operational and decommissioning effects which could alter critical environmental parameters necessary for groundwater dependent terrestrial ecosystem (GWDTE) active raised bog.

The habitat loss of the GTDTE raised bog in the construction of the floated road and sheet pile construction technique in Cloonbar Bog, will involve encroaching into uncut raised bog. As the floated road is to remain in place following decommissioning this is listed as both temporary and permanent effect. The Expert consultant considers that chapter 9 is not sufficiently clear or detailed to allow the relationship between the affected marginal bog habitat, the wider Cloonbar bog unit and the stated raised bog interest to be appraised with confidence. With regard to the biodiversity enhancement measures outlined in the BEMP the peatland restoration component of the BEMP is limited in scope and detail. "*It does not clearly establish the restoration objectives, the ecological and ecohydrological basis for selected measures, the relationship between the proposed restoration areas and the affected bog unit, the criteria by which success would be measured, or the basis on which the proposed measures could be relied upon to offset or materially reduce effects on peatland ecology or bog restoration at Cloonbar Bog.*"

Noting that active raised bog is a priority habitat listed on Annex I of the EU habitats Directive and that while acknowledging that Cloonbar bog is outside of SAC designation, raised bog habitats classified as neither active raised bog nor degraded raised bog habitats may still be important as they can form part of the hydrological unit supporting Annex I active raised bog and raised bog habitats. Galway County Development Plan 2022-2028 provides a basis for the protection of non-designated habitats of biodiversity value including objectives directed to the protection of wetlands, peatlands, ecological connectivity and habitats outside

designated sites where proposals may give rise to drainage fragmentation or degradation. The expert report concludes that :

"On the information submitted, there is insufficient site and project specific peatland evidence to support a robust independent appraisal of the conservation value of Cloonbar Bog and the likely implications of the proposed development for peatland ecology and bog restoration. The limitation lies in the extent of the peatland evidence within the submitted information. The same limitation means that a clear site-specific, data based and conditionable impact avoidance, mitigation and restoration strategy cannot presently be defined on the basis of the documents reviewed."

While the BEMP outlines a number of peatland restoration related measures including localised drain blocking in cutover bog, drain blocking peat profiling in cutover bog near T11 and adjacent to facebank at Cloonbar Bog, management of scrub encroachment, blocking of drains the level of detail is limited. It is further noted that a later submission by planning condition would not remedy the present deficiencies in baseline evidence, impact assessment and restoration design. It would not be appropriate to place undue weight on restoration success as an assumed ecological outcome of the proposal.

The specialist report recommends that further site and project specific information would be required in respect of key parameters including the following : peat depth and distribution, peat condition and profile, hydrology, ecohydrology and hydrogeology, local topographical and microtopographical data, peat stability, peat interfaces, peat management and GIS spatial analysis of the affected lands that form part of a wider peatland unit, including the restoration potential and hydrological connectivity to adjoining habitats, including lagg zones. A site specific peatland restoration and management plan should be provided in this regard.

Having considered the information submitted and particularly in light of the report of specialist consultants I conclude that given the knowledge gap it is not possible to assess the extent of affected bog unit within Cloonbar Bog and the implications of the propsoed development for peatland ecology and bog restoration. Furthermore given the limitations of the redline site boundary it is evident that the

proposed development would potentially give rise to significant adverse effects on third party lands beyond the site boundary which in the absence of the detailed information as outlined is unknown.

With regard to third party concerns regarding impact on local wildlife I am satisfied that it has been demonstrated that no significant impact on faunal biodiversity will arise during construction due to avoidance of significant areas of faunal habitat and specific mitigation measures. Potential disturbance during construction including to badger, otter is a short term effect. With regard to operation the implementation of BMEP has the potential to provide higher value habitats for local faunal population. With regard to bats a short term imperceptible negative effects is predicted on local species during construction while collision risk barotrauma is predicted to be moderate due to the absence of significant roosts in the vicinity.

With regard to Marsh Fritillary (Euphydryas Aurinia) Annex II listed species, I note the concerns raised within the observer submissions alleging methodological deficiency in survey effort to the extent that the decision to exclude Marsh Fritillary as a key environmental receptor is called into question. It is further contended that the poorly constructed BEMP gives rise to a risk of fragmentation of existing colonies disrupting habitat connectivity. The applicant contends that there are no areas identified as providing suitable habitat for this species within the redline boundary.

I refer the Board to Section 3.3 of the Specialist Consultant Report BW Consultant Engineer which addresses the question of adequacy of methodology and survey and sufficiency of the propsoed measures within the BEMP with regard to active management for Marsh Fritillary habitat enhancement. The report notes that marsh fritillary should not be treated as fixed from year to year as populations fluctuate enormously in a cyclical manner. At the landscape scale Marsh Fritillary should be regarded as a metapopulation species dependent on a network of suitable habitat patches within the dispersal range of one another. Maximum dispersal distance is 10km. The commonly applied landscape framework distinguishes between a 1km core landscape around recent records and a surrounding 2km functional landscape.

The expert consultant questions the habitat suitability screening rather than the dedicated larval web survey itself noting that only two locations within the red line boundary or immediate vicinity were taken forward as having the potential to support the species. It is outlined that :

"*The supporting basis upon which other parts of the site and wider wetland mosaic were screened out is not presented with sufficient clarity to allow that conclusion to be independently verified. In particular, the submitted information does not clearly document walkover transect coverage, the plot-based or target-note evidence relied upon, or the spatial distribution and abundance of Devil's-bit Scabious across the wider area.*

This is relevant in the present case, because Marsh Fritillary was confirmed at Tonacooleen West wetland within the wider survey area, and because the BEMP itself identifies two wet grassland parcels for active management and enhancement for the species. Professor Mike Gormally's submission also points to known Marsh Fritillary occurrence in the vicinity of Turbine 9. Those matters do not establish that additional suitable habitat must be present within the site; however, they do increase the need for the adequacy and transparency of the suitability appraisal used to exclude further areas. In that context, the submitted methodology may underrepresent habitat suitability within the wider site and adjoining wetland mosaic, particularly where habitat classification is broad. Having regard to the author's walkover observations, additional potentially suitable habitat in the vicinity of turbine 9, and elsewhere within the wider wetland mosaic, should not be ruled out on the submitted information alone.

The submitted information does not fully demonstrate that all potentially suitable Marsh Fritillary habitat within the site and wider wetland mosaic was captured by the screening appraisal and survey approach adopted. The concern is therefore one of methodological insufficiency and residual uncertainty, rather than survey error."

The consultant concludes that the methodology adopted for marsh fritillary appears broadly appropriate in principle. The residual qualification is whether the extent of habitat appraisal and species survey was sufficient to characterise the marsh

fritillary resource at a functionally meaningful scale i.e. question of "*methodological limitation and residual uncertainty on the information submitted, rather than demonstrated survey error*." Having regard to these recommendations I conclude that a clearly evidenced and spatially explicit suitability appraisal would provide greater certainty with regard to the framework for habitat enhancement and monitoring as part of the BEMP. As per report of specialist consultant a condition led framework has been recommended including pre construction marsh fritillary survey, protection of management areas, management areas maintenance and monitoring.

I also note as per specialist consultant's report additional conditions are recommended in respect of amphibians in particular smooth newt to include pre construction verification and mapping, targeted surveys under NPWS licence where required, ecological supervision of site clearance and construction works in suitable amphibian habitat and post construction monitoring with adaptive management where required.

9.6.2.7 Conclusion

I have had regard to the various submissions received in respect of the application raising concerns in respect to biodiversity. I have also had regard to the reports of the specialist consultants engaged by An Coimisiún Pleanála to advise on ecological and hydrogeological aspects of development. Both reports are appended to this report and the findings of which have been accepted and form part of my recommendation. I consider that the applicant has provided information within the planning application documents to allow a number of impacts of the proposed development to be assessed. I am satisfied that a number of the impacts identified on biodiversity would largely be avoided, managed or mitigated by the measures forming part of the proposed scheme or by appropriate conditions. However, I am not satisfied that the level of detail is sufficient to support a robust appraisal of the conservation value of Cloonbar Bog and of the likely implications of the propsoed development for Active Raised bog habitats Annex I, peatland ecology and bog restoration. Furthermore, having regard to the information

submitted to An Coimisiún Pleanála regarding the botanical interpretation of parts of the site the classification of Cloonbar East Wetland is unresolved in terms of spatial extent, transitional character, conservation value and potential correspondence with Anex I habitat types. Therefore the baseline information is inadequate to inform the evaluation of biodiversity receptor importance, impact magnitude and significance.

9.7 Ornithology

I note that the ornithology assessment is informed and should be read in conjunction with the detailed report dated 10/06/2026 compiled by the specialist consultant BW Consultant Engineer Ltd. which is appended to this report.

9.7.1 Issues Raised

Third party and prescribed body submissions which are usefully summarised in Table 3 (Appendix 1) of Specialist Consultant's report raise concerns regarding

- Adequacy of the survey methodology.
- Application and robustness of the Collision Risk Modelling, and factors used.
- Potential effects on Annex I, SPA SCIs, and red-listed species.
- Functional ecological connectivity and potential effects on the Lough Corrib SPA.
- Barrier effects and implications regarding migration routes and inter-turlough movements.
- Appropriateness of the impact assessment, mitigation strategy, and conclusions reached within Chapter 10 of the EIAR and the NIS.

9.7.2 Examination of the EIAR

7.7.2.1 Context

Chapter 10 of the EIAR deals with ornithology and is supported by Ornithology Survey Report including Collision Risk Model contained at Appendix 10-1 of the EIAR.

Section 10.4 provides a statement of authority and details of personnel involved, their qualifications, experience and specific role in various ecological assessments implying that ornithological content of the application has been prepared by suitably qualified and experienced personnel.

In terms of methodology the survey programme was undertaken between 2019 and 2024 and included vantage point (VP) surveys, breeding bird surveys, breeding raptor surveys, winter walkover surveys, wintering waterbird surveys and targeted hen harrier roost surveys. The spatial coverage of surveys ranged from the 500 m turbine buffer used for vantage point and walkover surveys, to 2 km buffers for raptor and Hen Harrier surveys, and 6 km for the wintering waterbird surveys. The survey programme appears broadly consistent with established ornithological survey methodologies used for proposed wind farm projects in terms of survey types, spatial coverage and durations. A limitation is noted by the applicant regarding the breeding bird survey duration, in that only two surveys were undertaken during the 2020 breeding season, where the guidance recommends three visits for breeding surveys. No dedicated project-specific nocturnal flight activity dataset, thermal imaging dataset or acoustic monitoring dataset was provided for the wetland SPA-linked species, to directly inform the assessment. Up to twenty-five dusk hen harrier surveys were undertaken across the 2019/20, 2020/21 and 2023/24 periods.

In terms of impact assessment the ecological impact assessment framework (EPA 2022) is followed with predicted effects identified through consideration of receptor sensitivity and magnitude of potential impacts associated with the proposed development.

9.7.2.2 Baseline

Site described as located within landscape characterised by improved agricultural grassland habitat (GA1), often in mosaic with wet grassland (GS4), and cutover

bog (PB4) with areas of willow scrub (WS1), conifer plantation (WD4), raised bog (PB1) and calcareous and neutral grassland (GS1) in mosaic with dry calcareous heath (HH2), Chapter 10 of the EIAR identifies an area of dry-humid grassland (GS3) associated with the Cloonbar East Wetland. The surrounding region contains an array of turloughs, watercourses and other waterbodies. These features also provide foraging and commuting habitat for a range of bird species, including SCI species of the nearby European sites. Reference to surface karst features is made in the NIS.

In terms of designated sites several Natura 2000 sites, including Lough Corrib SPA, Lough Mask SPA, and Lough Corrib SAC are located nearby. Lough Corrib SPA is designated for thirteen SCIs, and wetlands (NPWS, 2023). Lough Mask is designated for six SCIs, and wetlands (NPWS, 2025). The following SCI species are considered relevant to the ornithological context of the proposed development, having regard to the range of suitable habitat types within the surrounding landscape:

- Pochard (*Aythya ferina*) [A059].
- Tufted Duck (*Aythya fuligula*) [A061].
- Common Scoter (*Melanitta nigra*) [A065].
- Hen Harrier (*Circus cyaneus*) [A082].
- Coot (*Fulica atra*) [A125].
- Golden Plover (*Pluvialis apricaria*) [A140].
- Black-headed Gull (*Chroicocephalus ridibundus*) [A179].
- Common Gull (*Larus canus*) [A182].
- Lesser Black-backed Gull (*Larus fuscus*) [A183].
- Common Tern (*Sterna hirundo*) [A193].
- Arctic Tern (*Sterna paradisaea*) [A194].
- Greenland White-fronted Goose (*Anser albifrons flavirostris*) [A395].
- Shoveler (*Spatula clypeata*) [A056].

- Gadwall (*Mareca strepera*) [A051].

Baseline ornithological data in Chapter 10 and associated appendices was established through a programme of desk study and field survey undertaken between 2019 and 2024 (excluding 2022), encompassing three breeding seasons and three non-breeding seasons.

The ornithological assessment was based on several spatial scales including the development, a 500m buffer surrounding turbine locations used in relation to collision risk and target species flight activity, a 2km radius envelope for VP survey coverage and a winter waterbird survey extending to 6km from the proposed development to capture usage relating to nearby turloughs and wetland habitats across the wider landscape. The combined VP locations provided a visibility of approximately 99.16% of the 500m buffer surrounding the turbine location. The survey covered three breeding bird seasons and three non-breeding seasons of VP watches, amounting to 1,085 hours of VP watch data (545 hours during the non-breeding seasons and 540 hours during breeding seasons). Collision Risk Modelling was undertaken for target species having a total aggregate flight time of greater than 400 seconds within the potential collision risk zone (CRZ) over the three year survey period, together with more than three observations over the study period. Species with an aggregate flight time of less than 400 seconds were excluded from the analysis on the basis that the effect of collision risk was considered negligible.

The survey programme recorded the presence of a range of birds associated with the surrounding habitat types, and included a variety of gulls, raptors, waders and waterbirds, along with passerines and some upland breeding species. Collision risk modelling was run for 14 target species, Buzzard, Cormorant, Curlew (red-listed), Golden Plover (Annex I; red-listed), Great Black-backed Gull, Herring Gull, Kestrel (red-listed), Lapwing (red-listed), Lesser Black-backed Gull, Mallard, Snipe (red-listed), Sparrowhawk, Whimbrel, and Whooper Swan (Annex I; amber listed).

Only one Lough Corrib SPA SCI species met the threshold criteria for inclusion in the collision risk modelling, namely Golden Plover. The Lough Corrib SPA SCI species Hen Harrier and Greenland White-fronted Goose were excluded based on

the rationale that only 98 seconds and less than 200 seconds of flight time within the CRZ were recorded, respectively. The maximum Greenland White-fronted Goose flock size recorded during winter surveys in the surrounding landscape included up to 50 individuals (Visit no. 3 in the 2020-2021 winter survey). Hen Harrier activity totalled 637 seconds within the 500 m turbine buffer, of which 98 seconds were recorded within the collision risk zone. Suitable breeding habitats for hen harrier (and Merlin) were identified within the 2 km turbine buffer where open bog habitat with scrubby fringes was noted adjacent to a conifer plantation.

9.7.2.3 Potential Effects

Likely significant effects of the development are summarised in Table O1 below:

Table O1 Summary of Potential Effects Ornithology.

Project Phase	Potential Direct, Indirect and Cumulative effects
Do-nothing	The existing environmental and key receptors identified would likely remain as previously described, assuming continuation of existing agricultural activities at the site and ongoing forestry-related operations. Forestry management activities may cause ecological receptors to fluctuate in abundance and distribution during different stages of forestry operation. The habitats and species at the project site would remain as they currently occur.
Construction	The main direct effects during construction are habitat loss/alteration. Habitat loss may occur where land is permanently or temporarily taken for turbine bases, crane hardstands, access tracks, site compounds and associated infrastructure. Habitat loss quantified for 11 habitat types (Table 10-11) Disturbance and/or displacement arising from increased human presence, noise vibration earthworks and site activities. Indirect effects comprise disturbance and/or displacement arising from construction-related activities, including vehicle and personnel movement, vibration, noise and visual intrusion. Construction phase effects range from very low to low in significance, short-term in duration and not significant.
Operation	Direct effects during operation comprise collision risk and disturbance. Collision risk zone defined by reference to bird

	flight activity at heights between the minimum and maximum rotor swept height, within the 500 m turbine buffer. Indirect effects - Disturbance or displacement effects may occur where the presence and operation of turbines influence birds' use of habitats within the development site or the wider ZoI. Barrier effects may occur where turbine structures influence bird movement patterns across the landscape. Such effects can occur when birds alter flight routes in response to turbine structures, potentially increasing flight distances and energy requirements, or alter movement patterns between feeding and roosting areas. Table 10-13 summarises potential operational effects on non passerine target species. No effect greater than long term slight is predicted. No significant operational ornithological effects anticipated.
Decommissioning	Decommissioning effects are identified as similar to those of the construction phase. No additional habitat loss is predicted The magnitude and significance of disturbance similar to those identified for the construction phase.
Cumulative	Cumulative effects (with other existing permitted and proposed wind energy projects within 25km distance Proposed Clonberne Laurclavagh and permitted Cloonlisk and Cloonascaragh) considered were determined to be negligible, and no significant additive, antagonistic or synergistic effects are anticipated. Snipe was the only bird species identified as having a long-term, low-level, negative cumulative effect; an estimated 2.19% increase in annual mortality rate due to collision. Direct cumulative effects relating to the construction and operational phase considered for 20 bird species Table 10-18.

9.7.2.4 Mitigation

Mitigation is based largely on avoidance and design, standard construction phase controls and post-construction monitoring. Operational curtailment or turbine shutdown regimes not proposed. Turbine layout was informed by multiple models and areas of higher bird activity were considered and avoided. Proposed road and infrastructure layout appears directed, in general, towards lower-value agricultural grasslands, to reduce higher-value habitat loss. The proposed floated road design

at Cloonbar Bog is stated to incorporate a lower noise construction methodology in order to reduce disturbance.

For the construction phase, a project ecologist/Ecological Clerk of Works (ECoW) will oversee implementation of the ecological mitigation and will have the authority to stop construction activities where significant adverse effects may arise. General ornithological measures include: phased turbine construction to reduce areas of concurrent disturbance; provision of a Kestrel nest box in areas identified as breeding territories; restriction of vegetation, scrub and tree removal to outside the bird breeding season; confinement of construction operations to daylight hours (insofar as possible), with any necessary night-time work to be supervised by the ECoW; use of screens where construction disturbance during the breeding season cannot be avoided; toolbox talks for construction staff; reinstatement planting of hedgerows with locally sourced native species; and a confirmatory pre-construction survey in March/April at turbine locations to identify any new target bird species activity or occupation, with works restricted accordingly.

For the operational phase, a post-construction monitoring programme will be implemented at the project site, with results to be submitted annually to the local authority and the NPWS. The proposed monitoring programme comprises fatality monitoring, flight activity surveys to record barrier effects and changes in flight height, monthly winter census work to assess displacement and habitat usage change, breeding bird surveys and wader surveys. Post construction surveys are proposed in years 1,2, 3,5,10 and 15 with further provision to be agreed with NPWS.

9.7.2.5 Residual Impacts

No effect greater than *low* was identified for any key receptor (Percival, 2003). No effect greater than *short-term moderate* and *long-term slight* was identified for any residual effect. A re-confirmatory pre-construction survey (March/April) will be conducted at the proposed turbine locations to assess any evidence of target species activity or the occupation of new territories. Should any new nests be recorded, works at these locations will be restricted to outside the breeding season (April-July) or until chicks are deemed to have fledged (following monitoring). A

comprehensive monitoring program will also be implemented following construction to monitor the degree of barrier effect, if any, on existing species as a result of the development, in addition to comprehensively monitoring any bird fatalities.

9.7.2.6 Assessment Direct and Indirect Effects Ornithology

I refer to the report of the Specialist Consultant (Section 2.8), appended which provides comprehensive analysis, evaluation and assessment of direct and indirect effects as follows:

Chapter 10 of the EIAR, and its associated appendices, contains a substantial body of ornithological information derived from multi-seasonal and multi-annual surveying effort, including breeding bird surveys, wintering bird surveys, vantage point surveys, Hen Harrier roost surveys and collision risk modelling. While some typographical and formatting errors were noted within the submitted reports, they were not deemed materially significant to the decision-making process. From an EIA perspective, the structure of the assessment presented is adequate.

The principal ornithological pathways arising from the proposed development have been adequately identified and described, namely habitat loss, fragmentation, disturbance and displacement, collision risk (mortality), barrier effects and cumulative effects. It is the author's opinion that the Applicant has identified the relevant direct and indirect effect pathways and has assessed them within an adequate methodological framework, generally in accordance with best practice guidance. The identification of the receptors considered to be of highest importance and the significance framework applied to the construction, operational, decommissioning phases and cumulative effects are adequate. Appendix 10.1 sets out the technical basis and methodologies used in the survey programme and the collision risk modelling analyses. The documentation is generally adequate to allow the Inspector and An Coimisiún Pleanála to identify, describe and assess the principal ornithological effects associated with the proposed development.

The baseline data provided is substantial, and the representation of breeding and non-breeding seasons across the survey programme is adequate. The ornithological survey data are considered adequate to characterise the receiving environment, which includes multiple turloughs and wetland habitats, and for assessment purposes.

Appendix 10.1 outlines the criteria used for screening for collision risk modelling, and the method applied for modelling annual and lifetime collision rate estimates. It acknowledges some uncertainties inherent in the modelling process, including limitations on survey-based inputs, assumptions regarding avoidance behaviour, and other factors used. Accordingly, the evidential basis for the operational collision modelling conclusions depends, to a degree, on those assumptions and factors.

No separate project-specific nocturnal flight-activity dataset, such as thermal imaging, radar or acoustic monitoring, was provided to directly inform nocturnal flight activity within the collision risk model; dusk survey effort was reported. This is not identified as a fundamental methodological data gap, and the Applicant's use of nocturnal activity factors within the collision risk modelling is acceptable in principle. However, given the presence of certain SPA-linked wetland bird species in the wider landscape, including Greenland White-fronted Goose, and the complexity of the surrounding turlough network, nocturnal movement is a relevant site and species-specific consideration. In the absence of project-specific nocturnal flight-activity data, the adequacy of the nocturnal activity factors cannot be independently verified. The Inspector may therefore recognise this as a limited source of predictive uncertainty when attributing weight to the collision risk and residual effect conclusions. This conclusion does not apply later guidance (i.e. NatureScot 2025) as a retrospective compliance test, but reflects the professional weight that can be attached to CRM outputs where nocturnal activity is addressed by assumed factors rather than project-specific nocturnal evidence.

An area of consideration relates to indirect effects, particularly where conclusions depend on professional judgement regarding habitat function and linkage, species movement, displacement, barrier effects, or the absence of recorded use during the survey period. In that regard, parts of Chapter 10 provide logical and reasoned

analysis, but the evidential basis is not uniform across the assessment as a whole. This is of particular relevance where conclusions of negligible or low effect depend, in part, on the inference that the site and surrounding habitats are not functionally important to key species, notwithstanding documented occurrence within the ZoI.

An issue of particular importance arises in respect of key bird species with documented repeated historical occurrence within the ZoI, including the SCI species Greenland White-fronted Goose. Goodship and Furness (2022) advise that the Greenland White-fronted Goose is highly sensitive to human disturbance and suggest a non-breeding season buffer zone of 500-1000m. The Applicant concludes that the proposed development lands do not perform a significant functional role for Greenland White-fronted Goose and that no significant direct, indirect, or cumulative effects are predicted following the application of the documented mitigation hierarchy. That conclusion is reasoned within the framework presented. However, given the documented historical occurrence of that SCI species within the ZoI, the evidential basis for that conclusion may have been strengthened by the inclusion of a site and project-specific appraisal of the potential suitability and functional use of habitats within the ZoI. In that respect, the issue is less one of the assessment structure, which is broadly adequate, than of the evidential basis supporting the conclusion reached. This is particularly relevant where the conclusion depends not only on observed survey results relating to a limited time period, but also on the interpretation of those results as indicating non-functional or negligible functional linkage. As suggested by NatureScot (2025), feeding distribution surveys for species such as Whooper Swan and Greenland White-fronted Goose are advised in areas of suitable habitat within core foraging distance of relevant SPAs or major roosts, unless it can be established from existing data that the area is not utilised for feeding.

The assessment records Hen Harrier activity within the survey area and identifies foraging habitat in parts of the surrounding landscape, while concluding that the site use is limited, roosting was not identified within the survey buffer, and that effects would not be significant. Based on the data provided, that conclusion may be accepted by the Inspector.

The Applicant has provided adequate ornithological information to enable the Inspector and the An Coimisiún Pleanála to undertake their assessment in respect of direct and indirect effects. While the assessment is acceptably structured and technically reasoned, the evidential basis for some conclusions, particularly those relating to habitat functionality and low-frequency use by sensitive bird species, is more limited than for others. Any final evaluation should distinguish between conclusions that are strongly supported by direct, site-specific evidence, and those that depend to a relatively greater extent on mitigation, monitoring, modelling-based assumptions, or professional judgement."

"The ornithological information submitted was broadly adequate for assessing the range of direct, indirect and cumulative effects on most key bird species. The extent of the ornithological survey programme was adequate in terms of current best practice guidance for this type and scale of development. The conclusions reached regarding general bird usage of the site and surrounding lands, the characteristics of the receiving environment, and the assessment of several non-SPA and SPA-linked receptors are reasoned and supported by a substantial body of survey data and collision risk modelling. In that respect, Chapter 10 and its associated appendices are adequate to inform EIA.

However, the evidential basis for the conclusion reached in respect of the SCI species Greenland White-fronted Goose is more limited than for some other receptor assessments. The Applicant's position, as set out in Chapter 10 and its associated appendices, is that there is a lack of survey evidence demonstrating that the species regularly uses the lands within the ZoI and the collision risk zone. Based on a documented flight time of less than 200 seconds within the collision risk zone, the species was omitted from further collision risk modelling; no significant direct, indirect or cumulative effect was concluded. That conclusion depends primarily on the absence of recorded regular use of the development lands and the wider ZoI, and low recorded daytime flight activity, rather than on a site and project-specific appraisal of habitat suitability and functional use within the ZoI.

The Lough Corrib SPA conservation objectives for Greenland White-fronted Goose are not confined to collision risk alone, but extend to winter spatial distribution, disturbance at wintering sites, barriers to connectivity and site use, forage spatial

distribution extent, roost spatial distribution, and the availability of supporting habitat in ecologically important sites outside of the SPA. The Lough Corrib SPA conservation objectives state that the general foraging range of wintering Greenland White-fronted Goose is estimated at 5-8 km. Given the documented evidence of repeated historical usage of lands within the ZoI, a conclusion that the proposed development lands are not functionally linked to SPA Greenland White-fronted Goose populations may have been assisted by a site and project-specific assessment of the potential suitability and functional use of habitats within the ZoI; this is particularly relevant in the context of AA. Based on the materials presented, the evidential basis does not appear to have been fully developed to the same extent as the collision and flight activity-based assessments. This approach is consistent with current best practice NatureScot survey guidance, which indicates that feeding distribution surveys should be carried out for such species in areas of suitable habitat where the survey area lies within core foraging distance of relevant SPAs, or major roosts, unless it can be established from existing data that the area is no longer suitable or utilised for such activities. While the Applicant's conclusion of non-functionality or negligible functional importance may ultimately be correct, that position is not demonstrated in the submitted material to the same degree as several of the other direct and indirect effects conclusions.

Finally, while the submitted ornithological information is generally adequate to inform the assessment of direct and indirect effects, the conclusion reached in respect of Greenland White-fronted Goose is supported by a more limited evidential basis than that available for a number of the other receptors assessed.

9.7.2.7 Reasoned Conclusion for Ornithology

It is considered that the information presented in Chapter 10, together with its associated appendices, is sufficient to support the EIA, having regard to relevant legislation and best practice guidance. The assessment is based on a substantial body of survey data and collision risk modelling, and sufficiently identifies the main ornithological receptors, impact pathways, and species requiring consideration in terms of habitat loss, disturbance, displacement, barrier effects and collision risk.

The more robustly supported conclusions are those relating to the general characteristics of the receiving environment, the identification of bird habitats and wetland associations, and the findings that many recorded bird species do not regularly use the turbine locations, or do so only at low and intermittent levels. The broad conclusion that significant effects are not predicted for a large proportion of recorded species is therefore reasonably supported by the dataset and modelling outcomes.

However, conclusions that the development site and lands within the wider ZoI do not perform a functionally important role for SPA-linked sensitive species, especially Greenland White-fronted Goose, appear to rely largely on the absence of records and/or documented low occurrence during the survey period(s), as a basis for discounting potential functional linkage. In that respect, the conclusion that the lands within the ZoI may not perform a functional role for Greenland White-fronted Goose appears to be based primarily on the survey record during the sampling period, rather than on a site and project-specific evaluation of habitat suitability. While the survey programme provides a substantial dataset, the absence of habitat-based analysis in this context introduces a degree of uncertainty in interpreting the ecological functionality of the wider turlough-rich landscape.

Elements of the assessment and conclusions reached rely on the collision risk modelling framework, including screening thresholds, avoidance rate assumptions, estimates of observed flight heights in relation to the collision risk zone, and the use of factors to account for the absence of nocturnal survey data. While that approach is acceptable in principle in this assessment context, an appropriate degree of caution remains necessary when attributing weight to conclusions that are more dependent on modelling assumptions and factors, particularly in a complex turlough-rich wetland habitat.

It is the author's opinion that the information provided in Chapter 10 and its associated appendices is sufficient to permit a reasoned conclusion for EIA purposes. Conclusions are strongest where supported by repeated survey evidence demonstrating low or irregular site use and weak pathway linkage and are more limited where they depend to a greater extent on modelling, mitigation, or

monitoring. Accordingly, the author considers the ornithological information adequate to support a reasoned conclusion in respect of ornithology.

9.7.2.8 Conclusion

Having regard to the examination of environmental information in respect of ornithology in particular the EIAR and technical appendices and the detailed report of the Specialist Consultant, I am satisfied that a robust picture of bird activity has been provided. It is considered that the main significant direct and indirect effects of the development on ornithology are the potential for loss of habitat, disturbance and collision risk in the operational period. While it has been concluded that the evidential basis in relation to Greenland White Fronted Goose and the demonstration of the wider landscape functionality could have been more fully developed in the submitted material this evidential limitation identified does not materially undermine the assessment presented. It is considered that impacts identified will be mitigated by the application of best practice construction methodologies as set out in the project documentation, the application of the biodiversity management and enhancement plan, the specific bird mitigation measures with appropriate reporting and monitoring and adaptive management to demonstrate efficacy and through suitable conditions. I am therefore satisfied that the proposal would not have an unacceptable direct, indirect or cumulative impact on ornithology.

9.8 Land, Soil, Geology

9.8.1 Issues Raised

Submissions cite concern regarding impact on peat, presence of karst features and potentially unstable ground, note errors in calculation of concrete volumes for foundations and contend that the hydrogeological regime is not well understood / misrepresented and methodology was inappropriate given karst features.

9.8.2 Examination, analysis and evaluation

9.8.2.1 Context

Chapter 11 of the EIAR assesses the likely effects of the proposed development on soils geology and hydrogeology and is supported by a number of appendices including Appendix 11-1 Geotechnical and Peat Stability Assessment report Appendix 11-2, Karst Assessment, Appendix 11.3 Review of Stabilising techniques for floating road on peat and Appendix 11-4 Peat and Spoil Management Plan. The assessment methodology is set in the context of relevant guidance, legislation and consultation. It is noted that in terms of scoping Geological Survey Ireland (GSI) consultation response indicated that groundwater vulnerability is of concern and Inland Fisheries Ireland (IFI) highlighted the importance of natural flow paths not being interrupted or diverted in such a manner as to give rise to erosion or instability of soils caused by an alteration in water movement either above or below ground.

9.8.2.2 Baseline

Baseline study is informed by desktop review including published sources by GSI, Galway County Development Plan, aerial imagery, current and historical Ordnance Survey maps and mapping data and data sets produced by the GSI and EPA. Site reconnaissance survey was undertaken between 18th and 21st January 2022 and from 4th to 5th April 2023. Peat probe survey was undertaken between 31st October and 2nd November 2023. Assessment works comprised walkover inspections with recording of salient geomorphological features at proposed infrastructure features, peat probing and slope stability assessment at infrastructure locations and where peat deposits were encountered. 26 no electrical resistivity tomography profiles and accompanying soft ground (peat) probing along each ERT profile as well as 22 no. trial pits, 22 no. rotary cored boreholes with groundwater monitoring well installations and geotechnical and geo-environmental testing.

It is noted that GSI quaternary mapping indicates the site is predominantly underlain by a mantle of cut over raised peat (peat) with remaining areas of the site underlain by till derived from limestones. Subordinate linear deposits of alluvium are mapped to the west of the site, underlying a portion of the proposed substation and approximately 800m of the proposed internal access track. The Quaternary

geology of the proposed project and surrounding area is presented in Figure 11.1 which shows the turbines and hardstands are underlain by the following Quaternary deposits:

- Cut over raised peat at turbines 1, 2, 5, 7, 10 and 11
- Till derived from limestone at turbines 3, 4, 6, 8 and 9

The GSI 1:100,000 scale bedrock mapping indicates that the site is underlain by mid-Carboniferous Limestone, predominantly of the Ardnasillagh Formation comprising dark cherty calcarenites (limestone) and thin shales. Peripheral areas of the site are underlain to the north and northwest by the Cong Limestone Formation and Cong Canal Formation respectively. The Cong Canal Limestone comprises medium to thick bedded pure limestone. Surface karst features (predominantly collapse dolines) are present throughout the site. With the exception of borehole PBH-18 (thought to be within the Cong Canal Formation), no karst features were observed within the underlying shaley limestones of the Ardnasillagh Formation. No evidence of significant karst features such as caves were noted within the site as part of the ground investigation assessment. Results from the combined desktop study, site reconnaissance and ground investigations suggest that voiding is confined to the quaternary deposits overlying the limestone. These surface karst features are not identified in the survey area on the GSI database however a turlough is identified approximately 2km to the southeast of the site. There is 1 no. geological heritage site noted 5km south of the site in Knockma Co. Galway.

There are no recorded peat failures within the site. The nearest recorded failure is located in Kilmore on cutover peat approximately 11km southeast of the study area. The landslide mechanism is noted as undefined. It occurred in 1909 and there have been no other recorded failures since. The landslide susceptibility of the site was classified by the GSI (2022) as low susceptibility.

Site reconnaissance findings are summarised at 4.1 Appendix 11.1 as follows:

- The site is typically covered in a layer of peat and is relatively flat. Peat depths vary across the site depending mainly on topography. Re-vegetation of bare and cutaway peat present across the site.
- Peat depths recorded from peat probing (87 probes in total) ranged from 0 to 8.0m with an average depth of 2.0m. Approximately 75 percent of peat depth probes recorded peat depths of less than 3.0m. A number of localised readings were recorded where peat depths were up to 8.0m.
- Peat depths recorded at the turbine locations varied from 0 to 8.0m with an average depth of 3.5m. 3 no turbine locations, T01, T07 and T11[5], had peat depths greater than 3.5m[6].
- Peat depths at location of proposed access roads are typically less than 3.5m with localised depths of up to 8.0m recorded.
- Proposed access comprise of the upgrade of existing access roads and the construction of new proposed access roads. New access roads will be carried either a floating or an excavate & replace construction technique which involves the removal and replacement of peat or soft ground where encountered.
- Slope angles at the turbine locations ranged from 0 to 2 degrees.
- Localised areas of ponded water were recorded.
- No evidence of past failures or any significant signs of peat instability were noted on site.
- Ground investigations in the form of trial pits and rotary core boreholes were carried out including 22 trial pits, 22 rotary core boreholes and 19 no groundwater monitoring wells.
- Peat depth and slope angle at proposed locations are provided in table 6.1. Shear vane testing was carried out as part of ground investigation with results of undrained shear strengths in the range 15 to >65kPA with an average of about 48kPA.

[5] I note reference is to T12 which is assumed to be a type and should read T11.
[6] I note that Peat Stability Risk Register (Appendix A of Appendix 11.1) cites peat depth range of 0.7m -5.5m at T5.

- Peat stability assessment was carried out for the main infrastructure elements - Risk rating for each infrastructure element is designated negligible to medium (T5).

Appendix 11.2 Karst Assessment Report notes that bedrock aquifer groundwater mapping indicates that the entire site is underlain by a regionally important aquifer – karstified (conduit) indicating potential for karst processes. GSI groundwater karst mapping indicates there are no karst features within 1km of the site, however there are 32 karst features within an approximate 5km distance of the site including 15 enclosed depressions (dolines), 9 turloughs, 5 swallow holes and 3 springs. Review of aerial photography and digital terrain model identified 56 no individual landforms being attributed to karst processes. An additional 9 no potential surface karst features were recorded on site survey. Ground investigations included electrical resistivity tomography ERT profiles at proposed turbine locations and accompanying soft ground (peat) probing along each ERT profile. Of the 13 no. potential turbine locations surveyed anomalies within the limestone bedrock were recorded at 3 no. potential turbine locations (T08, T10 and T11 (subsequently renamed to T12 and later descoped)). These anomalies are described in the geophysical survey report as mudstone / shale or possible weathered/karstified limestone. T08 was subsequently relocated approximately 20m southwest of its initial proposed location and T10 relocated approximately 70m to the south of its initial proposed location. T11 subsequently renamed to T12 and later removed from the turbine array design.

Intrusive ground investigation found no evidence of karst features within the trial pits. The most dominant strata was fine grained cohesive till (encountered in 15 trial pits). Coarse grained till was encountered in 7 no trial pits typically underlain by fine grained till. Possible bedrock was recorded at the base of 15 no trial pits at depths ranging from 2.4m to 4.0m bgl. Groundwater strikes were recorded in 18 trial pits at depths ranging from 0.5m to 4.5m bgl. Seepages are likely the result of a perched water table.

The site is underlain by mid-Carboniferous Limestone, predominantly of the Ardnasillagh Formation while peripheral areas of the Site are underlain to the north and northwest by the Cong Limestone Formation and Cong Canal Formation

respectively. A site reconnaissance was undertaken to ground truth potential surface karst features identified as part of a desktop study. The site reconnaissance also identified further potential surface karst features not recorded as part of the desktop study.

Results from the combined desktop study, site reconnaissance and ground investigations suggest that, with the exception of PBH-18, karst within the Site is confined to the Quaternary deposits overlying the limestone. PBH-18 represents one of the substation locations initially under consideration which was subsequently removed due to the risk of karst.

Surface karst features (predominantly collapse dolines) present throughout the site are believed to form along unmapped fault lines that create zones of weakened and fractured rock beneath the overlying quaternary deposits (predominantly glacial till). The formation of collapse dolines is actively occurring across the site with newly forming depression observed during the site reconnaissance. No evidence of significant karst features such as caves were noted within the site.

9.8.2.3 Potential effects

Likely significant effects as predicted in the EIAR in advance of mitigation are summarised in table LS1 below:

LS1. Summary of potential Effects Land and Soil & Geology	
Project Phase	Potential Direct, Indirect and Cumulative Effects.
Do nothing	Current land uses will continue for the foreseeable future. The impact on soils, geology and hydrogeology would remain largely unaltered.

Construction	Site clearance – potential exposure of underlying soils to surface water runoff, soil erosion, increased sediment and nutrient concentration in surface water runoff. May impact groundwater in regionally important aquifer – karstified (conduit). Fuel spill leaks – contamination of soil and groundwater. Soils and geology – small adverse magnitude of impact- imperceptible significance. Negative permanent and direct impact classification with likely effects. Groundwater receptors magnitude of impact small adverse high importance. Moderate to slight significance. Negative medium term direct effect with likely effect. Geological regime- Soil compaction leading to decreased surface water runoff reduced infiltration and increased erosion of overburden. Magnitude of impact moderate adverse, low importance and slight significance. Negative permanent direct impact likely effects. Hydrogeological regime – groundwater pollution. Small adverse magnitude of impact high importance. Moderate to slight impact significance. Negative permanent and direct with likely effects. Accommodation works for TDR. Negative short term direct and unlikely effects on geology, and groundwater receptors.
Operational Phase	Minor accidental leaks or spills fuel/oil maintenance. Grid transformer in substation and turbine transformers will be oil cooled. Potential for spills leaks of oils/batter fluids resulting in contamination of soils and groundwater. Magnitude of impact on soils and geology small adverse. Importance: Low. Imperceptible significance. Negative short term direct and has unlikely effect. Granular material for maintenance of access tracks. Impact on soils and geology small adverse. Importance medium. Slight significance. Negative short term direct and unlikely effects.
Decommissioning	Similar to construction but of reduced magnitude.
Cumulative	Construction – strain on supply of finite aggregate resource. Potential cumulative impact on soils and geology of slight significance negative short term and unlikely.

9.8.2.4 Mitigation

The EIAR and CEMP set out mitigation measures by design and best practice to avoid or reduce potential impacts of the project.

Design mitigation - infrastructure has been primarily located within areas of thinner peat/soft ground and lower slope gradients. Risk avoidance informed by peat

probing, site walkover surveys intrusive and non-intrusive ground investigations which identified geotechnical constraints. Relocation and micro-siting of turbines, hardstanding's and access roads based on the site assessments and geotechnical assessments including karst assessment. Works designed by suitably experienced and competent geotechnical and civil engineers in accordance with best practice methodologies. Excavations will be subject to design risk assessment at detailed design stage and impacts minimised by application of principles of avoidance prevention and protection.

Measures for the construction phase set out within CEMP and will include:

- Site supervision and method statements for each element of works.
- Work practices, environmental management procedures and management responsibilities.
- Management of silt laden runoff, surface water management, storage of fuels and oils within designated bunded areas.
- Oil spill protection measures, emergency response procedures, refuelling and hydrocarbon management
- Peat and spoil management plan. Phasing, reuse and reinstatement of surplus overburden on site. Temporary stockpile design and management. Measures to mitigate against soil compaction and soil erosion.
- Foundations for larger infrastructure elements eg. turbine bases piled into the underlying bedrock. Any surface depressions or suspected doline features within the footprint of the hardstands, construction compounds, met mast foundations or access roads will be removed by excavation of existing soils and replacement with engineered fill. Construction will be overseen by either a geotechnical engineer or engineering geologist with experience in identifying surface karst features.
- Surface water management system measures to control of sediment laden runoff.
- Slope stability measures.
- Excavations constructed and backfilled as quickly as possible. Monitoring of groundwater levels.
- HDD construction methodology

9.8.2.5 Residual Effects

EIAR predicts that following the implementation of mitigation measures, the residual impact significance to the receiving environment would be imperceptible during the construction and operational periods. Monitoring of mitigation is proposed throughout the construction and operational phases. The Project is not expected to contribute to any significant, negative cumulative impacts of other existing or known developments in the vicinity. Slight residual cumulative impacts are predicted from the excavation of fill material from local quarries and disposal of unsuitable excavated material to licensed facilities.

9.8.2.6 The Assessment: Direct and Indirect Effects / Conclusion

I have examined, analysed and evaluated chapter 11 of the EIAR and associated appendices. I am satisfied that the applicant has provided significant survey data to inform the assessment of likely effects on the environment. The applicant makes a number of conclusions including the following

- the site is not a sensitive site in terms of soil, geology and hydrogeology, and poses a low risk for landslide.
- karst formations occurs exclusively within the overlying superficial deposits in the form of cover collapse dolines. The formation of these dolines are thought to be a direct result of faulting within the underlying bedrock and are not a result of cavities or interconnected conduits within the bedrock.
- the underlying bedrock would not be characterised as karstic limestone but rather an argillaceous shaley limestone with a low susceptibility to karstification.
- walkover surveys found no visual evidence of historic /contemporary landslides or ground instability at or adjacent to proposed infrastructure locations.
- significance of potential impacts associated with excavation of rock and soil is assessed as being ‘imperceptible’ to ‘moderate/slight’ significance prior to mitigation.
- no significant, negative cumulative impacts with other existing, permitted or proposed developments in the vicinity.

- With mitigation measures during construction, operational and decommissioning stage the project will have an 'imperceptible' impact on the site's geological and hydrogeological receptors.

I refer the commission to the report of the specialist consultant JD Solutions, appended which states as follows:

"The geology of the Site has been evaluated based on a desk study covering a range of sources, a site investigation which has focused on the shallow peat deposits through probing, trial pits, borehole drilling, peat gouge coring and geophysics. However, the results of these investigations have only been presented in summary tables and figures. No interpretation of the geological information gathered from the desk study, and collected at the turbine bases has been interpreted and extrapolated across the site. Thus, the geology related to risks associated with roads/tracks and wider potential pathways (eg. Faults and karst features) is poorly defined.

Twenty two (22) boreholes have been drilled to depths varying from 10m to 23m on or near the turbine locations, at the substation location with one 10m deep borehole at the Black River Crossing. Figures or plans showing the distribution of the investigation boreholes and the results in the wider geological context are not presented.

The findings from the investigation described at 11.4.11 of the EIAR suggests that fault rock was found in PBH-13 and PBH-16, and karst was recorded in only PBH-3A and PBH-18. Examination of borehole logs in the Karst Assessment Report (EIAR Appendix 11.2) suggests that features that might be attributed to karst or faulting are present in PBH-08 (15.35m), PBH-09 (17m), PBH-10 (16.9m), PBH-11 (15.95m), PBH-12 (14.8m) all on T8; PBH-13 (16.7m) at T9; PBH-16 (15m) at T12; PBH-17 (11m) at T13; PBH-18 (8.5m – 14.8m). Thus weak, permeable and possibly karst effected ground may be under reported.

Geophysical surveys comprises two orthogonal lines of ERT at each turbine location with a target investigation depth of c. 20m The geophysics was designed to investigate the shallow founding geology. It was not designed to examine

deeper geological or karst structures. Geophysical surveys were not undertaken at the connector compound or the HDD river crossing.

It is important to note that although there has been peat probing and gouge coring at the turbine locations and along the roads/tracks, there has been very little investigation of peat thickness and type across the wider site.

In summary, the geological data has focussed on the turbine foundations but has not been extrapolated to the wider environment. There is no interpretation of the geological setting with respect to formation thicknesses or fault movements. The distribution of mapped karst features has not been used to inform the geological interpretation. There has been no investigation of peat type of thickness across the wider site."

The expert report considers that while the application provides a data set against which receptors can be identified, however as it does not extend across the whole site and wider environment, it does not provide a data set against which affects and impacts can be measured.

"The site investigation does provide a data set against which a hydrogeological conceptual model could be developed, which would allow hazards and risks to be identified and evaluated, with appropriate mitigation and protocols to take account of low risk unknowns or unknowables."

The consultant also refers to comparison of conclusions within the EIAR Chapter 11 and the record of borehole log in Karst Assessment Report Appendix 11.2 which suggest that features that might be attributed to karst or faulting are also present in a number of additional boreholes adjacent to T8. T9, T,12, T13 and therefore the weak, permeable and possibly karst effected ground may be under reported. A further concern arises in that geophysical surveys – Electricity Resistivity Tomography (ERT) carried out at each turbine to a depth of 20m is designed to investigate shallow founding geology – not to examine deeper geological or karst structures. Furthermore geophysical surveys were not conducted at the substation compound or HDD river crossing of significant concern is that peat depth has been poorly investigated across the wider site and the distribution of mapped karst features have not been used to inform the geological interpretation.

These concerns regarding the level of detail to assess the ecological sensitivity and implications, conservation value and restoration potential regarding peatland receptor Cloonbar Bog are further reiterated within the report of the Specialist Ecological consultant. On the basis of the foregoing it is evident that the information provided within the EIAR it is not possible to fully evaluate effects and impacts on land and geology. This is further addressed in relation to hydrology and hydrogeology below.

9.8.2.7 Conclusion

I have considered chapter 11 of the EIAR and all relevant documentation on file. It is concluded that contradictory evidence and absence of hydrogeological conceptual model as part of the EIAR renders the information inadequate to fully inform an assessment of hazards and risks in relation to the geology and hydrogeology of the site.

9.9 Water

9.9.1 Issues Raised

The planning authority notes concern that turloughs in the vicinity should be thoroughly assessed. IFI submission refers to the “poor status” classification of the Black River WFD Black (Shrule)_010)

Third parties express concerns regarding fisheries, Black River and connected wetlands, impact on turloughs including Belclare Turlough, Hackett Turlough and Castlegrove Lake. Concerns regarding sedimentation, chemical and nutrient pollution, alteration of critical hydrology, inadequacy of standard mitigation, threats to the Corrib System. Difficulties of definitive mapping or modelling of pollutant pathways given location on karstified bedrock are noted and it is asserted that contradictory statements within the EIAR indicate that the hydrological regime has been poorly understood.

9.9.2 Examination, analysis and evaluation

9.9.2.1 Context

Chapter 12 of the EIAR deals with hydrology and water quality while Chapter 11 also addresses groundwater and hydrogeology. The assessment is based on desk study, baseline monitoring and site investigations. Associated appendices include Appendix 12.1 Hydrology Field Observations, Appendix 12.2 Surface Water Management Plan, and Appendix 12.3 Flood Risk Assessment. It is outlined that there were no limitations or technical difficulties encountered.

The desk-based study examined the hydrological and water quality aspects using sources of information including ordnance survey mapping, integrated catchment management information, OPW indicative flood maps, history of flooding, CFRAM mapping and Indicative flood maps, GSI information, EPA river flow data and met Eireann database. Field assessment was undertaken to verify desk based assessment, record significant hydrological features and assess proposed water feature crossing points.

9.9.2.2 Baseline

The surface hydrological environment of the Proposed Development and its downstream catchments are considered to be of high sensitivity given that the site is hydrologically connected with the Lough Corrib SAC via the Black River. The SAC is approximately 1 km downstream from the site boundary. Qualifying Interests for the SAC include salmon as well as eight other protected species and fifteen protected habitats. Water dependent protected Shrule Turlough SAC lies 2.5km west of the western site boundary.

Scale of effect is determined in relation to the sensitivity of the receptor and the potential magnitude of change from baseline conditions. The source-pathway-target model is applied.

The site is located within the Corrib catchment (Hydrometric Area 30). The site is highly channelised, characterised by an extensive network of field drains, ditches and first-order streams which have been straightened and deepened in places through land management practices, including through arterial drainage. Site topography is relatively flat, resulting in generally smooth, laminar flow. There are no naturally

occurring lakes or reservoirs within the site. Much of the study area has been channelised, with the BLACK(SHRULE)_010 identified as channel CH4/13 under the OPW's arterial drainage scheme. The site is located within the Black [SHRULE]_010 sub-basin.

The site drains to the Togher River and its tributaries, which generally drain in a westerly direction. The Togher River drains into the Black River at the western extent of the site. Several manmade drains throughout the site with runoff dispersing via a combination of infiltration, evapotranspiration and overland flow. Watercourses within the site are modified and channelised. One flood event (ID-646) identified near Shrule, 1.6km west of the proposed wind farm sited occurred in 1999 and one flood event (ID-1823) occurred 2km north of the Site in 2005. Site specific flood assessment (Appendix 12.3) notes that the primary flood risk to the site is attributed to a fluvial event.

With regard to surface water quality within the Black(Shrule)_SC_010 sub-catchment, the WFD ecological status is assigned as ‘Poor’ for the largest waterbody - the BLACK(SHRULE)_10. The assigned status is based upon an assessment of 'Poor' Fish Status. All other monitored conditions (hydromorphological, invertebrate and supporting chemical conditions) are identified as representing at least 'Moderate' status. The status improves downstream along the Black River, with the BLACK(SHRULE)_020 classed as 'Moderate' status' where the assigned status is driven by a moderate invertebrate status; and further downstream the BLACK(SHRULE)_030 classed as 'Good' status, before the river terminates at Lough Corrib. The upstream sections of the Black River BLACK[SHRULE]_010 and BLACK[SHRULE]_020) are identified as being 'At Risk' from agricultural pressures and hydromorphology. The further upstream section BLACK[SHRULE]_010) is also 'At Risk' from extractive industry; which the BLACK[SHRULE]_020 is also 'At Risk' from domestic wastewater. The MOCORHA_010 is classed as 'Good'; the BOADAUN_010 and the BEAGH BEG_010 are both classed as 'Moderate' but the status for these three waterbodies have been modelled and noted by the EPA has having 'Low Confidence'. Table 12-7. In terms of pressures, the MOCORHA_010 is 'Not At Risk'; while the risk status of the BOADAUN_010 and the BEAGH BEG_010 is under review.

The waterbody sub-catchment in which the site is located (Black {Shrule]_SC_010) overlaps with the following protected areas Shrule Turlough SAC 2.5km west of the site boundary and Lough Corrib SAC – approximately 1km downstream of the site boundary.

Hydrogeology

Groundwater mapping indicates that the entire Site is underlain by a Regionally Important Aquifer – Karstified (conduit) indicating the potential for karst processes. Groundwater monitoring was undertaken as part of the intrusive ground investigation. Groundwater at the site flows in the general direction of the topography and surface watercourses towards the southwest. The GSI's Groundwater Vulnerability mapping within the site ranges from 'Low' to 'High' with localised areas mapped as having 'Extreme' to 'X – Rock at or near Surface'. Shallow rock was not encountered on Site. The eastern half of the site is predominantly mapped as having a 'Low' to 'Moderate' groundwater vulnerability.

Based on GSI's Groundwater Vulnerability mapping, site walkovers and intrusive ground investigation, overburden deposits are generally >10m deep across the majority of the site. The expected permeability for the subsoil is 'Low' to 'Moderate', but it may be locally 'High' within 'X' areas, due to the possible presence of shallow or outcropping weathered bedrock.

The GSI's Groundwater Body (GWB) data sets indicate the site lies within the Clare-Corrib GWB, which covers an area of approx. 1,422 km^2. It is anticipated that the transmissivity values within the Site are similarly relatively low.

According to interim classification work carried out as part of the Water Framework Directive and published by the EPA (2016-2021), the Clare-Corrib GWB is classified as having 'Good' status in terms of quality and quantity. The overall risk result of 'Not At Risk' is applied to the Clare-Corrib GWB. Groundwater recharge rates within the Clare-Corrib GWB are not currently available.

There are no public water supplies or public supply source protection areas within the site boundary. There are however 2 no public source protection areas for public water supply schemes within 20km namely the Kilmain public water supply scheme

6km to the northwest and Dunmore Glenamaddy Public water supply scheme 19km to the east. There are no group water schemes within the boundary of the site. There are no GWS within the groundwater subcatchment within which the site is located however there are 11 GWS's within 20km. There are 4 no groundwater wells recorded within 1km of the site.

9.9.2.3 Potential Effects

Likely significant effects of the proposed development in advance of mitigation measures are summarised in table HH1 below.

Table HH1 Summary of Potential Effects, Water.	
Project Phase	Potential Direct, Indirect and Cumulative Effects.
Do nothing	Existing land use (agriculture, forestry, turbary) would remain. Surface water drainage will continue with pressures on the river waterbodies continuing with regard to agriculture & domestic wastewater. Arterial drainage scheme will continue to be maintained by the OPW in accordance with rolling maintenance programme requiring measures every 4-6 years. Catchment pressures include hydromorphological pressure likely related to channel straightening and land drainage associated with peat extraction and arterial drainage.
Construction	Potential effects on surface water WFD status / water quality. Potential for effects on hydrology hydromorphology including flood risk. Temporary road drain to accommodate turbine delivery.- No implications for catchment hydrology. 18.5m watercourse bridge crossing of Togher River includes piped culvert crossings and temporary instream works. Potential alteration of surface water flow changes in hydromorphology considered unlikely and not significant. Potential for effects on water quality / physico-chemical conditions – Earthworks have potential to negatively impact surface water. Release of construction or cementitious materials, hydrocarbons, suspended solids. Alterations of drainage patterns, peat slippage. HDD to cross Togher river. Pre mitigation likely effects on water quality from accidental release of pollutants HDD drilling fluids, cement material and hydrocarbons are considered negative direct/indirect, short term moderate. Potential effects on water quality from peat slippage or sediment runoff considered unlikely.

	No tangible hydrological connection between Shrule Turlough SAC and the proposed development. Likely effects on water dependent site Lough Corrib SAC due to effects on water quality are considered negative, indirect short term and significant.
Operation	Potential for effects on hydrology / hydromorphology (including flood risk) - Direct, long-term and not significant effect on alteration of surface water flow and flood extents. Potential for effects on water quality / physico-chemical conditions. The significance of the effect of the release of the hydrocarbons into the receiving waters is sight due to the low likelihood and low quantities involved
Decommissioning	Similar to construction but reduced in magnitude. Direct, temporary not significant effect on alteration of surface water flow and flood extents during decommissioning. Direct, temporary not significant effect on water quality during decommissioning.
Cumulative	Other developments that lie in the same catchments have the potential to have their construction stage overlap considered. No proposed or consented wind farms share the sub-catchment or sub-basin. Developments within shared waterbody catchments relate to small scale residential and rural developments. Given small scale and nature no potential to act cumulatively with the proposed development to cause significant effect on water quality or hydrology. Instream works have potential to act cumulatively with OPW arterial drainage works through sedimentation and risk of accidental pollution. Maintenance under Corrib Headford Arterial Drainage Schame on 4-6 year rolling basis. Potential for accidental runoff from the site to act cumulatively with forestry and turbary.

9.9.2.4 Mitigation

The EIAR proposes mitigation measures to offset potential effects on the water environment for all phases of the development. Design mitigation by avoidance informed by constraints assessment and consultation. Infrastructure has been set back as far as reasonably practicable from hydrological features, with a minimum setback of 50 m between mapped surface waters and wind farm infrastructure. A minimum setback of 10 m from non-mapped streams and drainage features with the

exception of HDD locations and watercourse crossings. The avoidance of instream works is intended to protect riparian habitat.

A Surface Water Management Plan for the construction, operation and decommissioning stages is contained Appendix 12.2 and provides for :

- Collection of surface water runoff upgradient of the proposed development via interceptor drains redistributing 'clean' collected runoff downgradient by means of cross drains releasing via diffuse outfalls to vegetated areas within the same catchment or will divert runoff back into the existing network serving the catchment. Maintain the hydrological regime at the site.
- Collection of surface water runoff from the footprint of the proposed development (during construction, operation and decommissioning) and discharge diffusely to adjacent vegetated areas via settlement ponds, no deterioration in water quality.
- Maintenance of hydrological regime and provision of attenuation at green field runoff rates. Measures including inline attenuation features (check dams, stilling ponds, diffuse outfalls)
    - Access tracks constructed from permeable aggregate to ensure infiltration and reduce runoff generation.
    - Swales to route runoff to settlement ponds and check dams.
    - Watercourse crossings designed and suitably sized to accommodate peak or storm discharge rates.
    - Cable trench excavation in dry weather where possible and infilled and revegetated to prevent soil erosion or generation of silt pollution of nearby surface water.
    - An Environmental / Ecological Clerk of Works (EnCoW / ECoW) to be appointed to monitor construction phase. Authority to temporarily stop works to prevent negative effects on hydrology or to ensure corrective action is taken to mitigate adverse effects.
    - Surface water quality monitoring programme to commence 12 months prior to construction to confirm baseline physio-chemical conditions and hydromorphological conditions of the watercourse within the site and will continue throughout construction and for three months post commissioning

phase. During construction and commissioning phase, daily inspection of environmental protection measures e.g. silt traps, check dams, ponds and outfalls and drainage channels. Any improvement works carried out within a timely manner.

Construction stage mitigation measures are aimed at ensuring no deterioration in WFD status within the catchment of the project. Measures include good practice associated with mitigating the risk of hydrocarbon release during construction, as stated in the SWMP. Bunding of tank and drum storage areas, control of concrete runoff. The EnCoW / ECoW will continually monitor the pH of any watercourse during concrete works in or adjacent to a watercourse or drain. Should any change in pH +/- 0.5 be detected, concrete works will immediately be ceased and steps taken to identify the entry point to the drain or watercourse and appropriate measures to prevent further escape to the environment. Other measures to control sediment runoff including peat and spoil management plan and earthworks scheduled during dry weather conditions where feasible.

Instream works will be carried out in accordance with IFI biosecurity protocols, and conducted during dry works conditions. Measures employed at the sheet piled floated road through Cloonbar Bog may be a combination of fluming and overpumping. HDD by a specialist contractor.

Within the operation and maintenance stage the surface water management plan will ensure no effect on water quality. The proposed drainage system will provide several stages of treatment to surface water runoff from constructed areas, which follows the concept of a multi-stage SuDS ‘treatment train’. Regarding mitigation in the decommissioning stage access tracks will remain in situ for land management purposes, after the end of the operational period. Turbine foundations and hardstanding will remain in situ and be covered over with soil from the site to re-vegetate naturally. Silt protection procedures, similar to during construction will be employed for decommissioning.

9.9.2.5 Residual effects

With the implementation of the proposed mitigation measures effects on hydrology and water quality will be mitigated to 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. No deterioration of the status of any waterbody under the WFD or jeopardy to the achievement of waterbody objectives (good / high status) of any such waterbody is predicted. Unmitigated potential effects during the operational phase are not significant. Visual monitoring and water quality monitoring at appropriate intervals will be undertaken as precautionary measures to inform any required contingency mitigation measures during operation. The main risk to surface water is the release of hydrocarbons, such as fuel into surface waterbodies via runoff. The residual risk is Not Significant. The potential residual effects associated with decommissioning will be similar to those associated with construction but of reduced magnitude.

9.9.2.6 The Assessment. Direct and Indirect Effects.

I have examined, analysed and evaluated Chapter 12 of the EIAR and associated appendices 12.2 and 12.3 which present a surface water management plan and flood risk assessment respectively. I note that the applicant has provided a significant amount of information with regard to the hydrology of the site to inform an assessment of the direct, indirect and cumulative impacts on water resource. I note the submissions from third parties citing concerns particularly regarding the presentation of the hydrogeological regime and the concern that the mitigation measures as proposed will not be effective given the unique and particular characteristics of the site.

I refer to the specialist consultant report from JD solutions which sets out a detailed hydrogeological review of the proposed development. It notes that the principal hydrological receptors which include Lough Corrib SAC including Black (Shrule) River, Shrule Turlough SAC (no surface water pathways however there may be groundwater pathways) as well as other turloughs and springs, Clare Corrib groundwater body, private wells and springs within 2km of the site boundary. In terms of hazards, sources and pathways the specialist consultant outlines that the principal hazard is associated with water quality. Alteration of peat groundwater flow through

increased, drainage, compaction or damming represents a hazard to features dependent on peat groundwater. Specific risks associated with water quantity are associated with construction. An increased discharge to surface water could lead to a decrease in flows in local ditches and /or fall in water level in saturated peat. This risk associated with basal heave in the gravity foundation and piling pits has not been assessed. The interception of groundwater in cable trenches could divert flows and effect shallow well and or springs. This risk has not been assessed but is likely to be low.

As noted by the specialist consultant surface water pathways on site directly connect to the SAC while groundwater pathways that could connect to the SAC features may exist, as evidence shows that pathways within the karst system have been proven but an integrated conceptual model including groundwater contours to evidence the local groundwater flow regime in the carboniferous limestone has not been provided. In terms of water quality hazards it is noted that risk of generation of dissolved organic carbon in runoff associated with the movement and stockpiling of peat has not been considered.

The specialist consultant report notes the significance of the hydrogeological setting being the connectivity between the different layers and the connectivity with streams, rivers, loughs and turloughs at the surface. It is outlined that :

"Groundwater actively flows to the 'hydrological base', that is rivers that have a strong sustained flow during dry weather (baseflow), strong permanent springs and turloughs (in karst settings) and the sea. In this setting the hydrological base will be the Black (Shrule) River to the west and possibly the Togher River locally, and the turloughs, with an overall south-westward control towards the Lough Corrib. Examination of the Ordnance Survey Ireland 1:50,000 scale map suggests a hydrological base at about 25mOD locally (the approximate elevation of the Black and Tougher Rivers confluence).

The local groundwater flow within the carboniferous limestone will be controlled by geology of the mid carboniferous limestone sequence and degree of karstification. As the strike and structural trend is towards the SW, and that karstification will generally follow this trend, then it would be expected that the regional groundwater flow would

be towards the southwest generally, but will be modified locally depending on connectivity with springs and streams, and changes in bulk permeability of the limestone associated with stratigraphic and structural boundaries, particularly. Groundwater heads (levels) in the peat and limestone till may be different from that in the carboniferous limestone and will be controlled by local drainage to drains and streams that may be hydraulically isolated from the carboniferous limestone."

It is noted that in terms of interaction the connectivity of the surface with the karst system is highly significant. If there is connectivity the karst system provides a very fast pathway for contaminants to reach the surface water system and any private borehole that are down gradient of the site. The specialist consultant contends that the application fails to interpret and extrapolate the geological information gathered in the desk study and on site and thereby does not provide sufficient detail to assess the wider risks. Potential pathways faults and karst features are poorly defined and karst effected ground may be under reported.

With regard to the flood risk assessment it does not recognise areas of groundwater flooding adjacent to the site and particularly in the vicinity of the proposed substation compound and Turbines T1 to T4. While T7 is identified as falling within an indicative present day scenario 1%AEP (1 In 100 year) flood zone the road/ track north of the substation is also within the 1% AEP flood zone and the sub-station compound abuts a 1% AEP flood zone and access road east of T11 is also affected by a 1% AEP flood zone. The mid range future climate change adjusted scenarios increase the extents of the areas affected by the current scenario. It is contended that while the FRS provides data set to identify receptors the application fails to provide a hydrogeological conceptual model to show the interaction between surface water systems, including groundwater flooding and turloughs.

Critical to consideration of hydrogeology is the connection through the hydrogeological layers and the pathways between the site and the wider environment and as outlined in the report of the expert consultant the application fails to *develop a conceptual hydrogeological model which provides a consistent interpretation of the data within a three dimensional geological and hydrological context, linking the site to the wider environment and receptors.*

I note the conclusions of the specialist consultant as follows :

"Interpretation of the site investigation data within a geological and hydrogeological local and site level context has not been presented.

An overarching, three dimensional and transient, consistent conceptual hydrogeological model that links the local and site level geology and hydrology is not presented.

The hydrogeology of the Peat has not been considered.

An appropriate flood risk assessment has been undertaken, which is supported by site level modelling.

Mitigation measures to prevent the discharge of contaminated water have been described, but have not been quantitatively designed, as such they do not take account of site level details.

The lack of an evidence based conceptual hydrogeological model means that the connectivity between the Site and development and local groundwater linked receptors including turloughs, streams and rivers and private wells/boreholes cannot be established.

The risk assessment associated with the construction of the turbine foundations is based on a flawed understanding of the relationship between mapped surface expressions of karst and the underlying geology.

An Appropriate Assessment Screening Report and Natura Impact Statement (NIS) accompanies the EIAR. These reports have been prepared to provide the competent authorities with the information necessary to complete an Appropriate Assessment screening and an Appropriate Assessment for the Proposed Project in compliance with Article 6(3) of the Habitats Directive. The Appropriate Assessment Screening Report identified the potential for significant effect on Lough Corrib SAC and Shule Turlough SAC. As such there is a high burden of proof required in ensuring that the Proposed Project, individually or in-combination with other plans or projects, will not adversely affect the integrity of any European Site.

The evidence presented does not robustly support the lack of potential effects on Shrule Turlough SAC and Lough Corrib SAC due to the lack of an overarching, three

dimensional and transient, consistent conceptual hydrogeological model that links the local and site level geology and hydrology.

Therefore it cannot be assumed beyond reasonable scientific doubt that the Proposed Project, individually or in-combination with other plans or projects, will not adversely affect the integrity of any European Site."

9.9.2.7 Conclusion

I conclude that having regard to the identified lacunae within the application in terms of the absence of an integrated evidence based conceptual hydrogeological model to show the relationship between the site, local geology and hydrology and the groundwater response there is insufficient evidence to provide the necessary confidence with regard to the conclusions set out with respect to potential effects on the Environment and on SAC features. Information provided with regard to karst has been shown to be flawed and it has not been demonstrated that the proposed mitigation measures will be effective. Residual impacts related to groundwater are not supported. On this basis the application has not demonstrated that the proposal would not give rise to the deterioration in the ecological and/or chemical status of the groundwater waterbodies contrary to the requirements of Article 4 of the Water Framework Directive and that the proposal would not adversely affect the integrity of the European Sites. Refusal is recommended.

9.10 Air and Climate

Chapters 10, 11 and 12 of the EIAR address air quality, climate and noise respectively.

9.10.1 Issues Raised

Third parties raise concerns regarding effects on air quality during construction related to dust emissions and associated health effects.

The conflict between the development of wind energy infrastructure on peatland versus blanket bog restoration as natural carbon stores in the context of climate change mitigation is raised in a number of submissions and the extent of long term carbon benefit of the proposal and assessment methodology is questioned.

9.10.2 Examination, analysis and evaluation

9.10.2.1Context

Chapter 7 of the EIAR sets out to address Air and Climate. It is outlined that due to the non-industrial nature of the proposed development and the general character of the surrounding environment, air quality sampling was deemed unnecessary for the purposes of compiling the EIAR. Air quality is expected to be good given the absence of major sources of pollution.

Appendix 7-1 Air Appendix sets out carbon loss calculations having regard to the Scottish Guidelines, calculating Carbon Savings from Wind Farms on Scottish Peatlands, Macauley Institute Carbon Calculator for Wind Farms and TII Carbon Assessment Tool.

In terms of limitations It is noted that the Scottish online carbon calculator used to calculate carbon emissions while designed for Scottish wind farm developments it is used for assisting Irish windfarm developments due to similarity in development sites ie, high ground on peatlands which contain forestry in a similar climate. No other technical difficulties or limitations were encountered.

9.10.2.2Baseline

The site lies within Air Quality Zone D as designated by the EPA representing rural areas located away from large population centres. The majority of the turbine delivery route is also within zone D however the port of entry in Galway City is located within zone C. (Cities and towns with population of greater than 15,000). The EIA notes that the air quality index for health map on the EPA website shows the current air quality within the site, grid connection route and turbine delivery route is classed as Good. It is expected that air quality data from nearest stations to Shancloon are

representative of air quality at the site. Baseline levels of Particulate Matter (PM_{10}) and Nitrogen Dioxide (NO_2) are below ambient air quality limit values.

Climatic conditions for the wider geographical area have been derived from historical meteorological measurements compiled by Met Éireann at Claremorris weather station which is approximately 20 km north of the Site and associated infrastructure and are presented in table 7-6.

9.10.2.3Potential Effects

Likely significant effects of the proposed development on air and climate, as predicted in the EIAR, in advance of any mitigation measures, are summarised in Table A1 below.

Table A1 Summary of Potential Effects Air and Climate.	
Project Phase	Potential Direct, Indirect and Cumulative Effects
Do-nothing	Ambient air quality will remain as per baseline and change in accordance with trends within the wider area. Opportunity to reduce greenhouse gas emissions will be lost due to continued dependence on fossil fuels.
Construction	Dust emissions arising from earthworks, tree felling, trench excavation and construction temporary storage of excavated materials, movement of vehicles, loading and unloading of aggregates and movement. Given nature of the windfarm development the magnitude of potential emissions is large whereas sensitivity is low thus the risk of dust impacts are “low risk”. Substation and grid connection medium scale construction and sensitivity medium therefore “medium risk” of dust impacts affecting dwellings in proximity. 3 houses may experience soiling and deposition of vegetation effects as located within 50m of cable corridor. TDR moderate construction/ Impacts short term and slight in magnitude. Short term slight negative impact on air quality. Construction vehicles and plant emissions have the potential to increase concentrations of compounds such as NO2, Benzene and PM10 in the receiving environment exposing local receptors to these emissions. Exposure would be slight and short duration (but also recurring) as the setting is rural and will allow for emissions to rapidly dilute in the open air.

	Traffic volume increase not predicted to give rise to significant air quality impact requiring air quality assessment. Potential for dust soiling - temporary slight impact. Emissions from plant and machinery will be short term and slight negative to imperceptible. No direct impact on air temperature and microclimate.
Operation	No significant direct emissions to atmosphere during operational phase. Diesel generator back up/ emergency power supply for substation give rise to infrequent emissions imperceptible. Maintenance vehicles – low frequency imperceptible impact Positive impacts on air quality due to displacement of fossil fuels as energy source. Proposal has potential to offset carbon emissions associated with fossil fuel power stations resulting in slight positive impact on Ireland meeting climate targets. Impact on climate change at a global scale would be imperceptible. Based on Scottish windfarm carbon assessment tool it is estimated that 2,447,700 – 2,884,800 tonnes of CO_2 will be displaced over the proposed thirty year lifetime of the wind farm. 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
Decommissioning	Similar to construction phase but of less impact.
Cumulative	Construction phase. Cumulative impacts may arise if construction and decommissioning phase occurs simultaneously resulting in slight increased traffic emissions however improbable that traffic volumes act cumulatively within the same timeframe. Potential effect unlikely slight and temporary. For the proposed development, Clonlusk, Laurclavagh and Clonberne Windfarms no carbon dioxide or other GHG emissions once operational with the exception of occasional operational and maintenance vehicles exhausts. Therefore, no measurable adverse cumulative effect. Cumulative long-term, significant, positive effect on the air quality and climate.

9.10.2.4Mitigation

While no significant negative effects on air and climate have been identified mitigation measures are set out within the EIAR and CEMP in terms of standard good practice. Measures seek to minimise vehicular and dust emissions arising during the construction and operation and decommissioning period for example construction of access road prior to commencement of other construction activities, road finish with graded aggregate which compacts preventing dust, use of water bowser, wheel wash. appropriate maintenance and use of vehicle /plant, use of agreed haul routes, transport in covered loads, dust suppression measures, wheel wash, minimisation of areas of excavation and stockpiling. Receptors which have the potential to receive dusting and soiling temporary works at TDR nodes located adjacent to dwellings; and dwellings directly adjacent to the GCR construction that experience dust soiling, where appropriate, and with the agreement of the landowner, will have the facades of their dwelling cleaned if required should soiling occur

9.10.2.5 Residual Effects

With the implementation of mitigation measures the EIAR predicts that the windfarm, grid connection route and turbine delivery work areas will result in slight to moderate residual impacts arising from fugitive dust emissions during construction activities involving excavations felling or earthmoving. These will be localised in nature and temporary.

Impacts related to vehicle emissions and dust will reduce significantly following construction and no significant impacts are anticipated. Low level maintenance traffic during the operational period will have an imperceptible impact. There will be no permanent residual impacts due to the decommissioning phase.

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

9.10.2.6`The Assessment Direct and Indirect Effects

I have examined, analysed and evaluated chapter 7 of the EIAR and the associated CEMP. I am satisfied that the applicant has provided sufficient data to enable assessment of likely effects on air quality and climate. Likely direct and indirect

effects will arise from the increase in traffic plant and equipment during construction including increased vehicular emissions and dust on the public road and in the vicinity of the site.

Given the distance of residential receptors from any wind farm site infrastructure the potential for impacts from dust emissions on off-site receptors during construction is considered short term imperceptible negative impact. Construction and transport works have the potential for temporary negative impacts in terms of exhaust emissions, however standard good construction practices are proposed to minimise adverse effects on air quality. Dust emission arising from haul route, grid connection and transport to the site following best practice mitigation will give rise to short term imperceptible negative impact.

I am satisfied that while the development will increase GHG emissions in the short term (with direct and indirect effects), in the longer term it will have a significant positive effect on climate, offsetting GHG emissions over the lifetime of the development individually and in combination with other renewable energy developments, and contributing to national and European targets. During the operational phase, the development will have a long term positive impact on air quality by reduced emissions associated with the use of fossil fuels and carbon offsetting. The nature of the proposed development and other wind energy developments within 20 kilometres are such that once operational they will have a cumulative long term significant positive effect on air quality.

9.10.2.7 Conclusion

Having regard to the examination of environmental information in particular the EIAR and subject to compliance with the mitigation measures set out in the EIAR and application documents, I am satisfied that while there will be short term effects on air quality and dust during construction these will not be significant. During operation the development will have a long term positive effects on air quality by reduced emissions associated with the use of fossil fuels and carbon offsetting, with the potential for positive cumulative effect with other wind energy development in the county.

9.11 Noise and Vibration

9.11.1 Issues Raised

Concerns are raised in third party submission with respect to noise pollution and potential health risk associated with same.

9.11.2 Examination, analysis and evaluation of the EIAR

9.11.2.1 Context

Chapter 8 of the EIAR deals with noise and vibration and associated appendix 8-1 provides baseline noise measurements.

With regard to vibration it is outlined that the nearest vibration sensitive locations are sufficiently distant such that vibration will not be perceivable by residents at their dwellings and building damage will not occur from construction incurred vibration. Turbine operational vibration is also scoped out.

Construction and decommissioning noise have been assessed by comparing predicted construction activities against best practice construction noise criteria at the nearest residential dwellings to the construction activities. The operational noise study area includes all residential dwellings with a predicted noise level greater than 35 dB LA90 (which is the lowest limit prescribed in the 2006 Department of the Environment, Heritage, and Local Government, Wind Energy Development Guidelines). The study area is also in accordance with the UK Institute of Acoustics', A Good Practice Guide to the Application of ETSU-R-97 for the Assessment at Rating of Wind Turbine Noise (2013) whereby the guidance document defines the study area as "the area within which noise levels from the proposed, consented and existing wind turbine(s) may exceed 35dB LA90 at up to 10 m/s wind speed."

While the Draft Revised Wind Energy Development Guidelines (December 2019), Department of Housing, Planning and Local Government, 2019 are discussed, It is noted that the final version of these guidelines have never been published, and they are not considered best practice.

As the exact turbine make and model is unknown a turbine range is assessed in line with the design flexibility opinion ie hub height range 102.5m to 105m.

In terms of technical difficulties or limitations, variability of the acoustic environment over time is noted. It is noted within Appendix 8.1 that night time baseline at two of the noise monitoring locations was affected by a change in noise floor of the equipment for different periods of measurement. However this did not affect the night time noise limit at these locations. In terms of uncertainty in calculations, prediction methodologies are validated prediction methodologies BS5228 for construction noise and ISO9613 for operational noise. Operational noise predictions assume worst case weather conditions. A turbine uncertainty of 2dB has been used in turbine operational predictions. It is acknowledged that there is a potential for uncertainty in the operation or sound emission characteristics of the specific sound source and any assumed power levels and operational calculations have included a 2dB uncertainty. As one third octave band information was not available at time of calculations no tonal correction has been made. I am satisfied that no significant limitations are evident.

9.11.2.2 Baseline

The area is predominantly rural with main noise sources from traffic and agricultural machinery. Baseline noise monitoring was undertaken at twelve receptor locations N1 – N12 surrounding the proposed development to establish the existing background noise levels in the vicinity of the proposed development. Inconsistent data points (arising through equipment malfunction) were removed from raw noise level data. Raw noise level data was correlated with the time synchronised 10m standardised wind speed based on hub height of 105m and rainfall data. Periods of data affected by rainfall, dawn chorus and atypical data was removed from the analysis. A “best-fitting polynomial” was determined to present the prevailing background noise level at each monitoring location. (Table 8.4)

In general the background noise measured across the site was similar, and this is reflected in the derived noise limits. Location N3, was slightly quieter. This location represents three properties east of the site, on Cloonaglasha Road, which runs through the Shancloon bog area. Locations N7 and N10 reached 30dB at 6m/s.

Noise criteria used to assess operational noise from the proposed development is based on a Best Practice Approach based on:

- 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)

The 2006 guidelines state that a fixed limit of 43 dB LA90 applies during night-time periods. In this case a limit of 43 dB LA90 has been assumed or +5dB above background, whichever is the greater. However, the derivation of the daytime noise limit uses the prevailing daytime amenity background noise data. Where low background noise levels are found, the 2006 guidelines recommend a limit of 35 to 40 dB LA90. There is no advice within the guidelines on how to choose the noise limit from within this range. For this project for low noise areas (<30 dB LA90) a limit of 40 dB LA90 has been adopted.

9.11.2.3Potential Effects

Likely significant effects for the development are summarised in table N1 below.

Table N1: Summary of Potential Effects Noise	
Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	Noise environment likely to remain unchanged. More residential or windfarm development overtime would give rise to negligible increase in baseline over time.
Construction	Construction noise modelling assessed all tasks with potential to generate high noise levels. Construction period expected to take up to 24 months with most intensive period months 8 to 10. Modelled results are below construction noise limit of 65dB LAeq, 1hr. Construction works expected to have a slight impact and temporary in duration. Tree felling works over a four month period at the start of the project. Predicted noise at nearest NSL is below daytime noise limit 65dB LAeq1hr. Slight impact temporary in duration. For 33kV cable construction works one dwelling within 25m of grid connection works and three residential properties within 50m. For the 110kv cable works there are two properties within 110m three

	within 25m and one within 50m of the works. Potential for temporary elevated noise levels however these will be for short duration at a particular property. Significant temporary impact.
Operation	Closest dwellings are at least 720m from nearest turbine. (Landowner property R183) excluded on basis that property will not be occupied during operation. Nordex 149 is basis of noise assessment as worst case scenario at most windspeeds in terms of overall noise. No adverse impact is likely during from substation. The predicted noise levels from the proposed turbines 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. Noise level that exceeds the daytime noise limit by up to 5.1 dB and the night time limit by up to 4dB[7]. 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.
Decommissioning	Similar to construction phase but less. Slight impact temporary in duration.
Cumulative	No construction activities that could give rise to significant cumulative impacts given separation distance. Operational noise - no significant cumulative operational noise effects arise based on distance.

9.11.2.4 Mitigation

No significant effects resulting from construction are predicted. Nevertheless a range of good practice measures are presented in the CEMP and these will be employed to minimise noise impacts. These include restricted hours of operation, noise control measures, proper maintenance of plant. 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 relevant limit where required. The noise impact will also be minimised by limiting the number of plant items operating simultaneously where reasonably practicable.

[7] Table 8-22

With regard to operation the predicted operational noise from the proposed windfarm exceeds the daytime noise limit at one property, R183, at 5m/s and above. The night time limit is exceeded at R183 at 6m/s to 8m/s and above. In addition, two further locations (R184 and R185) exceed the 40 dB daytime noise limit marginally (by up to 1 dB) at 6m/s, north and centre of the proposed windfarm. The predicted noise level at R184 and R185 are 41.0 and 40.3 LA90 dB, respectively. Mitigation of operational noise is not proposed for the involved landowner, R183, as the property will not be occupied during the operation of the wind farm. For location R184 and R185, mitigation is proposed in terms of turbine quiet modes of operation. It is proposed that an operational noise survey will be undertaken and in the unlikely event of an exceedance, mitigation measures will be refined to ensure compliance with the noise limits is achieved at all noise sensitive locations.

With regard to amplitude modulation (AM) it is not currently possible to predict AM during the planning stage and this occurs on small proportion of windfarms. Should AM be found to occur, or should complaints about AM be received post construction, a noise monitoring programme will be agreed with the Planning Authority and undertaken using the current best guidance document (The 'Reference Method' for measuring AM outlined in the IoA AMWG document). If required mitigation measures that may be appropriate include operation of reduced modes of operation, blade pitch regulation, vortex generators or shut downs.

9.11.2.5 Residual Effects

The EIAR identifies construction and decommissioning to result in residual impacts ranging between not significant to slight impact with the duration of impact described as temporary. For the operational phase, the EIAR notes that the daytime and night-time noise limits derived using the Wind Energy Development Guidelines 2006. The predicted noise from the proposed wind farm with mitigation, that is, operation of reduced noise modes, is below the noise limits at all noise sensitive locations. Noise predicted at the closest landowner is above the noise criteria however this dwelling will not be occupied for the operational period of the wind farm. A new source of noise will be introduced into the soundscape and it is

expected that there will be a slight to moderate significance of impact, with dwellings closest to the project with a long-term moderate significance of impact.

9.11.2.6The Assessment: Direct and Indirect Effects

I have examined, analysed, and evaluated Chapter 8 of the EIAR, the associated documentation and submissions on file in respect of noise. I am satisfied that, having regard to the background noise environment, the location of the proposed development relative to noise sensitive locations, predicted noise levels from construction plant/equipment and construction traffic, and subject to the proposed standard best practice mitigation measures and binding noise limits and hours of construction, no direct, indirect, or cumulative significant adverse effects are likely on NSLs during construction works.

With regard to operational noise the assessment is based on the guidance in the WEDG 2006 supplemented by guidance in ETSU-R-97 and the IOA GPG where appropriate. While reference is made to the 2019 draft WEDG issued for consultation in December 2019, it is noted that the draft guidelines have not been adopted, and have a number of technical errors, ambiguities and inconsistencies which require further detailed review and amendment, a fact that is widely accepted by noise experts in Ireland.

Predicted wind turbine noise levels and measured background noise levels show that for the nearby noise sensitive receptors wind turbine noise would meet the noise criteria established in accordance with the WEDG 2006 and operational noise effect is not significant. The application notes that the use of site specific noise limits for the operational phase ensures that the proposed development can operate concurrently with other operational wind farm developments in the area and that the proposed development's individual contribution could be measured and enforced if required. Potential cumulative noise from adjacent windfarms are not predicted to give rise to noise at noise sensitive locations near the proposed development.

I consider that the applicant's assessment of operational noise is clearly related to background levels, is conservative and robust. Further, it is evident that predicted

noise at relevant NSLs, is below relevant noise criterion. On the basis of the information presented, the conservative analysis carried out, the predicted noise levels and criterion used for assessment, I am satisfied that whilst the noise environment of the wind farm site and surrounding area will change, operational noise impacts will not be significant or adversely affect residential amenity and would not present as an impediment to the propsoed development.

9.11.2.7 Conclusion

Having regard to the examination of environmental information in respect of noise and vibration, in particular the EIAR I am satisfied that the main significant direct and indirect effects on noise and vibration arise during the construction phase of the development and that these effects can be mitigated by the application standard good construction practices. During operation, the noise environment in which the development is situated will change, however, given setback from noise sensitive locations and the commitment as outlined to ensure that noise limits are met I conclude that noise impact will not be significant.

9.12 Archaeological, Architectural & Cultural Heritage

9.12.1 Issues Raised

Submissions received raise the following issues:

- The application does not sufficiently address the impacts of the proposed development on intangible cultural heritage, which takes the form of community engagement, recreation and learning. Cited impacts are those relating to limitations on access, noise disturbance and potential impacts on the bog itself.
- In the context of 54 recorded archaeological sites within the 2-kilometre study area, there is concern that archaeological surveys and testing will only happen post consent.
- Risk of flooding and displacement at children's burial ground in the village of Cloonnaglasha, which holds deep cultural and spiritual significance for the community.

- Construction phase traffic impact on the safety and sufficient operation of the Kilconly Wild West Music Fest, a major source of local economic activity and community cohesion.
- Area has not been investigated archaeologically, referring to a ringfort near T3.
- Several ringforts and medieval church and historic landscape of Kilshanvey.

The CE Report received from Galway County Council pursuant to Section 37E of the Planning and Development Act 2000 (as amended) did not raise any issued with regards archaeology, architectural or cultural heritage, and refers to the recommended condition requiring engagement of an archaeologist for pre-commencement testing and ground work monitoring.

A Scoping Response issued to the applicant by the DAU of the Department of Housing, Local Government and Heritage (contained in EIAR Appendix 5.1), noted that the proposed development is located within a wider area of known archaeological settlement and activity and that, as such, the EIAR should include an assessment of possible effects of the proposal on the wider archaeological landscape. The DAU also drew particular attention to a number of National Monuments and recorded monuments subject to Preservation Orders that are located in general proximity to the proposed development, namely Jennings Castle, Kilbennen Church and Round Tower, Kilcreevanty, Religious House – Benedictine Nuns, and Caltragh (Killower Ed), Ringfort & souterrain. The DAU also advised that in addition to a robust desk-study supported by a comprehensive field inspection the Cultural Heritage Impact Assessment (CHIA) should incorporate a visual impact assessment to assist in identifying any possible impacts to the setting of sites or monuments, with particular reference to sites with preservation orders.

A Scoping Response issued to the applicant by Fáilte Ireland (contained in EIAR Appendix 5.1) advised of the importance of cultural and archaeological heritage to the tourism industry.

9.12.2 Examination, analysis and evaluation of the EIAR

9.12.2.1 Context

Chapter 15 of the EIAR considers potential effects on cultural heritage assets informed by a desktop study of the historical environment context of the site and field surveys of the site. In my assessment I reference photomontages where relevant, and these are taken from Appendix 16.3, Volume 4 of the EIAR. While the photomontages are primarily associated with the LVIA, they do include visual assessment of a number of heritage receptors located within 20km of the site.

9.12.2.2 Baseline

The study area reviewed for the assessment comprised the site and the surrounding lands extending for 2km in all directions from the locations of proposed infrastructure / works. A 100m wide area centred on the GCR and TDR work areas was also assessed. In addition, a review of lands extending for 10km from the proposed development was carried out to assess potential indirect visual effects on cultural heritage constraints within this area which have potential notable visual sensitivities that extend beyond their immediate settings.

The EIAR sets out that the chapter complies with the requirements of Directive 2011/92/EU as amended by Directive 2014/52/EU and along with the Planning Act and Regulations, and that the assessment is in accordance with EPA 2003 Advice Notes on Current Practice in the preparation of Environmental Impact Statements and the 2022 EPA Guidelines on the Information to be contained in Environmental Impact Statements, and that it 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). The EIAR also refers to the scoping response received from the Department of Housing, Local Government and Heritage (contained in EIAR Appendix 5.1).

Section 15.3.5 of the EIAR outlines the methodology used for the assessment of impacts, having regard to the EPA 2003 Advice Notes on Current Practice in the preparation of Environmental Impact Statements, the 2022 EPA Guidelines and the adopted principles of the International Council on Monuments and Sites (ICOMOS 2011). Of particular note is that the relationship between value / sensitivity and magnitude of effect is expressed in a significance of effects matrix

provided in EIAR Table 15-4, which indicates that, as per the 2022 EPA Guidelines, where the interaction between value / sensitivity and magnitude of effect is judged to be 'Significant / Very Significant' or 'Very Significant / Profound', then this is considered to constitute 'significant impacts' in EIA terms.

Of particular use is EIAR Table 15.13, which indicates the distances of turbines and other infrastructure within the site to the nearest cultural heritage constraints.

The EIAR states that there are currently two designated World Heritage sites in Ireland, namely Brú na Bóinne, Co. Meath and Sceilg Mhichíl, Co. Kerry, thus none within the study area of the site. The EIAR also refers to those sites on the Tentative List, noting that there are none such sites located in counties Galway or Mayo. A Royal Site of Ireland at Rathcroghan in County Roscommon, was included on the Tentative List in 2022. This is the closest such site to the proposed windfarm, situated c. 55km to the northeast of the nearest proposed turbine, T11.

Main Windfarm Site

Table 15-9 of the EIAR lists six National Monuments (NM) in State Care and two archaeological sites subject to Preservation Orders (PO) located within 10km of the site, with these subject to statutory protection under Section 14 of the National Monuments Act (as amended). EIAR Image 15-1 shows these sites on an aerial photo relative to the proposed turbine locations The nearest of these National Monuments is located c. 3.85km to the west of the site and comprises Shrule Abbey (National Monument no. 95). Of the eight sites listed, it is stated that five have no formal / public access, namely Shrule Abbey, Kinlough Castle & Church, Kilbennen Church & Round Tower, Kilcreevanty Religious House, and Caltragh Ringfort & Souterrain. A sixth, Tuam High Cross, is said to be located inside St. Mary's Cathedral in Tuam town.

The remaining two are Ross Errily Abbey and Jennings Castle. Ross Errily Abbey, also referred to in the EIAR as Ross Friary ruins, is subject to CDP protected view Viewpoint 33, and evaluated for visual impact in the submitted LVIA under Viewpoint VP18 (see EIAR Appendix 16.3 and section 9.15 of my report).

Table 15-14 of the EIAR lists fifty-four recorded archaeological sites located within a 2km study area, with these mapped in Figures 15a through to 15d under Volume IV. The list includes one recorded archaeological site located within the red line boundary, this being an extant ringfort (GA028-040---) in the townland of Shancloon.

The EIAR states that there are no Protected Structures or Architectural Conservation Areas (ACAs) located within the site or within the 2km study area.

EIAR Table 15.11 identifies four structures on the National Inventory of Architectural Heritage (NIAH) within the 2km study area, three of which comprise structures (walled garden, mausoleum and handball alley) located within the townland of Dalgan Demesne on the western side of the Black River in Co. Mayo, all located between 1.4 and 1.6km west of turbine T2, and associated with the former demesne lands of Dalganpark House, which, the EIAR states, was demolished in 1944. The other listed structure within the 2km study area is identified as Rockwell House which comprises an extant four-bay, two-storey house built in c. 1830 and is located in the townland of Toberroe, c. 1.3km north of turbine T10. The EIAR identifies that a review of historic mapping confirmed that there is no demesne lands associated within these houses that extend to within the application site boundary.

Grid Connection Cable Route

The EIAR outlines that there are no recorded archaeological sites, designated architectural heritage structures or Architectural Conservation Areas directly located on the grid route connection and it does not extend through any historic towns or villages. The EIAR identifies one recorded cultural heritage site within the 100m study area centred on the grid connection gable route, this being a cashel site (GA028-046----), identified c. 40m to the south of the west end of the cable route in Tonacooleen townland, and which, the EIAR states, contains the potential site of a children's burial ground (GA028-046001-).

Turbine Delivery Route

The EIAR outlines that there are no designated archaeological or architectural heritage constraints located within footprint of the turbine delivery route accommodation areas. Of note is that the study area is 2km from a turbine rather than the red line boundary. Protected structure, CDP ref. 3902, a detached three-bay single-storey gate lodge, built c.1850, and same listed on the NIAH, is located c. 45m northwest of the junction between the R332 and the L6483 at the northeastern end of the overall site, and whilst c. 3.3km from the closest turbine (T11), it is located close to the aforementioned junction to which works are proposed to facilitate the turbine delivery route.

Undesignated Cultural Heritage Assets

Section 15.4.3.2.7 of the EIAR acknowledges that cultural heritage also includes various undesignated assets such as demesne lands, vernacular structures, folklore, place names and historical events. The EIAR identifies the presence of 19th century farmyards within the site however none are located within the footprint of any proposed development areas. The EIAR identifies that with regards to post-medieval country houses located within the surrounding landscape, there are no associated demesne lands or potential curtilage structures are located within the site boundary. In terms of folklore, place names and historical events, the EIAR refers to a review of the 'Schools Collection of the Irish National Folklore Collection' (www.duchas.ie), which lists entries for townlands across which the proposed development is located. The Collection refers to an old village and a story about a nunnery in the townland of Cloonbar, however no evidence of same on historic OS maps, albeit a cluster of dispersed buildings shown in the north end of the townland on the 25-inch map (1895), c. 750m to the northwest of the nearest proposed development area, may correlate to the village referred to. Another entry refers to a village named Emone More which was located within Breagh More townland. This village is shown on the historic OS maps, which name it 'Ummone', and it is now occupied by modern houses, farmyards and vacant fields in an area located c. 300m to the south of the nearest proposed development area.

There are entries regarding a holy well (GA028-043----) in the Toberroe townland, c. 1.5km from the nearest proposed development area, an entry

regarding an ‘old fort’ within Toberrone townland, possibly referring to recorded cashels or ringforts within this townland, none of which are located within 1km of the nearest proposed development area. The EIAR also refers to an entry regarding a story which refers to the burial of unbaptised children in forts or old ruins in the district including an example in the townland of Tobberone. The EIAR points out that there are no recorded children’s burial grounds in any of the ringforts/ cashels in the Tobberone townland but it is noted that there is an example within the adjoining townland of Cloonteen to the east (GA028-015----), located c. 1.9km from the nearest proposed development area.

9.12.2.3 **Potential Effects in the Absence of Mitigation**

Table ACH1: Summary of Potential Effects Archaeology and Cultural Heritage

Project Phase	**Potential Direct, Indirect and Cumulative Effects (without mitigation)**
Do Nothing	• No potential to effect archaeology or cultural heritage.
Construction	*Direct Impacts – Windfarm* • There are no recorded archaeological sites located on the footprint of, or directly adjacent to, any of the proposed construction areas within the site and no potential unrecorded archaeological sites were identified within these areas during the desktop study and field inspections carried out as part of this assessment. Given these factors, no direct impacts on the known archaeological resource are predicted during the construction phase. • There is one archaeological site located within the site boundary, an extant ringfort (GA028-040---), c. 75m to the east of a site access road and 100m to the south of T3. No direct effects on this archaeological site are predicted as a result of the construction of the proposed development. • There are no designated architectural heritage structures, or other structures of vernacular interest located within the Site

	boundary and, therefore no direct impacts on the architectural heritage resource are predicted. • While no surface features were noted in these areas the potential does exist for the presence of subsurface archaeological sites, features or artefacts within these lands. The magnitude of potential impacts is indeterminable but ground works during the construction phase will have the potential to result in permanent, direct, adverse effects, of potential moderate to significant significance, on any unrecorded archaeological sites that may exist, and this will require mitigation. *Indirect Impacts - Wind Farm* • There are no recorded archaeological sites or architectural heritage structures located within the footprint of development areas within the Site and no indirect effects on examples located within the surrounding study area are predicted. • Extant ringfort (GA028-040----) in Shancloon townland, located 75m to the east of site access road and 100m to the south of T3. The construction phase will result in a short term, indirect, slight effect on the wider setting of this archaeological site. *Direct Impacts – Grid Connection* • There are no recorded archaeological sites or designated architectural heritage structures located on the direct footprint of the grid connection route and, therefore, no predicted direct effects on such constraints are predicted during the construction phase. • The west end of the grid connection route does extend within the environs of a levelled cashel site (GA028-046----), which contains the potential site of a children's burial ground GA028-046001-) in Tonacooleen townland. No surface traces of these sites were noted during an inspection of the location.

	• As the existence, extent, value and magnitude of impact on any unrecorded archaeological features or artefacts along the route are unknown; the significance of potential construction phase effects cannot be quantified but ground works during the construction phase will have the potential to result in a permanent, direct, slight to moderate adverse effects on any such remains, and this will require mitigation. *Indirect Impacts – Grid Connection* • Given the absence of any extant archaeological sites or designated architectural heritage structures within the grid connection route, no indirect effects on the setting of known cultural heritage constraints are predicted to arise during the construction phase. *Direct Impacts – Turbine Delivery Route* • The delivery of the turbines to the site will not require the construction of any new sections of diversion roads or bridges. • TDR accommodation works are required at the junction between the R332 and L6483, c. 45m to the south of a detached three-bay single-storey gate lodge, built in c.1850, which is listed as a protected structure (RPS 3902) and is also included in the NIAH (30402915). The proposed accommodation works will not result in any direct impacts on this architectural heritage constraint. • No other cultural heritage constraints are located within the 100m study areas centred on the TDR accommodation works. *Indirect Impacts – Turbine Delivery Route* • As above, TDR accommodation works are required at the junction between the R332 and L6483, c. 45m to the south of a detached three-bay single-storey gate lodge, built in c.1850, which is listed as a protected structure (RPS 3902) and is also included in the NIAH (30402915). An inspection of the

	location revealed that views to the lodge building from the works area are completely screened by tall trees. The proposed accommodation works will result in a short term, indirect, imperceptible effect on the wider setting of this architectural heritage constraint.
Operation	*Direct Impacts – Windfarm* • The operational phase of the Proposed Development will result in no predicted direct impacts on the known archaeological, architectural and cultural heritage resources. • The successful implementation of the construction phase mitigation measures will result in the preservation in situ by avoidance, or the preservation in record by archaeological excavation, of any unrecorded, sub-surface archaeological sites or features that may exist within proposed development areas. There will, therefore, be no predicted direct impacts on any such potential unrecorded archaeological sites during the operational phase. *Indirect Impacts – Windfarm* With regards national monuments and archaeological sites subject to Preservation Orders, the following is outlined: • There are six National Monuments (NM) in State Care and two archaeological sites subject to Preservation Orders (PO) located within 10km of the site. • There are also three extant monuments located in private lands within 10km of the site which, while not designated as National Monuments, have the potential to possess ritual visual alignment attributes of potential high sensitivity. Based on a review of recorded information on their condition and alignment directions sourced from the NMS Historic Environment Viewer none of these monuments are aligned towards the location of the site. • All of these monuments are of high value and the assessment of their setting sensitivity as well as potential magnitude and

	significance of indirect effects detailed in Table 15.15 are based on their existing condition, accessibility, distances from turbines within the Proposed Development and reviews of Zone of Theoretical Visibility (ZTV) mapping prepared as part of the Landscape and Visual Impact Assessment (LVIA; Chapter 16). EIAR Table 15-15 sets out the potential indirect operation effects on National Monuments and monuments with visual alignments within 10km of Site, with significance of effect based on the assessment of setting sensitivity against the magnitude of effect. • Three of these monuments are partially or completely levelled (Shrule Abbey, Caltragh ringfort & souterrain, and Kilcreevanty Religious House) and one has been moved within a church building (Tuam high cross) and these do not retain likely setting sensitivities. *National Monuments* • Shrule Abbey (National Monument No. 95). Situated c. 3.85km to the west. The monument is levelled, the setting sensitivity is deemed to be 'none', and as a consequence, the magnitude of effect and significance of effect are predicted to be 'none'. • Kinlough Castle and Church (National Monument No. 95A). Situated c. 6.6km to the southwest. The monument is in state ownership located on private lands. The setting sensitivity is deemed to be 'high', the magnitude of effect 'negligible' and, by association, the significance of effect is deemed to be 'not significant'. • Jennings Castle (National Monument No. 428). Situated c. 4km to the northeast. The monument is in state ownership located on private lands. The setting sensitivity is deemed to be 'high', the magnitude of effect 'low' and by association the significance of effect is deemed to be 'slight'. • Kilbennen / Kilbannon Church and Round Tower (National Monument No. 48). Situated c. 5.9km to the east. The

	monument is in state ownership and in partial ruins. The setting sensitivity is deemed to be 'high', the magnitude of effect 'negligible' and by association the significance of effect is deemed to be 'not significant'. • Tuam High Cross (National Monument No. 505). The monument is in state ownership. Situated c. 8.6km to the east, having been moved inside a church building in Tuam. As such, the setting sensitivity is deemed to be 'none', and as a consequence, the magnitude of effect and significance of effect are predicted to be 'none' • Ross Errily Abbey. (National Monument No. 50). Situated c. 8.6km to the southwest. The monument is in state ownership and accessible to the public. The setting sensitivity is deemed to be 'High', the magnitude of effect 'low' and by association the significance of effect is deemed to be 'moderate'. The LVIA chapter provides an assessment of visual effects from within the environs of Ross Errily Abbey (Photomontage View Point 18). The assessment predicts a low magnitude effect of slight significance on this receptor as a medium sensitivity receptor within the environs of a designated scenic view identified in the Galway CDP. *Recorded Monuments with Preservation Orders (PO)* • Kilcreevanty Religious House – Benedictine Nuns (PO 1/1989; 5/1996). Situated c. 5.6km to the east. Monument is levelled. As such, the setting sensitivity is deemed to be 'none', and as a consequence, the magnitude of effect and significance of effect are predicted to be 'none'. • Caltragh (Killower Ed), Ringfort & souterrain (PO 206/1955). Situated c. 5.9km to the south. Monument is partially levelled in private lands. The setting sensitivity is deemed to be 'medium', the magnitude of effect 'negligible' and by association the significance of effect is deemed to be 'not significant'. *Other Monuments*

	• Megalithic tomb (unclassified). RMP ref. MA122-007---. Situated c. 5.6km to the northwest. Monument is partially levelled in private lands. The setting sensitivity is deemed to be 'medium', the magnitude of effect 'negligible' and by association the significance of effect is deemed to be 'not significant'. • Court Tomb. RMP ref. MA121-110---. Situated c. 8.9km to the west, on private land. The setting sensitivity is deemed to be 'high', the magnitude of effect 'negligible' and by association the significance of effect is deemed to be 'imperceptible'. • Standing Stone Pair. RMP ref. GA042-010----. Situated c. 2.6km to the south, on private land. The setting sensitivity is deemed to be 'high', the magnitude of effect 'negligible' and by association the significance of effect is deemed to be 'not significant'. With respect to recorded monuments within 2km of the site, the following is outlined: • There are 54 recorded archaeological sites located within 2km of the site and the majority are recorded by the Archaeological Survey of Ireland to be levelled or to be in very poor or poor states of preservation (refer to EIAR Table 15-5). • All of these sites are located within private lands which are not accessible to the public and have no tourist or amenity attributes. • None are National Monuments in State Care, are subject to Preservation Orders or are monument types that have potential visual attributes associated with ritual practices such as alignments across the landscape towards astronomical events, e.g., stone circles, stone rows or megalithic tombs, that could be potentially impinged upon by wind turbines.

	• A significance of 'Imperceptible', 'Not Significant', 'None Predicted' or 'NA' was predicted for 32 no. recorded monuments. • A 'Slight' significance of effect was predicted for 19 no. recorded monuments, 3 no. of which were categorised as being of 'high' setting sensitivity, namely a children's burial ground GA028-003----, a ring-barrow GA028-024---- and a barrow GA028-025---- • A 'Moderate' significance of effect was assigned to 2 no. recorded monuments, namely a well-preserved Children's burial ground GA028- 012003- and poorly preserved Ringfort GA028-040---- With respect to Protected Structures / buildings on the NIAH: • No protected structures within 2km of the main windfarm site. • For 4 no. structures listed on the NIAH located within 2km of the main windfarm site, the EIAR predicted a 'Slight' significance of effect, in all cases based on a medium setting sensitivity and low magnitude of effect.
Decommissioning	No direct impacts on known elements of the cultural heritage resource are predicted during the decommissioning phase as there are no recorded cultural heritage constraints located within the footprint of the various elements of the development that will be subject to decommissioning. The decommissioning phase will result in a short term, indirect, not significant effect on the wider setting of the extant ringfort (GA028-040----) located within the red line boundary c. 100m to the south of T3 in Shancloon townland. The decommissioning phase will reverse the not significant, slight and moderate indirect visual effects on the settings of cultural heritage receptors located within the landscape surrounding the proposed development

Cumulative	Based on a review of 1 no. existing (Cloonlusk Wind Farm), 2 no. In-planning (Laurclavagh and Clonberne Wind Farms) and 1 no. permitted (Cloonascragh Single Turbine), in combination their distances (10km - 17km) from the proposed development, it is concluded that the proposal will not result in likely significant adverse cumulative effects on the cultural heritage resource.

9.12.2.4 Mitigation

Section 15.6 sets out proposed mitigation measures and monitoring. A summary of mitigation measures during construction phase is set out below:

- The locations of turbines, hardstands and associated new access roads will be subject to a pre-construction geophysical survey, followed by a programme of targeted archaeological test trenching.
- Archaeological monitoring under licence from the National Monuments Service (NMS) of groundworks.
- Establishment of a protective fenced-off buffer zone extending for 20m around the outer extent of Ringfort GA028-040----. This fencing will remain in place for the duration of the construction phase and no ancillary activity, including ground works, vehicular movements, compounds, landscaping and equipment/soil storage will take place within the buffer zone during the construction phase.
- Whilst a levelled cashel (GA028-046---) located within the west end of the 100m study area centred on the grid connection is located outside the boundary of the proposed development it is proposed that the boundary of the proposed development within the environs of this archaeological site will be fenced off for the duration the construction phase works at this location.

During operational and decommissioning phase, no mitigation measures are proposed.

9.12.2.5 Residual Impacts

In the event that any potential unrecorded, sub-surface archaeological remains exist within the proposed development boundary no significant residual effects are predicted following the implementation of mitigation measures detailed in Section 15.6

9.12.2.6 Direct and Indirect Effects Assessment

The assessment I set out below has been undertaken in light of relevant policies and objectives in the Development Plan. With regards protected structures and structures on the NIAH, I refer to CDP Policies AH1, AH2 and AH3 with Policy AH1 seeking to ensure the protection of the architectural heritage of County Galway which is a unique and special resource. For archaeological sites, CDP Policy ARC4 seeks to protect archaeological sites and monuments including their settings and visual amenity and archaeological objects that are listed in the Record of Monuments and Places, in the ownership/guardianship of the State, or that are subject of Preservation Orders or have been registered in the Register of Historic Monuments, or that are newly discovered and seek to protect important archaeological landscapes. I also note CDP Policy CUH 1 which seeks to protect and promote the cultural heritage assets and the intangible cultural heritage assets of County Galway as important social and economic assets.

I note observations received, one querying the appropriateness of pre-commencement archaeological surveys (rather than such surveys submitted with the application) in an area already rich in known archaeological sites and another with respect to impact on intangible cultural heritage. More site or area specific observations include 5 no. submissions received with respect to the potential impact on a children's burial ground at Cloonaglasha, a ringfort near T3 and several ringforts and medieval church and historic landscape of Kilshanvey. I consider potential effects upon recorded monuments and cultural heritage in more detail below.

The assessment set out in this EIA is informed by the EIAR and takes into account potential effects upon the most relevant, proximate and sensitive heritage assets surrounding the site. Other heritage assets of lesser relevance

or sensitivity would experience reduced or no effects. I address concern with respect to the most sensitive heritage assets surrounding the site further below.

The EIAR concludes that through the application of mitigation measures in the form of pre-commencement surveys and archaeological monitoring, and the full recording of potential remains of any archaeological sites / structures, potential archaeological effects will be reduced to 'not significant'. Similarly, indirect effect during the operation phase which may cause change to the surroundings of the archaeological or architectural heritage resource will be reversed following the decommissioning phase.

I generally concur with the EIAR on the findings with respect to architectural, archaeological and cultural heritage including in respect of intangible cultural heritage as discussed in the applicant's response to observations received. During construction, with the application of mitigation, no significant residual effects are anticipated. Noting an observation received on the matter, I consider that the procedures and practice of pre-construction surveys and construction phase monitoring is a suitable mitigation measure, allowing for any previously undiscovered subterranean site or object to be appropriately assessed and managed. There will also be no long term significant adverse effects associated with the operational phase due to the reversibility of the project.

With regards protected structures, the EIAR concludes that by reason of the presence of trees, the turbine delivery route (TDR) accommodation works at the junction of the R332 and L6483 will result in a short term, indirect, imperceptible effect on the wider setting of protected structure ref: RPS 3902 / NIAH ref. 30402915, a detached three-bay single-storey gate lodge, built in c. 1850, located c. 45m north of the junction. During a site visit, I observed that the building is located relatively close to the road with immediate roadside boundaries and backdrop to the west comprising mature trees. In this regard, I agree with the findings of the EIAR that the effect will be imperceptible, both in respect of TDR accommodation works and also the turbines noting that the closest turbine, T11, would be located c. 3.5km to the southwest.

The EIAR considers 4 no. structures located within 2km of the main windfarm site that are not on the record of protected structures (RPS) but listed on the NIAH. Three of these (walled garden, mausoleum and handball alley, NIAH ref. 31312207, 31312208 and 31312209, respectively) are structures associated with the former Dalgan House at Dalgan Demesne on the west side of the Black River in Co. Mayo, due west of T2 and T3. The main house at Dalgan Demesne is no longer standing. The fourth relates to a detached four-bay two-storey house (Rockwell House, NIAH ref. 30402803) built c. 1830, located in the townland of Toberroe, c. 1.3km north of T10. The EIAR predicted a 'Slight' significance of effect, which, in all cases, is based on a medium setting sensitivity and low magnitude of effect. By reason of context in each case, I concur with the EIAR in this regard, noting that in accordance with the ICOMOS 2011 guidance a medium level value / sensitivity is indicative of regional significance, in this case the four NIAH structures are classified in the each respective NIAH record as being of regional importance, but noting none are on the respective Mayo or Galway RPS; and in terms of magnitude of impact, under the same guidelines a 'low' magnitude of impact relates to 'Changes to setting of a historic building, such that it is noticeably changed', whereas a medium magnitude relates to 'changes to the setting of a historic building, such that it is significantly modified', the former being most fitting, in my view.

With regards national monuments, I note that a scoping report issued to the applicant by the Department of Housing, Local Government and Heritage DAU drew particular attention to 2 no. national monuments, namely Jennings Castle and Kilbennen Church & Round Tower, and also 2 no. recorded monuments subject to preservation orders, namely Kilcreevanty, Religious House – Benedictine Nuns and Caltragh (Killower Ed) Ringfort & souterrain.

The EIAR identifies 6 no. national monuments within 10km of the site, including the two cited by the DAU, being Jennings Castle and Kilbennen Church & Round Tower.

Jennings / Feartagar Castle (National Monument No. 428) is located in the townland of Castlegrove East, Co. Galway, c. 4km to the northeast of T11 and c. 680m due north of the junction between the R332 and L6483. The castle is

located on the northern edge of an open field immediately south of the Castlegrove Woods. The associated Castlegrove House (NIAH Ref. 30401612), which is in ruins, is located within the woodland north of the castle. Public access to the castle is available off the Castlegrove Woods Forest Trail which commences on the northern end of a cul-de-sac laneway L64502. The castle, which is in state ownership and appears to be in relatively sound structural condition, is contained within a fenced off grassed area, limiting public access to within 5 to 10m of the castle structure. Having regard to the nature and location of the castle in the context of the woodland to the north and relative distance from the public road network, I consider that the greatest visual amenity afforded by the castle is the view of the castle with the woodland backdrop on the approach from the south on the northern end of the L64502. The visual amenity afforded by the castle is otherwise contained within the immediate environs of the castle, as such I consider that by reason of separation distance along with intervening vegetation including mature plantations along the R332 southwest of the castle, the windfarm would not impact on the setting or visual amenity afforded by the castle. I therefore concur with the EIAR that whilst the setting sensitivity is 'high', the magnitude of effect is best described as being 'low' and by association the significance of effect is 'slight', thus not significant in EIAR terms.

Kilbennen / Kilbannon Church and Round Tower (National Monument No. 48) is situated c. 5.9km to the east of T11. The monument is in state ownership and in partial ruins. The ruins of the church and round tower are located adjacent to a graveyard, with the whole site accessible to the public, served with an access road and relatively small car park. The presence of a mature tree plantation to the west of the monument site screens long distance views to the west. By reason of distance and intervening tree cover, I concur with the EIAR that whilst the setting sensitivity is 'high', the magnitude of effect is best described as 'negligible' and by association the significance of effect is 'not significant'.

Ross Errily Abbey (National Monument No. 50), situated c. 8.6km to the southwest of T4, is in state ownership and accessible to the public. The setting sensitivity is deemed to be 'High', the magnitude of effect 'low' and, by association, the significance of effect is deemed to be 'moderate'. Whilst the

sensitivity of the setting is high, the approach to the site along the road from the south, in my view, forms the main visual sensitivity associated with the structure. This viewscape towards the site from the approach road is identified as a protected scenic view under the Galway CDP and is evaluated under the EIAR LVIA chapter (Photomontage View Point 18). The view is aligned to the north / northwest therefore the windfarm, at a distance of c. 8.6km to the east, is very much peripheral to the view. In this regard, I concur with the findings of the EIAR that whilst the sensitivity of the setting is high, the magnitude of impact is low, particularly by reason of distance.

Kinlough Castle and Church (National Monument No. 95A) is situated c. 6.6km to the southwest of T3. The monument is in state ownership located on private lands. By reason of location in the context of the local road network, and undulating nature of the landscape, the structures are not readily visible or obvious from the public domain from the southwest, a direction of view required for visual interaction with the turbines. I concur with the EIAR that whilst the setting sensitivity is 'high', the magnitude of effect is 'negligible' and, by association, the significance of effect is deemed to be 'not significant'.

Shrule Abbey (National Monument No. 95) is levelled and Tuam High Cross (National Monument No. 505) was, at some point, moved inside a church building in Tuam, therefore I am satisfied that visual impacts do not arise in either of those cases.

With regards recorded monuments, I am satisfied that no significant harm will result from the proposed development. The EIAR identifies that, at operational stage, the proposal would result in, at most, a moderate significance of effect on recorded monuments, with the moderate effect identified for 2 no. sites, namely an extant ringfort (GA028-040---) located within the red line boundary and a children's burial ground (GA028-012003-) located 700m north of T2. . Both sites are located on private land, relatively remote from local roads, with neither having obvious signs of public access or evidence that they are frequently visited. Noting an observation received with regards the ringfort near T3, I am satisfied that same has been duly considered in the submitted EIAR. The EIAR identifies that the ringfort and children's burial ground have a medium and high setting

sensitivity, respectively. Having regard to the locational context described above, I would consider the setting sensitivity to be at most medium for both sites, however in any event, I concur with the EIAR that the impact of the proposal would not be significant from an EIA perspective.

Further, I am satisfied that no significant harm will result from the proposed development with respect to the two archaeological sites subject to Preservation Orders (PO) cited by the DAU. In this regard, I note that Kilcreevanty Religious House – Benedictine Nuns (PO 1/1989; 5/1996) is situated c. 5.6km to the northeast of T11, located on private land and is levelled, and bordered on two sides by power lines, one being a 110kv double circuit line, whilst Caltragh (Killower Ed), Ringfort & souterrain (PO 206/1955), situated c. 5.9km to the south is partially levelled, located on private lands, some 800m from the public road to the south.

As noted above, 5 no. submissions were received with respect to the potential impact on a children's burial ground at Cloonaglasha. The submissions outline that the burial ground holds deep cultural and spiritual significance for the community and that any disturbance to this sacred ground, particularly through flooding or movement of headstones, would cause significant emotional distress within this community.

In response, the applicant considers that the submissions are not specific enough with regards the location of the burial ground and, as such, assumes that the submissions relate to a children's burial ground (GA028-012003-) located 700m north of T2.

The children's burial ground (GA028-012003-), as referred to by the applicant, is located north of T2 in the townland of Clonsheen, c. 5km west of the rural settlement of Cloonaglasha. However, on review of the Heritage Council's online map viewer and the OSI map viewer, I note that there is a children's burial ground located just south of the rural settlement of Cloonaglasha and immediately adjacent to a tributary of the Togher River, c. 1.8km east of T11, aligning with the general locational description provided by the observers. The children's burial ground at this location is identified as GA029-060001- on the record of

monuments and places. The record describes the site as ‘a small roughly rectangular area and recorded in OS Letters as 'a burying place for children ... called Lios gárán, Lissgauraun' (O'Flanagan 1927, Vol. 1 26). All that survives is an unenclosed roughly square area within which a few rows of shapeless set stones, aligned N-S, indicate graves oriented E-W. According to local information, the last burial took place in 1945. A holy well (GA029-060002-) is associated.’

The map in EIAR Figure 15.1.c shows both the holy well and the children’s burial ground at Cloonaglasha, however neither Table 15-5 in EIAR Chapter 15, which lists all recorded archaeological sites within the 2km study area, or EIAR Appendix 15.2 (Cultural Heritage Inventory Descriptions), include reference to the children's burial ground (GA029-060001-), rather just the holy well (GA029-060002-). This may have been the basis for the error of reference in the applicant’s response to the submissions in this regard.

As noted above, the burial ground is located within the rural townland of Cloonaglasha, c. 7km northwest of Tuam and c. 1.8km east of T11 in the proposed development. The burial ground adjoins agricultural land to the west, with that land having frontage to a local tertiary road further west. The burial ground adjoins a river to the east, beyond which is a rural residential property, accessed off a local road on its eastern boundary. The immediate surrounding area is fragmented by rural dwellings and farm buildings, and during a site visit, I noted that a number of dwellings to the west of the burial ground site are either newly constructed or under construction. OSI historical maps suggest that pedestrian access to the burial ground was provided across the field from the west and via stepping stones on the river to the east. During a site visit, I noticed the remnants of an old stone stile at the roadside to the west. There are no obvious signs of public access available from the west or east and there is no signage or wayfinding on either public road to indicate the presence of a burial ground.

Notwithstanding, having regard to the nature of the nature of such burial grounds, I consider that the setting sensitivity is ‘high’, however having regard to the locational context including distance to turbines and local settlement pattern, I

consider that the magnitude of effect is ‘negligible’ and, by association, the significance of effect can be deemed to be ‘not significant’. The burial ground adjoins a tributary to the Togher River. As the crow flies, the burial ground is located c. 1.5km east of T11 however it is located c. 6km upstream from the nearest turbine (T5) via the alignment of the river network. Having regard to separation distance and location of the burial ground upstream, and with reference to the submitted Flood Risk Assessment (EIAR Appendix 12.3), I consider it unlikely that the proposed development would cause upstream flooding of the waterbody adjacent to the burial ground. Refer to Section 9.11 above for further consideration of flood risk, generally.

An observation refers to several ringforts, a medieval church and the historic landscape of Kilshanvey. The 2km study area for recorded monuments includes numerous sites within the vicinity of Kilshanvey townland. The observation does not give a precise location of the referenced medieval church however I note that ‘Kilshanvy Church (in ruins)’, recorded monument ref. GA028-033----, is located c. 2.17km northwest of T10, thus just outside the 2km study area. The structure is located on the north side of the east-west aligned road, and built directly to the road edge with an arched door on the roadside elevation providing access to the interior. Timber steps to the door from the road edge appears to be a recent addition. By reason of its positioning on the road, along with mature roadside vegetation and a worked farmland to its immediate environs, I consider that while the setting is highly sensitive, the magnitude of impact and significant of effect, in my view, would not be significant.

As outlined above, an observation received (from Friends of Kilconly Wetlands CLG) refers to the impact of the development on intangible cultural heritage associated with the local bogs and wetland, noting that as a living landscape, the bog is central to a sense of place, memory, and cultural continuity. In this regard, the observation outlines that through an artist residency programme, a visual artist works closely with the local community through projects such as Bog Fam and Tales from the Bog, recording oral histories, preserving traditional knowledge, and exploring contemporary relationships with the land through art and storytelling. The observation considers that the proposed wind farm poses a

risk to these ongoing practices, including limitations on access, noise disturbance, and potential impacts on the bog itself that are essential to these activities, and contends that the applicant has not considered such projects as elements of intangible cultural heritage.

In its response to this observation, the applicant refers to Ireland's National Inventory of Intangible Cultural Heritage, noting that art and storytelling are not listed as Intangible Cultural Heritage. Notwithstanding, the applicant contends that Intangible Cultural Heritage has been considered at various section of the EIAR, namely in Chapter 16 (Landscape and Visual Impact) which addresses the impact of the proposed development at a landscape scale; Chapter 8 (Noise), which 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; and Chapter 14 (Traffic and Transportation) which, in recognising turbary activities, confirms that access will be maintained to local road network and to turbary tracks during the construction and operation of the proposed wind farm.

Section 12.7.4 of the Galway CDP refers to the UNESCO 2003 Convention for the Safeguarding of the Intangible Cultural Heritage, and identifies that intangible cultural heritage refers to the practices, representations, expressions, knowledge, skills as well as the instruments, objects, artefacts and cultural spaces that communities, groups and, in some cases, individuals recognise as part of their cultural heritage. CDP Policy CUH 1 seeks to protect and promote intangible cultural heritage.

Ireland ratified the 2003 Convention in December 2015, under which there is an obligation to establish a National Inventory for Intangible Cultural Heritage to protect, promote and celebrate Irish living cultural heritage practices, customs, crafts and traditions. The inventory8 lists Intangible Cultural Heritage under the five broad headings of 1) Oral traditions and expressions, including language, 2) Social practices, rituals, and festive events, 3) Traditional craftsmanship, 4) Performing arts, and 5) Knowledge and practices concerning nature and the

9.15.[8] https://nationalinventoryich.ccs.gov.ie/national-inventory/

universe. As noted by the applicant, the general practice of art and storytelling is not listed on the inventory, rather the list comprises more defined elements of cultural heritage such as Irish Set Dancing, boat building, dry stone construction, hurling, Irish traditional music, Uilleann Piping, etc. I also note that the practice of saving turf is not included. I am satisfied that the proposal does not impact negatively on any element of intangible cultural heritage as currently listed on the inventory. Furthermore, by reason of the reversibility of the development, I am satisfied that the proposal will not have any long-term significant effects on the cultural amenity afforded by the bogs and wetlands to the local community.

An observation also considers that the construction phase traffic would impact on the operation of the Kilconly Wild West Music Fest, which it states is a major source of local economic activity and community cohesion. Online sources would suggest that the festival takes place over the May bank holiday. Kilconly village is located on the L2220, and c. 1.3km due west of its junction with the R332. The east bound approach to the site on the R332 is identified as being part of one of three haul routes but is not part of the turbine delivery route for the project. As such, there is the potential for the construction phase to coincide with the music festival, however there would be no windfarm related HGV trips through the village and also construction activities would be restricted to normal construction times, which would include half day Saturday and not on bank holidays. I consider it unlikely that the construction phase would cause adverse impacts on the operation of the Kilconly Wild West Music Fest.

Assessment of all potentially effected archaeological sites or historical heritage that may be impacted by the proposed development has been addressed in the submitted EIAR and my EIA set out here, and I am satisfied that no significant harm will result from the proposed development in this regard, consistent with CDP Policies AH 1, ARC 4 and CUH 1.

As a renewable energy project, the proposed development is promoted and supported through legislation and policy at national, regional and local levels, and in the context of the urgent need to respond to the climate crisis, I am satisfied that the proposed development is acceptable with respect to archaeological and cultural heritage.

9.12.2.7 Direct and Indirect Effects Conclusion

Having regard to the examination of environmental information in respect of architectural, archaeological and cultural heritage, in particular the EIAR provided by the applicant and the submissions received, and noting that the potential for sub-surface archaeological features has been identified by the applicant, it is considered that the main direct and indirect effects on architectural, archaeological and cultural heritage are as follows:

- During construction, through the application of mitigation measures in the form of archaeological monitoring, residual effects will range from not significant / imperceptible for preservation in-situ and to slight / moderate for preservation by record.

- During operation, the location of the proposed wind turbines will have a moderate effect on 1 no. national monument, Ross Errily Abbey (NM 50) located c. 8.6km to the southwest of T4, and a moderate effect on 2 no. recorded monuments, namely an extant ringfort (GA028-040---) located within the red line boundary and a children's burial ground (GA028- 012003-) located 700m north of T2.

- Other effects can be classified as slight, imperceptible or not significant.

9.12.2.8 Conclusion

Having regard to the examination of environmental information in respect of cultural heritage, it is considered that the main direct and indirect effects comprise the potential for direct adverse effects on sub-surface archaeology, and the indirect landscape and visual effect of the development on the setting of features of cultural heritage, with greatest effects on features within relative close proximity to the site. The potential for adverse effects on sub-surface archaeology can be mitigated by condition and landscape visual effects will be mitigated by the distance of the development from these features, the character of the landscape in which the site is situated and landscape features which will screen the visual effects of the development and protect the local setting of these features.

9.13 Landscape and Visual

9.13.1 Issues Raised

Public submissions received raise the following issues:

- 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
- Applicant and the EIAR ignored specific policy or guideline documents, for example, Guidelines for Landscape and Visual Impact Assessment (GLVIA3).
- Photomontages, by reason of technical deficiency, underrepresent the potential visual impact of the proposed turbines.

The CE report received from Galway County Council pursuant to Section 37E of the Planning and Development Act 2000 (as amended) raised no concern with regards landscape and visual impact but did query the omission of the Cooloo Wind Farm (in-planning, 9 turbines) from the study area.

The CE Report of Galway County Council also refers to the findings within the Coolglass Windfarm Limited v. An Coimisiún Pleanála IEHC 1 [2025] High Court judgement, noting that the judgement highlights that the overriding interests of renewable energy targets should take precedent over local landscape and visual impact consideration. I would however note that the subsequent Supreme Court decision indicated that, in individual planning decisions, section 15(1) of the Climate Action and Low Carbon Development Act 2015, as amended by the Climate Action and Low Carbon Development (Amendment) Act 2021, will not

often be determinative. This position is based on the presumption that climate objectives are already embedded in the planning framework and that planning authorities are generally entitled to proceed on the basis that the development plan is consistent with those climate objectives.

A submission from the Tuam District Members was attached to the CE Report pursuant to Section 37E(5) of the Planning and Development Act 2000 (as amended). With respect to landscape, the submission contends that the scale of the development is not in keeping with the landscape sensitivity of the area and that by reason of scale, the proposed development will have an adverse impact on the local built environment. The members also noted that the site is close to the proposed Laurclavagh Windfarm, leading to an intensification and concentration of large scale SID's within the Tuam Municipal district.

A Scoping Response, dated 12th June 2023, issued to the applicant by from Department of Housing, Local Government and Heritage (contained in EIAR Appendix 5.1), made the following heritage related observation:

advised that in addition to a robust desk-study supported by a comprehensive field inspection, the Cultural Heritage Impact Assessment (CHIA) should incorporate a visual impact assessment to assist in identifying any possible impacts to the setting of sites or monuments, with particular reference to sites with preservation orders.

A Scoping Report, undated, issued to the applicant by Fáilte Ireland (contained in EIAR Appendix 5.1), made the following landscape related observations:

- The visual impact of a tourism development, especially in locations which are visually sensitive or renowned for their scenic or landscape beauty, should be considered carefully. A development intended to utilise or enjoy a particular vista or environment should minimise impact upon that environment.

I note that the relevant assessment of cultural heritage is set out in EIAR Chapter 15, including visual impact assessment. I have made reference to cultural heritage in this section in the context of the human experience such as those archaeological sites open to the public or frequently visited.

I have assessed the landscape policy context of the North Galway Complex Landscape Character Area in Section 7.0 above, and I have not repeated this herein.

9.13.2 Examination, analysis and evaluation of the EIAR

9.13.2.1 Context

Landscape and Visual Impact is addressed in Chapter 16 of the EIAR, the stated purpose of which is to describe the landscape context of the proposed wind farm and to assess the likely landscape and visual impacts of the scheme on the receiving environment. Although closely linked, landscape and visual impacts are assessed separately, and that Landscape Impact Assessment (LIA) relates to changes in the physical landscape brought about by the Proposed Development, which may alter its character, and how this is experienced; whilst Visual Impact Assessment (VIA) relates to assessing effects on specific views and on the general visual amenity experienced by people.

Chapter 16 is supplemented by Figures 16.1 to 16.10, with further reference to Figures 2.4 and 2.5, along with the following appendices contained within Volume III:

- Appendix 16.1 – Assessment of Viewshed Reference Points;
- Appendix 16.2 – Landscape and Visual Impact Assessment (LVIA) Mapping;
- Appendix 16.3 – Photomontages
- Appendix 16.4 – Comparative Photomontages for turbine design flexibility options

Section 16.2 of the EIAR explains the methodology adopted for the LVIA including the mapping of the Zone of Theoretical Visibility (ZTV), identification of Viewshed Reference Points (VRP) and methodology for assessing significance of landscape and visual effects and cumulative effects. The

methodology adopted is conservative and consistent with policy and best practice guidelines.

The Commission should note that the LVIA study area and ZTV are consistent with the Wind Energy Development Guidelines, 2006 (and draft 2019 Guidelines), which recommend a 20km ZTV for turbines with a height >100m.

Notwithstanding the full 20km extent of the LVIA study area, the LVIA places particular focus on receptors and effects within the central Study Area, where there is a higher potential for significant impacts to occur, noting that the 'central Study Area' is the landscape within 5km of the site. Having regard to my inspection of the development site and surrounding area, this approach is not unreasonable.

Having due regard to the Derryadd Wind Farm high court decision, the LVIA considers the range of flexibility in design of the turbines, which comprises a variation in the hub height, rotor diameter and tip height, outlining three alternative options, as follows:

- Option 1 – 104.7m hub height, 149m rotor diameter, 179.25m tip height (lowest hub height, longest rotor diameter)
- Option 2 – 102.5m hub height, 155m rotor diameter, 180m tip height (as used for the visual impact assessment herein)
- Option 3 – 105m hub height, 150m rotor diameter, 180m tip height (highest hub height, shortest rotor diameter)

The EIAR sets out that the specimen turbine used for the photomontages which then informed the visual impact assessment was based on Option 2 above, thus employing the maximum tip height dimension of 180m, with a hub height of 102.5m and maximum rotor diameter of 155m. The EIAR further outlines that the variation between the specimen turbine and the two alternatives (Options 1 and 3) is fractional in the context of 180m tall turbines with a difference of only 1m between the three alternative tip heights. Comparative photomontages at

three select viewpoints are presented under Appendix 16.4, Volume III of the EIAR.

I do note that the comparative description of the options provided in the EIAR is not entirely accurate, for example, the EIAR states that Option 1 comprises the lowest hub height and longest rotor diameter however this is not the case. A more accurate comparative description is as follows:

- Option 1 – 104.7m hub height, 149m rotor diameter, 179.25m tip height (mid-range hub height, shortest rotor diameter, lowest tip height)
- Option 2 – 102.5m hub height, 155m rotor diameter, 180m tip height (lowest hub height, longest rotor diameter, highest tip height), as used for the visual impact assessment herein
- Option 3 – 105m hub height, 150m rotor diameter, 180m tip height (highest hub height, mid-range rotor diameter, highest tip height, being the same tip height as Option 2)

I also note discrepancies between the principal dimensions of the turbine as described in Chapter 16 of the EIAR and those shown on the submitted drawing of the turbine (RWE dwg. no. P20-306-0300-0018, Rev. A). The dimensions shown on the front elevational detail on this drawing indicates that the turbine tip height would range between 169m and 176.5m, whilst the side elevational detail indicates a maximum turbine tip height of 185m. This is in contrast to the description of the proposed turbines under Chapter 16, as outlined above, that being consistent with the details also outlined in EIAR Chapter 2 (Description of Development), which indicates that the tip height, to allow for flexibility in design, would range between 179.25m and 180m.

Notwithstanding these errors, I am satisfied that the turbine itself measures correctly on submitted dwg. no. P20-306-0300-0018, Rev. A, which is drawn to scale, and in line with the design parameters under Options 1, 2 and 3 as described above, with these options also clearly annotated on the drawing. By association, I am satisfied that the turbines are depicted correctly for identification of a Zone of Theoretical Visibility (EIAR Appendix 16.2) and for the

preparation of photomontages (EIAR Appendix 16.3) and comparative photomontages (EIAR Appendix 16.4).

The comparative photomontages submitted are based on three of the selected viewpoints (VP7, VP10 (a/b) and VP12) to represent short and mid-distance views of the development in differing contexts. The EIAR states that it was not considered necessary to use long distance views (10km+) for this comparative exercise as any variation in turbine dimensions are even less likely to be read at longer distances. Furthermore, the EIAR considers that the submitted LVIA is deemed to comfortably cover the range of potential turbine dimension options proposed and considered that it is not necessary to prepare separate photomontages / assessments at all viewpoints for all possible turbine dimensions within the range.

I consider that this is reasonable particularly having regard to the three viewpoints examined for the 3 scenarios. Having regard to my assessment below, I would concur with this conclusion and consider that the information before the Commission is sufficient to undertake this section of the EIA.

9.13.2.2 Baseline

The landscape (e.g. landscape designations, landscape character), visual (e.g. key visual receptors) and cumulative baseline (e.g. other wind development), of the development site and wider area is described in Sections 16.3, 16.4 and 16.9 of the EIAR, respectively, and can be cross referenced with the EIAR Chapter 4 (Policy).

The landscape baseline has regard to the landscape designations as set out in the Galway and Mayo County Development Plans, landscape characterisation guidelines set out in the 2006 WEDGs, and the landscape character of the 'Site and Central Study Area' (<5km from the site) and the landscape character of the 'Wider Study Area' (5-20km from the site).

The visual baseline firstly establishes a Zone of Theoretical Visibility (ZTV) within the 20km study area and subsequently seeks to identify important visual receptors from which to base the visual impact assessment, having regard to

centres of population and houses, transport routes, and tourism, recreational and heritage features.

The *cumulative baseline* has regard to operational and permitted wind farms within 20km of the development site (Figure 2.5 in Volume 4 and Figure 16.10 as contained in Chapter 16 of Volume 2).

In summary the following baseline characteristics are identified.

Landscape *Baseline*

- With regards the Site and Central Study Area (< 5km from the site), the EIAR identifies the following:
    - The site and its immediate surroundings are flat, highlighted by the array of peat bogs that contain the site and some of the surrounding central study area.
    - Beyond the site's immediate context, the terrain is also characterised by relatively flat to low-rolling lands.
    - Lough Hacket is situated 3.8 km southwest of the site. The nearest watercourse is the Black River, which flows a short distance to the north and west of the site. The smaller Togher River meanders through the site. Otherwise, the site and central study area comprise small streams and drainage ditches.
    - Beyond the site's immediate context of open flat land of peat bogs, the principal land use is pastoral farmland bound by networks of mixed hedgerow vegetation and mature trees.
    - Areas of peat bog also occur throughout the eastern extent of the central study area, whilst small blocks of conifer woodland are also dotted throughout all aspects of the central study area.
- With regards the Wider Study Area (5-20km from the Site), the EIAR identifies the following:
    - The wider study area is slightly more varied and contains the broader extents of Lough Corrib in the southwest portion.

- Other notable watercourses within the wider study Area include the Robe River, which flows through Ballinrobe town in the northern portion. Turloughs are dotted throughout the wider study area.
- The principal land uses in the wider study area are medium to large-sized pastoral fields bound by networks of hedgerow vegetation and blocks of peat bogs.
- Within the wider study area, the EIAR refers to the existing Cloonlusk wind farm development, the lake lands of Lough Corrib, a notable presence of industrial land uses, particularly those associated with the extractive industry at Shanvally, and the urban settlements of Tuam and Headford.

- Landscape designations and policy context:

Department of Environment, Heritage and Local Government Wind Energy Development Guidelines 2006

- The EIAR outlines that the 2006 Wind Energy Development Guidelines provide guidance on wind farm siting and design criteria for a number of different landscape types and that this section remains unchanged in the draft 2019 guidelines.
- The EIAR considers that the main wind farm site and central study area is located within a landscape that is consistent with both the 'Flat Peatland' and the 'Hilly and Flat Farmland' landscape type described under the 2006 guidelines.

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- The study area for Landscape Character Areas (LCAs) is 20km. The development site falls within the 'North Galway Complex Landscape' Landscape Character Area (LCA). This LCA is situated adjacent to the 'Central Galway Complex Landscape' LCA to the south (EIAR Figure 16.3). The entirety of the 'North Galway Complex Landscape' LCA and

the ‘Central Galway Complex Landscape’ LCA are rated as being of ‘low’ landscape sensitivity.

- The landscape character types are split into landscape character units. The site is located within the ‘North River Clare Basin Unit.’ The EIAR notes that no further information about this landscape character unit is provided in the Galway County Development Plan.

Other local authorities

- Other LCAs within in the study area are the ‘L – South East Mayo Plains’ in Co. Mayo. The EIAR outlines that the Landscape Appraisal for Mayo, as per the Mayo County Development Plan 2022-2028, identifies that the Critical Landscape Factors for this landscape unit relate to ‘undulating topography’ and ‘shelter vegetation’, and that wind farms in the ‘L – South East Mayo Plains’ have a High-Medium potential for adverse impacts, indicating a higher sensitivity to wind turbines but Policy Area 4 represents the most preferred location for wind farms in County Mayo.

Visual Baseline

The stated study area for landscape and visual receptors is 20km.

The EIAR identifies that much of the central study area is heavily influenced by extensive areas of peat bog previously used to harvest peat for fuel and that the surroundings of these peat bogs are now going through the process of natural regeneration, fringed by conifer forest areas and encircled by more typical areas of working agricultural farmland bound by networks of hedgerows and mature trees.

As noted above, the EIAR outlines that the identification of important visual receptors from which to base the visual impact assessment and is based on 6 categories of receptor type, namely Key Views, Designated Scenic Routes and Views, Local Community Views, Centres of Population, Major Routes and Amenity & Heritage Features. Within the study area and with reference to both the Galway and Mayo county development plans, the EIAR identifies three protected views (all within County Galway) and no protected scenic route. 21 no. identified Viewshed Reference Points (VRP) are listed in Table 16.8 of the EIAR, including references to the receptor type

considered relevant in each case. The location of the 21 no. VRPs are shown on a map in Figure 16.8 of the EIAR Chapter 16 and within Appendix 16.3 (Photomontage Booklet).

Cumulative Baseline

The cumulative study area is 20km and identified wind farms are listed in Table 16.10. Those identified are Cloonlusk Wind Farm (existing, 2 turbines, c. 15km to the southeast), Laurclavagh Wind Farm (in-planning, 8 turbines, c. 10km to the south), Clonberne Wind Farm (in-planning, 11 turbines, c. 17km to the east) Cloonascragh Single Turbine (permitted, 1 turbine, 12km to the southeast).

I note that the applicant's response to the CE report received from Galway County Council's makes reference to the Cooloo Wind Farm (in-planning, 9 turbines), noting its location at a distance of c. 21.3km from the proposed Shancloon wind farm, and thus outside the 20km study area.

9.13.2.3 Potential Effects

As noted in the context section above, Section 16.2 of the EIAR outlines the methodology adopted. Of relevance to the evaluation of potential effects, the EIAR outlines that the classification system used to determine the significance of landscape and visual impacts is based on the IEMA Guidelines for Landscape and Visual Impact Assessment (2013).

9.13.2.4 Significance of a Landscape Impact

The EIAR outlines that the significance of a landscape impact is based on a balance between the sensitivity of the landscape receptor and the magnitude of the impact; that the sensitivity of the landscape to change is the degree to which a particular landscape receptor (Landscape Character Area or feature) can accommodate changes or new features without unacceptable detrimental effects on its essential characteristics, whilst the magnitude of a predicted landscape impact is a product of the scale, extent or degree of change that is likely to be experienced as a result of the proposed development. A Landscape Value and Sensitivity range is provided and described under Table 16.1 of the

EIAR, whilst a scale and description of Magnitude of Landscape Impacts is provided under Table 16.2, and in both respects the scale of sensitivity / magnitude ranges through negligible, low, medium, high and very high.

The relationship between sensitivity and magnitude is expressed in a significance matrix provided in Table 16.3 of the EIAR, which outlines that where the significance of the interaction between the 'sensitivity of the receptor' and the 'magnitude' of the impact is judged to be 'substantial', 'profound – substantial', or 'profound', then this is considered to constitute 'significant impacts' in EIA terms.

9.13.2.5 Significance of a Visual Impact

The EIAR outlines that as with landscape impact, the significance of visual impacts is a function of visual receptor sensitivity and visual impact magnitude. However, that unlike landscape sensitivity, visual sensitivity has an anthropocentric basis (the human experience); and that for this reason visual sensitivity is a two-sided analysis of receptor susceptibility (people or groups of people) versus the value of the view on offer at a particular location. The EIAR outlines that the magnitude of visual effects is determined on the basis of two factors: the visual presence of the proposal and its effect on visual amenity. The EIAR states that visual presence is essentially a measure of the relative visual dominance of the proposal within the available vista and is expressed as such, i.e. minimal, sub-dominant, co-dominant, dominant, and highly dominant, and inferring that for wind energy developments, a strong visual presence is not necessarily synonymous with adverse impact and as such that the assessment of visual impact magnitude for wind turbines is more complex than just the degree to which turbines occupy a view.

The relationship between visual receptor sensitivity and visual impact magnitude is expressed in the same significance matrix as that for landscape impact (EIAR Table 16.3).

In addition to assessing the significance of landscape effects and visual effects, the EIAR refers to a requirement under the 2022 EPA Guidance for EIARs that

the quality of the effects is also determined, which can be 'negative/adverse', 'neutral', or 'positive/beneficial', and that Landscape and Visual effects are also categorised according to their duration, ranging as follows: Temporary (Lasting for one year or less); Short Term (Lasting one to seven years), Medium Term (Lasting seven to fifteen years), Long Term (Lasting fifteen years to sixty years) or Permanent (Lasting over sixty years).

9.13.2.6 Mitigation

The EIAR sets out that given the highly visible nature of commercial wind energy developments, it is not generally feasible to screen them from view using on-site measures, as would be the primary form of mitigation for many other types of development. Instead, landscape and visual mitigation for wind farms must be incorporated into the early-stage site selection and design phases. In this instance, the two main forms of landscape and visual mitigation employed were:

- Avoidance in design - the siting of the proposed turbines was selected due to the robustness of the receiving landscape and to minimise the impacts of key receptors.
- Buffering of Residential Receptors - The minimum distance of any turbine from the nearest residential receptor is 720.4m (noting closest property to a turbine (Eircode H54 KH73) is located 357 m distance from Turbine T01, however this property is under the control of the Developer and will be taken out of use as a residential property and will not be occupied for the operational period of the development)

Likely effects of the development, as identified in the EIAR (referring to Volume 1 and Volume 2), are summarised in Table LV1below.

Table LV1: Summary of Potential Effects Landscape and Visual

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• Under the "Do-Nothing" scenario, the EIAR envisages the following: o the proposed development would not go ahead, the development of a renewable energy project is not pursued, and

	the likely evolution of the baseline is that the site would remain in use as agriculture and forestry. o the prospect of creating sustainable energy through County Galway's wind energy resource would be lost at this site. o a do-nothing scenario would contribute to the strain on existing energy infrastructure and may impact on economic growth if energy demand cannot be met. This may be exacerbated by the government's plans to cease the burning of coal at Moneypoint as well as the termination of all peat burning at Bord na Móna's powerplants in 2020. o the socio-economic benefits associated with the proposed development will be lost. These benefits include between 103 and 124 no. jobs during the construction phase of the project, and between 73.8 and 87.2 long-term jobs once operational. o the local community will not benefit economically from the community benefit fund associated with the project which could be used to improve physical and social infrastructure in the area of the site. o the potential environmental impacts of the proposed development as set out throughout this EIAR will not occur.
Construction	**<u>Landscape</u>** o Modest physical impact on the landscape within the site as none of the proposed development features have a large 'footprint', and land disturbance/vegetation clearing will be relatively limited. o The topography and land cover of the site will remain largely unaltered, with construction being limited to tracks, areas of hard standing for the turbines, the onsite substation compound, temporary site construction compounds, and proposed met masts. o Excavations will tie into existing ground levels insofar as possible and will be the minimum required for efficient working. o Any temporary excavations or stockpiles of material will be re-graded to marry into existing site levels and reseeded appropriately in conjunction with advice from the project ecologist. o The intensity of construction stage activity associated with the access tracks and turbine hardstands will be temporary/short-term in duration and transient in location. o Impacts from land disturbance and vegetation loss at the site are considered modest in the context of this landscape setting that is influenced by an array of working rural land uses. • Ancillary project elements: o <u>Site access roads and turbine hardstands</u>. The finalised internal access track layout has been designed to minimise the need for

	new tracks by utilising and upgrading existing tracks and designed to follow the natural contours of the land wherever possible, reducing the potential for areas of excessive 'cut and fill'. There will be an intensity of construction stage activity associated with the access tracks and turbine hardstands consisting of the movement of heavy machinery and materials, but this will be temporary/short-term in duration and transient in location. The construction stage effects on landscape character from these activities will be minor. o <u>Substation and grid connection</u> o The most notable construction stage landscape impacts resulting from the proposed onsite substation relate to the construction of concrete foundations to facilitate that substation building. o The grid connection between the substation and line interface masts will require delivery of plant and construction materials, followed by ground excavation, cable laying, and subsequent reinstatement of trenches, and will result in minor and very localised construction stage landscape effects. o <u>Meteorological mast.</u> Minor ground excavation required. Based on a medium-low sensitivity judgement and a high-medium magnitude of construction stage landscape impact, the significance of impact is considered to be **Moderate / Negative / Short-term** within and immediately around the site during construction but reducing with distance and broader context. This is considered not significant in EIA terms. **<u>Visual</u>** o Not directly assessed. The EIAR states that construction stage visual effects will have a similar or a lesser magnitude of effect as what will occur in the operational stage, therefore the focus of visual assessment is on the operational stage.
Operational / Residual	<u>Wind farm</u> • Landscape effects. o Central study area is part of the Galway landscape character area LCA5 - Northeast Galway (Tuam environs): Class 1 – Low sensitivity rating. This makes it an eminently suitable location for turbines in County Galway. o The greatest potential for landscape impacts to occur is as a result of the change in character of the immediate area due to the introduction of tall structures with moving components.

	○ In terms of scale and function, the proposed development is well assimilated within the context of the central study area. This is due to the broad scale of the landform, landscape elements and land use patterns. These attributes prevent the height and extent of the proposed wind farm from causing the type of scale conflict that can occur in more intricate landscape areas ○ In summary, there will be physical impacts on the land cover of the site as a result of the proposed development during the operational phase, but these will be relatively minor in the context of this productive rural landscape that comprises existing wind energy developments and extensive areas of commercial conifer forest. ○ Based on a Medium-low sensitivity judgement and a High-medium / Medium magnitude of operational stage landscape impact, the localised significance of impact is considered to be **Moderate / Negative / Long-term** within and immediately around the Site. Thereafter, significance will reduce to **Moderate-slight and Slight** at increasing distances as the development becomes a progressively smaller component of the wider landscape fabric, even in the context of higher-sensitivity landscape units/features such as the uplands to the east and west and the coastline in the southeast quadrant of the Study Area. This is considered not significant in EIA terms. • Visual effects ○ Viewpoint assessment (set out in full in Appendix 16.1 and summarised in Table 16.9). Predicted significance of effect are **Imperceptible** (VP1, VP2, VP4, VP5, VP15, VP21), **Slight–Imperceptible** (VP20), **Slight** (VP3, VP6, VP16, VP17, VP18), **Moderate-Slight** (VP7, VP8, VP11, VP12, VP13, VP14), **Moderate** (VP9, VP19) **Substantial-Moderate** (VP10), **Substantial** (none), **Profound-Substantial** (none), **Profound** (none). Thus, none considered to constitute 'significant impacts' in EIA terms. • Visibility and visual effects on specific visual receptors in LVIA study area: ○ <u>Designated views</u> Three protected views were identified within the study area / Zone of Theoretical Visibility (ZTV) of which one was brought forward for assessment, namely Protected View 33 (as per Galway CDP). The EIAR outlines that this viewpoint represents the designated view towards the ruins of the Friary of Ross in the northwest. VP18 in the submitted viewpoint assessment represents this view towards the windfarm, with the EIAR concluding that 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, and that overall, the significance of visual impact was deemed Slight at VP18, thus not significant in EIA terms. ○ <u>Impacts on Local Community Views</u> The EIAR outlines that local community views are considered to be those experienced primarily by those people who live, work and move around the area within approximately 5km of the site. 11 views were chosen to represent the local community, namely VP6, VP7, VP8, VP9, VP10, VP11, VP12, VP13, VP14, VP16 and VP17. The significance of visual impact of all viewpoints, except VP10, was deemed to be Slight, Moderate-Slight or Moderate, whilst VP10 was deemed to be Substantial-Moderate. VP10 – The EIAR finds that whilst the turbines will be a distinctive feature of the open view to the south, they will not block or obstruct the views. The proposed turbines will present here at a considerable scale and thus will have a dominant-to-co-dominant visual presence, and thus a high magnitude of visual impact. As per the significance matrix (EIAR Table 16.3), this 'high' magnitude of visual impact combined with a medium-low sensitivity results in a Substantial-Moderate impact, thus not significant in EIA terms. VP9, VP11, VP13 and VP14 all represent local community receptors immediately adjacent to the site. The sensitivity judgement at all these viewpoints is Medium-low. Similar to VP10, these are the locations within the study area where the proposed turbines have the greatest visual dominance due to the proximity of the turbines, and this is what generates the Medium magnitude of impact, and thus 'Moderate-Slight' significance, thus not significant in EIA terms. At VP9, the turbines present with a notable lateral extent; therefore, the significance is greater and is deemed to be 'Moderate' significance. Again, not significant in EIA terms. VP7, VP8, and VP12 are located slightly further north, northwest, and west of the Site. However, all will incur 'Moderate-slight' significance of residual impact, thus not significant in EIA terms. VP6, VP16, and VP17 are deemed 'Slight' due to a combination of intervening screening and increased distance from the site, thus not significant in EIA terms. ○ <u>Impacts on Centres of Population / Settlements</u>

	Eight viewpoints (VP1, VP2, VP3, VP4, VP5, VP12, VP15 and VP21) were chosen to represent centres of population within the wider study area. **Claremorris** – No potential for views of the proposed turbines from this settlement. VP1 represents a view from the R320 regional road / Ballindine Road, due east of the Land of the Giants walkway (south of the town), with the walking trail located in the low-lying portion of the middle ground of the view. The proposed turbines will be heavily screened from here by the intervening terrain, structures and vegetation in the direction of the site. Significance of the visual impact is deemed to be Imperceptible, thus not significant in EIA terms. **Ballinrobe** - No potential for views of the proposed turbines from this settlement. VP2 represents a view from the playing fields located in the southern extents of the town. The proposed turbines will be heavily screened from here by the intervening terrain, structures and vegetation in the direction of the site. Significance of the visual impact is deemed to be Imperceptible, thus not significant in EIA terms. **Milltown** - To the southwest of the settlement, there are views over a broad rural context of fields and hedgerows, represented by VP3. The turbine blades of five turbines will be partially and intermittently visible along the vegetated skyline at a distance of over c. 9.7 km. Whilst the windfarm will generate a slight sense of visual ambiguity as to the actual location of the proposed wind farm development, they will have very little notable influence on the visual amenity of this scene. Significance of the visual impact is deemed to be Slight, thus not significant in EIA terms. **Dunmore** - No potential for views of the proposed turbines from this settlement. VP4 represents the population centre of Dunmore and the major route of the R328 regional road. It is an enclosed view, with undulating terrain in the foreground, shortening the view to the southwest. The proposed turbines will be heavily screened from here by the intervening terrain, structures and vegetation in the direction of the site. Significance of the visual impact is deemed to be Imperceptible, thus not significant in EIA terms. **Kilmaine** - No potential for views of the proposed turbines from this settlement. VP5 is representative of the Kilmaine Nature Walk, which is located south of the population centre of Kilmaine. The view is directed to the southeast over gently rolling farmland enclosed within drystone walls. Terrain and established vegetation contain most of the view. The proposed development will be entirely screened from here by the intervening terrain, built development and surrounding stacked vegetation. Significance of the visual impact is deemed to be Imperceptible, thus not significant in EIA terms. **Shrule** – Only notable settlement within the central study area. VP12 represents the major transport route, the population

	centre and the associated amenities and services in the immediate surroundings. Whilst the proposed development will present some negative aesthetic effects, principally associated with the overlapping of turbine blade sets, the turbines will not appear out of place in terms of their scale or function at this settlement. Significance of the visual impact is deemed to be moderate-slight, thus not significant in EIA terms. **Tuam** – largest settlement in the study area. No possibility of views of the proposed turbines from ground level in or near Tuam. VP15 represents an elevated view from a footbridge on the N17 Tuam bypass, immediately east of the N17 Business Park. Significance of the visual impact is deemed to be Imperceptible., thus not significant in EIA terms. **Abbeyknockmoy** - No potential for views of the proposed turbines from this settlement. VP21 represents the population centre and the major route of the N63 national secondary road. This slightly elevated view is enclosed by undulating terrain in the foreground, which foreshortens the view to the northwest. The proposed turbines will be almost completely screened from here by intervening terrain in the direction of the site. Significance of the visual impact is deemed to be Imperceptible, thus not significant in EIA terms. ○ <u>Impacts on Heritage and Amenity Features</u> Two viewpoints (VP19 and VP20) were chosen to represent heritage and amenity features within the Study Area. VP19 represents a potential view out of Knockma Woods (to the southeast of the site), representing the most elevated point 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. The EIAR notes that this view is representative of a worstcase scenario in terms of visual exposure from Knockma Woods because it is located on the woodland edge, while all of the walking trails are enclosed within the woods. VP19 was classified with a visual impact significance of 'Moderate' (not significant in EIA terms). VP20 is representative of the view from the banks of Lough Corrib, residents in the townland of Annagh East, and a general view from lands in the southern portion of the study area. The view demonstrates that the proposed turbines are generally unlikely to be visible, and if they are, the view is likely to be limited to views of just the blade tips rotating above vegetation in a distant background. VP20 was classified with a visual impact significance of 'Slight – Imperceptible', thus not significant in EIA terms. • Consideration of Turbine Dimension Range

	Comparative photomontages (see Appendix 16.4, Volume III) for selected viewpoints VP7, VP10 (a/b) and VP12 represent short and mid-distance views of the development in differing contexts. The variation in turbine dimensions is very difficult to discern across the three scenarios even with considerable scrutiny. This is unsurprising as the variation in hub height is no greater than 2.5m from the specimen turbine position. There is also a potential 1m departure from the specimen turbine in terms of tip height for alternative Option 1, but this would result a reduction in overall height (i.e. the visual impact would not increase). Whilst the variation in rotor dimeter is 5m between the specimen turbine and Alternative Option 3, this only translates as a variation of 2.5m in blade length. Regardless of whether the difference between the alternative turbine dimensions presented in the comparative photomontages can be discerned or not, it is clear that there is not a material difference in the level of visual impact between them and certainly not a higher impact than the base-case used for the submitted LVIA The submitted LVIA is deemed to comfortably cover the range of potential turbine dimension options proposed. As above, VP7 and VP12 are judged to incur 'Moderate-slight' significance of impact, thus not significant in EIA terms, whilst VP10 was deemed to incur a Substantial-Moderate impact, again, not significant in EIA terms.
Decommissioning	• The decommissioning phase will have similar temporary impacts as the construction phase with the movement of large turbine components away from the Site. There may be a minor loss of roadside and trackside vegetation that has grown during the operational phase of the project, but this can be reinstated upon completion of decommissioning. Areas of hard standing that are of no further use will be reinstated and reseeded to blend with the prevailing surrounding land cover of the time. The proposed onsite substation will remain in perpetuity as part of the national grid infrastructure, in addition to residually useful access tracks. The significance of impact is considered to be Moderate, thus not significant in EIA terms.
Cumulative	• Construction. Not considered. • Operation. o Cumulative landscape and visual impacts are considered jointly. o Existing, permitted and in-planning wind farms within 20km of the development site area shown in Figure 2.5, comprising the existing 2 turbine windfarm at Cloonlusk, Co. Galway (ABP Ref. 232902), the permitted but not constructed 1 wind turbine

	at Cloonascragh, Co. Galway (Galway CoCo ref. 221175), proposed 8 turbine windfarm at Laurclavagh, Co. Galway (ACP ref. 319307) and part of the proposed 11 turbine windfarm at Clonberne, Co. Galway (ACP ref. 320089). I note that the applicant's response to Galway County Council's CE report makes reference to the Cooloo Wind Farm (in-planning, 9 turbines, ACP-323761-25), noting its location at a distance of c. 21.3km from the proposed Shancloon wind farm, and thus outside the 20km study area. o There are no other large-scale developments within the vicinity of the site in terms of cumulative impacts with other forms of development. o The appraisal of cumulative effects with other wind energy developments is based on a cumulative ZTV map (Figure 16.10) and wireframes provided in Appendix 16.2. o A review of the wireline views at each of the selected viewpoints was undertaken, and it was determined that at 17 no. there would be a theoretical potential for cumulative visual impacts as the proposed development would be visible in addition to a portion of one or more of the other wind energy developments identified on the map in Figure 2.5. o A wireline model and photomontage for each of the 17 no. viewpoints (Appendix 16.3) show the locational context of the proposed windfarm and other existing, permitted and in-planning wind farms within the 20km study area. The 17 no. viewpoints are listed and assessed in Table 16.11 of the EIAR, namely VP3, VP6, VP7, VP8, VP9, V10, VP11, VP12, VP13, VP14, VP15, VP16, VP17, VP18, VP19, VP20 and VP21. o Overall, the proposed development will result in an intensification of wind energy development within this landscape context and within the surroundings of the planes of northeast Galway and south Mayo. Furthermore, existing wind energy development is an established feature within the wider study area (existing Cloonlusk Wind Farm). o There is the potential for Slight / Negative / Long Term cumulative visual effect to occur at VP10. All cumulative visual effects at all other viewpoints will be of a lower level of significance. There are no instances where there would be the potential for significant cumulative visual impacts to occur. o The proposed development is considered to contribute to a cumulative impact no greater than Slight with other existing, permitted and in-planning wind energy developments, thus not significant in EIA terms The quality of the effect is deemed to be Negative, and the duration is deemed to be Long term.

9.13.2.7 The Assessment: Direct and Indirect Effects

I have examined, analysed, and evaluated Chapter 16 of the EIAR, all of the associated documentation and submissions in respect of landscape and visual amenity. I have inspected the application site, the surrounding area, the selected Viewshed Reference Points (Table 16.8), associated photomontages (Appendix 16.2) and Assessment of Viewshed Reference Points (Appendix 16.1). I have also had regard to landscape character and sensitivity as set out in the policy framework in the Galway and Mayo County Development Plans and the sensitive receptors identified therein. I am satisfied that the applicant's understanding of the baseline environment, by way of desk and site surveys, is comprehensive and that the key impacts as a result of the proposed development in respect of likely effects on landscape and visual amenity, have been identified.

Landscape Sensitivity and Impact

The EIAR determined that the overall landscape sensitivity of the central study area (< c. 5km) is medium – low, with the same landscape sensitivity applied to the wider study area (c. 5 – 20km) apart from the outer western quarters around Lough Corrib and Lough Mask where the sensitivity increases to high-medium.

The EIAR describes the characteristics which informed the above determination. With respect to the central study area, the LVIA notes the low sensitivity rating applied under to the CDP to the 'North Galway Complex Landscape' LCA (Appendix 4, CDP).

The EIAR identifies that the LCAs are split into landscape character units and that within the North Galway Complex Landscape LCA, the site is located within the 'North River Clare Basin Unit.' The EIAR found that no further information about this landscape character unit is provided in the Galway County Development Plan. However, I note that Section 3 of the CDP Appendix 4 describes each landscape character unit in general terms to further identify its location, extent, and character. The North River Clare Basin Unit is described as *'Extensive, largely level plain with low enclosure. A long-settled working*

landscape of large regular stone-walled fields. Extensive areas of bog in east. Transition zone from bog areas to east'.

The EIAR also outlines that a significant portion of the study area falls under the Mayo landscape character area 'Area L - South East Mayo Plains' corresponding with Policy Area 4 which, while identified as having high to medium 'potential to create adverse impacts on the existing landscape character', represents the most preferred location for wind farms in County Mayo.

The EIAR identifies that the central study area has a notable sense of enclosure due to its flat nature and nearby hedgerow vegetation, which truncates any strong sense of openness. The EIAR also notes that the central study area comprises some scenic amenity, principally associated with the more elevated area in its southern extent where views are afforded towards Knockma Wood.

With respect to the wider study area, the LVIA identifies a more varied landscape than the central study area, noting the flat to low rolling topography similar to that of the central study area, with the western extent influenced by the lakeland type of landscape associated with Lough Corrib and Lough Mask. The EIAR notes that whilst the wider study area contains some highly susceptible receptors such as the lakes, Friary of Ross and the Kilmaine nature walk, it is heavily influenced by highly anthropogenic built features, noting wind energy development in the south-eastern portion, numerous rural service centres, including Tuam, several major interconnecting routes in the eastern half and several local quarries.

With regards the 2006 Wind Energy Guidelines, the EIAR identifies that the main wind farm site and central study area fall within a landscape that is consistent with both the 'Flat Peatland' and the 'Hilly and Flat Farmland' landscape type. I concur with same.

A number of third-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. The submission of the Tuam Municipal District (attached to the planning authority's report as submitted to An Coimisiún Pleanála) contends that

the scale of the development is not in keeping with the landscape sensitivity of the area and that by reason of scale.

Having visited the site, I concur with the EIAR with respect to the character of the landscape and associated sensitivity. Whilst the CDP describes the North River Clare Basin Unit as being of *a largely level plain with low enclosure,* I am satisfied that this is a description in general terms and I note that the North River Clare Basin Unit covers an exceptionally large area within the broader LCA, extending from the boundary with County Mayo close to the site to some 30km east to the vicinity of Moylough and some 38km southeast to the vicinity of Athenry. At a more localised level, I am satisfied that the central study area has a notable sense of enclosure influenced by the nature of flat peatland together with transitional vegetation and areas of conifer woodland, and further afield bounded by farmland with mixed hedgerow vegetation and mature trees.

I note some inconsistencies within the EIAR with regards the identification of landscape features, particularly with respect to where they sit in the context of the central and wider study area, and between the text and Table 16.8, and by association the perceived impact on same. For clarity, and with passive reference to EIAR Figure 16.4, the Friary of Ross ruins to the southwest, the Kilmaine nature walk to the northwest, Land of the Giants walking trail to the north and the Knockma Woods to the southeast are all located more than 5km from the closest turbine, thus fall within the Outer Study Area. Castle Hackett House, located due north of Knockma Woods is marginally located within the 5km mark, therefore technically speaking, it is within the Central Study Area.

Despite landscape features of note within the wider study area, I am satisfied that a medium-low landscape sensitivity of the site, its immediate setting (central study area) and much of the wider study area has been sufficiently demonstrated, and that a landscape sensitivity of high-medium is appropriate for the western extremities of the study area, which is characterised by the lakes.

Based on a high-medium magnitude of change within the site and its immediate environs, reducing to medium for the remainder of the central study area, and

further reducing to low and negligible at increasing distances, the EIAR concludes moderate landscape effects, being not significant for the purposes of EIA.

I am satisfied that the proposed development will have a significant impact on the landscape character of the immediate area of the development site but, beyond this, given the location of the site in a largely flat landscape and the prevalence of features within the wider landscape, effects on landscape character outside of the immediate area of the site will not be significant.

I note a number of inconsistencies / discrepancies contained within Chapter 16 of the EIAR. At Section 16.8.1, the EIAR states that the site is located within LCA5 - Northeast Galway (Tuam environs). There is no such LCA referenced in the Galway CDP, however following a review of archived development plans available on the local authority website, I note that the reference to LCA5 - Northeast Galway (Tuam environs) derives from the Landscape Character Assessment contained within the 2015-2021 CDP. Apart from that one indiscretion, I am satisfied that the EIAR has otherwise correctly identified the correct LCA as per the current CDP.

Further, and of particular note, is that under Section 16.8.1.2, which is a summary of landscape effects, the EIAR refers to the 'uplands to the east and west and the coastline in the southeast quadrant of the Study Area'. For obvious reasons, this does not reflect the wider study area of the subject site, noting particularly the reference to a coastline to the southeast. Whilst this might ordinarily somewhat diminish the reliability of the assessment, I note that this section of text constitutes a summary of previously stated conclusions with regards landscape sensitivity, and for this reason I am satisfied that the actual description of the significance of impact is correct despite the error in how the landscape is described in the summary section.

Visual Impacts

In terms of visual impacts, the applicant's LVIA is based on the consideration of 21 no. viewshed reference points (VRPs) located throughout the central and wider study area, with the VRPs identified through analysis of the Zone of

Theoretical Visibility (ZTV) mapping exercise (EIAR Appendix 16.2). The submitted booklet of photomontages (Appendix 16.3 of EIAR) comprises the presentation of a baseline (contextual wireline and photograph) for all 21 no. VRPs along with a photomontage for 19 no., with the LVIA noting that for two VRPs (VP1 and VP4) the windfarm would not be visible from the viewpoint by reason of intervening vegetation or terrain, thus the production of a photomontage was not deemed necessary.

I note that the photomontages contained in EIAR Appendix 16.3 also consider cumulative impact associated with other existing / permitted / proposed windfarms, whilst a separate set of photomontages (EIAR Appendix 16.4) considers the variations in tip height / hub height / rotor diameter to account for flexibility of design. The context of both these are considered separately.

Observations received raise concern that the photomontages multiple technical deficiencies / inconsistences, including soft or out of-focus backgrounds, pixelation, compression artefacts, blown-out skies and inconsistent lighting, and for these reasons, the photomontages do not accurately represent the potential visual impact of the proposed turbines.

The photomontage booklet submitted by the applicant provides technical details for each viewpoint, including grid orientation, date / time and camera parameters. Following a site visit, I consider that the photomontages are of a standard sufficient to carry out my assessment.

Viewpoints presented in EIAR

Table V1 below reproduces much of the contextual information provided in Table 16.8 and Appendix 16.1 in the EIAR for the 21 no. viewshed reference points, but I have also added in further detail on the location of each viewshed to provide more context. After each of the views I provide my assessment of the conclusions reached.

The table also refers intermittently to turbine nacelles. For clarity, a turbine nacelle is centrally located within the blades at the top of the tower and houses the generating components. The ‘hub height’ refers to the centre line of the

nacelle, being 102.5m for the specimen turbine and 104.7m and 105m for the range of flexibility in design options 1 and 3, respectively.

Classification for Sensitivity and Magnitude

I would note that in respect of visual impact Section 16.2.6.1 of the EIAR outlines the factors used for evaluating visual sensitivity, and which are stated to derive directly from the IEMA Guidelines for Landscape and Visual Assessment (3rd edition 2013), with the classifications used ('Negligible' through to 'Very High') broadly aligning with the 2022 EPA Guidelines. Table 16.4 of the EIAR outlines the classifications used for magnitude of visual impact (again, 'Negligible' through to 'Very High'), and again broadly aligning with the 2022 EPA Guidelines.

With respect to the significance of visual impact, the relationship between sensitivity and magnitude is expressed in a significance matrix provided in Table 16.3 of the EIAR. I note that the EIAR does not provide a description for the range of outcomes ('Imperceptible' through to 'Profound'), however it does state that judgements deemed 'substantial' and above (i.e. 'Substantial', Profound-Substantial' and 'Profound') are considered to be 'significant impacts' in EIA terms. Therefore, in my view, it is fair to deduce that an impact of significance that is deemed to be 'Substantial' in the EIAR can be compared to the EPA classification for 'Significant'. As such, my assessment of the EIAR conclusions reached gives due consideration to the various EPA categories of significance, which are reproduced in the table below.

In my view, this provides a sufficient gauge to evaluate the conclusions reached in the EIAR with respect to significance of visual impact, which is a product of a professional judgement of the interaction between visual sensitivity and magnitude of visual impact.

Table 9.2

EPA Category	EPA definition
Profound	An effect which obliterates sensitive characteristics

Very Significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment
Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
Moderate	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends
Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences
Imperceptible	An effect capable of measurement but without significant consequences

Table V1

No.	Location / Description of Viewpoint	Distance to nearest turbine	Distance to nearest visible turbine	Sensitivity	Magnitude	Significance of Impact
VP1	South of the built-up area of Claremorris, Co. Mayo. Looking south from a point on the R320 / Ballindine Road, with the Land of the Giants walking trail within the foreground to the west. Elevation: +70m	T10: 18.16km Hardstand level for T10: +35.60m	0	Medium - Low	Negligible	Imperceptible
By reason of intervening terrain and vegetation, the turbines would not be visible from this view. The Land of the Giants walking trail is at a lower elevation and contained within woodland. On this basis, I agree that the significance of impact on the viewpoint is imperceptible. I note that Table 16.8 and Appendix 16.1 of the EIAR both refer, in error, to Ballinrobe rather than Claremorris, an error which has, in my view, no bearing on the evaluation of the viewpoint.						

VP2	Southeast of Ballinrobe, Co. Mayo. Looking southeast from within the GAA playing field which is located on the east side of the N84. Elevation: +31.7m	T2: 16.7km Hardstand level for T2: +31.00m	T2: 16.7km	Low	Negligible	Imperceptible
The tip of one turbine is marginally visible above the ridge line of a house located on elevated ground c. 600m south of the town. By reason of terrain and vegetation, the proposed turbines are otherwise heavily screened from here and thus not visible. Furthermore, I consider that the clutter of infrastructure associated with the playing pitch, including goalposts, stopping net and floodlights, dominate the view. For this reason, I would agree that the sensitivity of the view is low and that the significance of impact is Imperceptible.						
VP3	Northwest of the centre of Milltown village, Co. Galway. Looking southwest from the N17 through a gap in roadside development. Elevation: +53.9m	T11: 9.7km Hardstand level for T11: +36.30m	T11: 9.7km	Medium - Low	Low	Slight
The blades and nacelles of six turbines will be visible at a distance of c. 9.7km. Given the open nature of the view along with the built form in the foreground, including a house, utilities and ball stop netting associated with the GAA grounds, I agree with the medium-low sensitivity rating. The view is changed by the proposal but the open nature of the view remains with no particular element of the landscape significantly altered. Whilst the turbines will be visible, by reason of the spatial separation of the turbines, turbine height in the background relative to the built and natural features in the foreground, and the intervening built form and vegetation / tree lines, I agree that the windfarm will have very little notable influence on the visual amenity of this scene, and, by association, I agree that the significance of impact is Slight.						
VP4	Northwest of the centre of Dunmore village, Co. Galway. Looking southwest from the R328 from a point just outside the built-up area of the village. Elevation: +61.2m	T11: 17.72km Hardstand level for T11: +36.30m	0	Medium-Low	Negligible	Imperceptible
By reason of a relatively sharp rise in the terrain within the foreground, the development would not be visible from this view. On this basis, I agree that the significance of impact is imperceptible.						

VP5	Southeast of Kilmaine Village, Co. Mayo. Looking southeast, the view is from the southeast corner of the Kilmaine Nature Walk, accessed via a laneway (known as Kilmainepark) which runs to the south off the R332. Elevation: +38.8m	T2: 7.13km Hardstand level for T2: +31.00m	T2: 7.13km	Medium-Low	Negligible	Imperceptible
The tips of one or more turbines are marginally and intermittently visible within the heavily vegetated horizon. By reason of terrain and vegetation, the proposed turbines are otherwise heavily screened from here and thus not visible. I consider that the visual sensitivity is more suitably medium than medium low, however based on a magnitude of impact being negligible, I would agree that significance of impact is Imperceptible.						
VP6	Regional Road R332, looking south from a point approx. 6.5km east of Kilmaine Village, Co. Mayo. Elevation: +43.3m	T10: 4.6km Hardstand level for T10: +35.60m	T10: 4.6km	Medium-Low	Low	Slight
The tower, blades and nacelle of seven turbines (T1, T2, T3, T4, T6, T7, T8) will be visible within this view. Four turbines (T5, T9, T10, T11) are substantially screened by mature deciduous trees located within the foreground of the view, noting that T10 and T9 are closest to the viewpoint at a distance of c. 4.6km and c. 5km, respectively. The view is dominated by the groups of mature trees and whilst the Knockma Woods are visible to the left background, at a distance of c. 12km, do not, in my view, contribute significantly to the sensitivity of the view. Where fully visible, the development does alter the view, however by reason of distance and height relative to the existing vegetation, the windfarm will have very little notable influence on the visual amenity of this scene including any perceived amenity afforded by Knockma Woods. By association, I agree that the magnitude of impact is Low and that by association the significance of impact is Slight.						
VP7	Looking south from a local road in the townland of Kilshanvy, Co. Galway Elevation: +43m	T10: 2.3km Hardstand level for T10: +35.60m	T10: 2.3km	Medium-Low	Medium-Low	Moderate-Slight
All eleven turbines are visible in this view and I agree that for the most part they present in a clear and legible manner above the low ridge in the middle distance. Visual stacking / overlapping is evident where T1 and T4 interact within the right-hand side of the view and where T5 and T9 interact towards the centre of the view. Notwithstanding, I agree that the overlapping does not cause excessive visual confusion, noting particularly that						

T5 is located c. 1.3km south of T9. Notwithstanding the visibility of the turbines, the open nature of the view remains with no particular element of the landscape significantly altered. On this basis, I agree that both sensitivity of the view and magnitude of impact to be Medium-Low and that by association, the significance of impact is Moderate-Slight.						
This is one of the views which was reviewed to ascertain any changes to the impact from the turbine range (flexibility in design). The original base scenario is provided as are the two other options and it is quite clear that there is no discernible difference between the visuals provided.						
VP8	Local Road L1616, looking southeast from a point approx. 3.6km northeast of Shrule village, Co. Mayo. Elevation: +41.7m	T2: 2.4km Hardstand level for T2: +31.00m	T2: 2.4km	Medium-Low	Medium-Low	Moderate-Slight
Six turbines are fully visible (T1, T2, T3, T5, T6, T7) and two partially screened by intervening vegetation (T4 and T8). The remaining three turbines (T9, T10, T11) are fully screened by vegetation. The six turbines that are visible sit above the wide expanse of foreground vegetation and are legible despite a slight degree of visual stacking, however given the absence of sensitive features within the view I agree the impact is Moderate - Slight.						
VP9	Local road in the townland of Cloonsheen, Co. Mayo. Elevation: +36m	T10: 0.8km Hardstand level for T10: +35.60m	T10: 0.8km	Medium-Low	Medium	Moderate
VP9 is presented in two parts – VP9a and VP9b – taken from the same location on the local road between two clusters of turbines, 7 to the northeast (VP9a) and 4 to the southwest (VP9b). A contextual view is also provided which combines both VP9a and VP9b in a panoramic style view. The turbines in VP9a are the closest to the viewpoint and are substantially screened by a dwelling and a line of mature trees in the foreground of the view. 3 turbines are visible in VP9b (T2, T3, T4), with T2 being the closest to the viewpoint at c. 1.5km. The visible turbines are a readily noticeable element within the view however the turbines are evenly spaced and legible with no particular element of the landscape significantly altered. I agree that the magnitude is medium and by association the significance of impact is Moderate.						
VP10	Local road in the townland of Cloonbar, Co. Galway, c. 1km southeast of VP9. Elevation: +36.5m	T8: 0.8km Hardstand level for T8: +38.50m	T8: 0.8km	Medium-Low	High	Substantial - Moderate
VP10 comprises a compilation of photomontages in four different directions from the same location on this local road, namely to the north (VP10a), to the east (VP10b), to the south (VP10c) and to the southwest (VP10d). Contextual photomontages are also provided, presenting a view northeast through to southwest (VP10a, noting						

the duplication of viewpoint ref numbers) and a view southeast through to southwest (VP10b, again noting the duplication of viewpoint ref numbers).

Contextual Photomontage VP10a shows that T5, T6, T7, T8, T9 and T11 are visible. By reason of proximity, these turbines present as a dominant feature within the viewscape but the impact is somewhat lessened by the built and natural environment within the foreground. Contextual VP10b includes an overlap of VP10a and shows that 7 turbines would be visible. The turbines rise out of peatland scrub with a working farmland landscape to the forefront of the view. These turbines are located at a greater distance compared to the view to the north/ northeast and while they are visible, they are evenly spaced and legible with no particular element of the landscape significantly altered.

However, in evaluating the view as one viewshed reference point I agree that the view would have a sense of being somewhat surrounded by turbines and more so, in my view, from a point further west on the local road where the viewshed is not interrupted by built form. As such, whilst I agree that the landscape value is not significant, I agree that the magnitude of impact, from a cumulative perspective, is high, and by association, the significance of impact is Substantial – Moderate.

This is one of the views which was reviewed to ascertain any changes to the impact from the turbine range (flexibility in design). The original base scenario is provided as are the two other options and it is quite clear that there is no discernible difference between the visuals provided.

VP11	L6486 local road in the townland of Cloonnaglasha, Co. Galway Elevation: +39.4m	T11: 1.3km Hardstand level for T11: +36.3m	T11: 1.3km	Medium	Medium	Moderate - Slight

An enclosed view by reason of topography and vegetation in the middle distance. 10 turbines are visible in this view, noting that T2 is screened by a stand of field boundary vegetation. Whilst existing features such as stands of trees and an electricity pole / wires do lessen the visual intrusion of the turbines, I consider that by reason of the number of turbines visible and proximity of the closest turbines to the public road, thus within the eyeline, the magnitude of impact is high. I agree that the landscape value is of medium sensitivity and by association with a high magnitude of impact, the significance of impact is more suitably Substantial – Moderate, remaining, in my opinion, not significant.

VP12	Looking east from the N84 national secondary road adjacent to the Churchfields housing estate on the north side of Shrule Village, Co. Mayo. Elevation: +39.4m	T2: 4km Hardstand level for T2: +31.00m	T2: 4km	Medium - Low	Medium	Moderate – Slight

All 11 turbines are visible to varying degrees within the view, with the nearest turbine (T2) at a distance of 4km. The view is visually dominated by open fields and associated stone walls along with ribbon style urban housing in the foreground. This c. 240m section of road is located between the village centre to the south and the church and national school to the north. The road has footpaths on both sides with semi-mature trees and public realm / tidy towns style planters within a grassed verge on the eastern side. By reason of the somewhat fragmented nature of the village, I would consider that this section of road and associated footpath experiences heavy usage and, as such, I consider that this viewscape to the northeast / east constitutes a relatively important visual amenity for the community. On this basis, I would consider that the sensitivity of the view is medium rather than medium – low. The turbines, whilst at minimum distance of c. 4km, are all visible and due to stacking of three turbines, create a degree of visual clutter within the scene, however the effect of the stacking would diminish rapidly moving away from this viewpoint. The impact is somewhat diluted by the visual effect of the proliferation and varying scale of ribbon style houses in the middle foreground. On balance I consider that the turbines have a medium to high magnitude of impact. By association with a medium sensitivity, the significance of impact, in my opinion, is Substantial – Moderate. I am also mindful that in the Mayo CDP, the greenfield land on the eastern side of the road at this location is contained within a single 'consolidation' zoning for the village and is also identified as an opportunity site, therefore has potential to be developed for village related uses.						
This is one of the views which was reviewed to ascertain any changes to the impact from the turbine range (flexibility in design). The original base scenario is provided as are the two other options and it is quite clear that there is no discernible difference between the visuals provided.						
VP13	Local road in the townland of Derrymore, Co. Galway. Elevation: +30.7m	T3: 1.1km Hardstand level for T3: +36.00m	T3: 1.1km	Medium - Low	Medium	Moderate – Slight
VP13(a) looks northeast towards the turbines while VP13(b) looks southwest in the direction of the proposed substation and line interface masts. With regards VP13(a), by reason of a steep ridge in the foreground of the view the nacelle and blades of one turbine and the blade tip of another are visible in the view. By reason of this terrain, the proposed turbines are otherwise heavily screened from here and thus not visible. For this reason, I would agree that significance of impact is Moderate - Slight. With regards VP13(b), the substation and line interface masts are visible in the view however are indiscernible by reason of distance and the visual presence of existing buildings on a rising topography to the background.						
VP14	Local road at Beagh More, Co. Galway Elevation: +31.7m	T5: 2.1km Hardstand level for T5: +30.00m	T5: 2.1km	Medium - Low	Medium - Low	Moderate – Slight

VP14(a) and VP14(b) are from the same point on the local road, looking northwest and north, respectively. Both show a number of turbines rising beyond a gently rising terrain with an open field in the foreground and vegetation breaking the skyline in the middle distance.

The blades and nacelle of a number of turbines are visible in both views. By reason of distance and terrain, the visible turbines only marginally exceed the tree line, which has the effect of lessening the magnitude of impact, as does the spacing between turbines which allows them to present in a clear and legible manner. While the view is altered, the impact I agree is Moderate – Slight.

VP15	Footbridge on the N17 Tuam bypass, immediately east of the N17 Business Park, Co. Galway. Elevation: +32.6m	T11: 7.8km Hardstand level for T11: +36.3m	T11: 7.8km	Low	Negligible	Slight

VP15 represents an elevated view from a footbridge on the N17 Tuam bypass, immediately east of the N17 Business Park), looking northwest towards the windfarm. Warehouses and electrical infrastructure are in the foreground of the view, and the background is composed of buildings and vegetation. With particular note of the elevated viewpoint, I agree that the significance of impact is Slight by reason of distance to turbines, the immediate built environment and tree cover in the middle distance.

VP16	Church at Carheenard, Co. Galway Elevation: +32.7m	T4: 3.8km Hardstand level for T4: +32.0m	T4: 3.8km	Medium - Low	Low	Slight

This is an enclosed view to the north from a church carpark located on the northern edge of the rural settlement of Carheenard, Co. Galway. The view is dominated by the hard surfaced car park in the foreground and vegetation and urban housing beyond. The blades and nacelles of five turbines are intermittently visible within the intervening vegetation. I agree that the magnitude of impact is low and in association with a medium to low landscape sensitivity, I agree that the significance of impact is slight.

VP17	R333 regional road, townland of Thomastown, Co. Galway Elevation: +46.7m	T7: 5.9km Hardstand level for T7: +31.6m	T7: 5.9km	Medium Low	Low	Slight

View to the northwest from the R333 just east of the rural settlement of Belclare. The view is dominated by the roadside boundary and stands of mature trees in the middle distance. Turbines at varying degrees are visible at a distance, however they are substantially screened and thus do not detract from the limited views available. I agree that the magnitude of impact is low and in association with a medium to low landscape sensitivity, I agree that the significance of impact is slight.

VP18	Cul-de-sac road / laneway in the townland of Ardfintan, Co. Galway. Elevation: +31.6m	T4: 8.9km Hardstand level for T4: +32.0m	T4: 8.9km	Medium	Low	Slight
This viewpoint seeks to assess the visual impact of the development on Ross Friary ruins as viewed from the approach road to the south. This is a protected view (Viewpoint 33) under the CDP, identified as having county level significance. I note that the protected view as identified in the CDP is focused toward the ruins in a north to northwest direction, a viewscape which is focused away from the windfarm. I am satisfied that the turbines would not be present within the normal viewscape to which Viewpoint 33 relates. VP18 is taken from a point on the roadway generally at a point consistent with Viewpoint 33 as shown in the CDP. A cumulative wireline view is included and comprises a 90 degree wide angle view spanning northwest through to east picking up the ruins and the direction of the turbines, a useful contextual view in my opinion. However, the photomontage is based on a standard planar angled view in a northeast direction. Whilst the friary ruins are not present in the view, the photomontage shows that all 11 turbines of varying degrees are visible above the skyline, however by reason of distance, terrain, vegetation and foreground utility poles and field boundaries, the turbines do not detract from the scene. I agree that the magnitude of impact is low and in association with a medium landscape sensitivity, I agree that the significance of impact is slight.						
VP19	Edge of walkway within Knockma Woods, townland of Tobermina, Co. Galway. Elevation: +96.2m	T7: 6.1km Hardstand level for T7: +31.6m	T7: 6.1km	High - Medium	Medium	Moderate
VP19 seeks to represent a view northward towards the windfarm from the Knock Woods walking trail. The EIAR outlines that the trail is contained within the woodland, therefore VP19, which is taken from the northern edge of the wood, represents a worst-case scenario. The view pans across a wide open and relatively flat low-lying landscape dominated by farmland, vegetation and sporadic rural housing. Seven turbines are fully visible in this view. Visual stacking / overlapping is evident where T6 and T8 interact however I consider that this does not cause excessive visual confusion. Predominantly by reason of distance and intervening landscape, I consider that the open nature of the view remains with no particular element of the landscape significantly altered and that the turbines present in a clear and legible manner within the scene. On this basis, I agree that the sensitivity of the view is High – Medium, that the magnitude of impact is Medium and that by association, the significance of impact is Moderate. Nore: During a site visit I walked the route of the Knockma woods trail and I observed that as per the commentary provided in the EIAR, the walking trail is contained within the woodland, thus substantially screened from any ready views north towards the site.						

VP20	Local road L2117 in the townland of Annagh East, Co. Galway. Elevation: +13.1m	T4: 13.4km Hardstand level for T4: +32.0m	T4: 13.4km	Medium	Low - Negligible	Slight - Imperceptible
The low-lying view is dominated by the stone wall and vegetation in the foreground and vegetation and rural housing / buildings in the middle distance particularly in the direction of the windfarm. The blades of eight turbines are intermittently visible at a distance above the vegetation. I agree that the sensitivity of the view is Medium, that the magnitude of impact is Low - Negligible and that by association, the significance of impact is Slight - Imperceptible.						
VP21	N63 national secondary road, Abbeyknockmoy, Co. Galway Elevation: +45.2m	T11: 20.9km Hardstand level for T11: +36.3m	T11: 20.9km	Medium - Low	Negligible	Imperceptible
View to the northwest from the N63 close to the centre of the rural settlement of Abbeyknockmoy. No potential for views of the proposed turbines from this settlement. By reason of intervening terrain and vegetation, the turbines would not be visible from this view. On this basis, I agree that the significance of impact on the viewpoint is imperceptible.						

With regard to visual impact, I am satisfied that the most significant visual effects of the development occur within 1km of the site (VP9 – Moderate, VP10 - Substantial Moderate), with a noticeable reduction between the 1 and 3km mark (VP7, VP8, VP11, VP13 and V14, all which I agree would experience a Moderate-Slight significance of impact), and then substantially reducing with distance due to natural topography along with natural and manmade features within the landscape. This includes views from nearby residential dwellings and public roads, in particular, where there are open views of the site.

Elevated views within the 20km study area are limited to Knockma Hill, from which views toward the windfarm are possible only from the edge of the woodland (VP19) that covers much of the hill, and thus no open view from the public walking trail. I would note that there are no other existing or permitted turbines within the study area which interact with the view from Knockma Hill towards the proposed windfarm, thus no cumulative effects in this regard.

Impacts on Designated Views, Heritage and Amenity Features

Submissions received have raised concerns regarding the visual impact on scenic routes, walking trails and tourism features.

Designated Views

The submitted Zone of Theoretical Visibility (ZTV) mapping shows that there are no scenic routes within the 20km study area. A rudimentary measure would however show that Turbine T4 is located very close to the 20km mark from the N59 southwest of Lough Corrib. The N59 at this location forms part of the Lough Corrib Scenic Route, with the views gravitated toward the lake area north and northeast and thus toward the windfarm site, albeit noting that the CDP identifies that this particular section of the scenic route, being the section running between Moycullen and Oughterard, 'passes through increasingly enclosed and inhabited landscapes'. Having regard to my evaluation of VP18 and VP20 in Table V1 above, views which are located northeast of Lough Corrib, thus much closer to the turbines than the N59, I am satisfied that by reason of distance and by reason of the enclosed nature of the scenic route between Moycullen and Oughterard, the turbines are unlikely to be visible or noticeable from the N59 and thus I consider that the turbines would result in an imperceptible visual impact on the views afforded of Lough Corrib and its environs from the Lough Corrib Scenic Route.

The protected views located within the study area are Viewpoints 27, 31 and 33, all within County Galway and thus identified in the Galway CDP. The closest protected view is Viewpoint 33 (county level significance), which relates to a localised view of Ross Friary ruins located c. 2km northwest of Headford town, with this view orientated to the north / north-west from the approach road to the Friary. This protected view is represented in the LVIA as VP18. As outlined in Table V1 above, by reason of distance and orientation of view, I agree that the magnitude of impact is low and in association with a medium landscape sensitivity, I agree that the significance of impact is slight.

The two other protected views, Viewpoint 27 and 31, relate to views of Lough Corrib, located due southwest of the windfarm site with the views gravitated to

the south and southwest over the lake, respectively, thus I agree that these views would not be affected by the windfarm.

Scenic Routes and Scenic Views are identified on CDP Map 10.2. The closest such routes and views are c. 24km northwest of the border with County Galway located along the western side of Lough Mask and the northern end of Lough Carra.

An observation received also contends that the windfarm will cause a negative impact on a scenic loop walk between Cloonaglasha and Bodane. The observation does not outline the precise route of the walk and I noted during a site visit that there are no marked / signposted walking routes in the vicinity of Cloonaglasha. However, having regards to the road network in the area, I would assume that the looped route follows the local and tertiary roads west and southwest of Cloonaglasha. Part of the walking route is captured by VP11 in the submitted LVIA. As outlined in Table 9.3 above, I consider that by reason of proximity, the windfarm would constitute a high magnitude of impact in this area, however against a backdrop of a landscape of medium sensitivity, I am satisfied that the development would not cause a significant impact on the existing viewscape.

Amenity & Heritage Features

The EIAR identifies a number of amenity and heritage features within the 20km study area, namely the Land of the Giants walking trail (represented by VP1), Kilmainepark nature walk (represented by VP5), Knockma Hill walking trail (represented by VP19), environs of Lough Corrib (represented by VP20), and Cong forest nature trail. Observations received raise concerns with regards the visual amenity associated with Knockma Hill and views from there across the landscape including distant views of Croagh Patrick.

Knockma Hill, a relatively low hill within an otherwise flat landscape, is located c. 6km due southeast of the windfarm. The hill comprises broadleaf woodland and a limestone outcrop on top and includes a number of neolithic cairns (recorded monuments). There is a marked walking trail within the woodland, with an associated public car park located to the north just off the R333 regional

road. I walked the trail and observed that the trail is contained within the woodland that covers the higher part of the hill and that, by association, the trail does not readily offer open views across the countryside to the north. However, due to the nature of broadleaf deciduous trees, views toward the countryside to the north would be possible during the winter months, albeit constrained by reason of the volume of tree trunks and branches. I also appreciate that the edge of the wood is accessible to the public, albeit, as I observed, not frequently accessed, and once outside of the wooded area, there are wide open views which take in the windfarm site and mountains in distance. On this basis, I agree that the sensitivity of the view is High – Medium. I consider that the turbines present in a clear and legible manner within the scene, notwithstanding an element of stacking from VP19, and that for this reason along with distance, the magnitude of impact is Medium and that by association, the significance of impact is Moderate.

I also note that a number of observations refer to Knockma hill being of national archaeological significance and visual impact on same. As outlined above, the hill top comprises a limestone outcrop within which neolithic cairns (recorded monuments) are located. The monuments are located towards the south / southeastern end of the upper slopes. As such by reason of the positioning of the recorded monuments and tree cover on the upper northern half, I am satisfied that there is no visual interaction between those recorded monuments and the proposed windfarm.

Protected Structures

EIAR Chapter 15 states that there are no Protected Structures or Architectural Conservation Areas (ACAs) located within the site or within the 2km study area. Of note is that the study area is 2km from a turbine rather than the red line boundary. There is a protected structure (CDP ref. 3902 – detached three-bay single-storey gate lodge, built c.1850) located c. 45m northwest of the junction between the R332 and the L6483 at the northeastern end of the overall site, and whilst c. 3.3km from the closest turbine (T11), it is located close to the aforementioned junction to which works are proposed to facilitate the turbine delivery route. The works, shown in the context of the gate lodge location in

EIAR Figure 15.4, are to the southeast side of the junction and considering the heavily vegetated nature of the intervening land, I consider that the road alignment works will have negligible impact on the visual amenity of the gate lodge. Furthermore, the gate lodge is sited relatively close to the public road, a factor, along with surrounding mature vegetation, restricts passive long distant views toward the windfarm to the southwest. In my opinion, the turbines would not result in any significant visual impact on the gate lodge as a protected structure.

EIAR Table 15.11 identifies four structures on the National Inventory of Architectural Heritage (NIAH) within the 2km study area, three of which comprise structures (walled garden, mausoleum and handball alley) within the former demesne lands associated with Dalganpark House, which, the EIAR states, was demolished in 1944. The other listed structure within the 2km study area is identified as Rockwell House which comprises an extant four-bay, two-storey house built in c. 1830 and is located c. 1.3km from the Site. The EIAR identifies that a review of historic mapping confirmed that there are no demesne lands associated within these houses that extend to within the application site boundary.

Recorded Monuments

EAIR Chapter 15 considers the impact of the development on archaeological heritage within a 2km and wider 10km study area, including impact from a visual perspective. Table 15-14 of the EIAR lists fifty-four recorded archaeological sites located within a 2km study area, with these mapped in Figures 15a-d under Volume IV. The EIAR considers that none of the listed monuments have potential visual alignment attributes within the 2km study area. I note that Table 15-14 categorises the majority of sites as being of low or medium setting sensitivity with 4 no. being of high setting sensitivity, including a children's burial ground (GA028-003----) in the townland of Bellanagarraun c. 1.8km southwest of turbine T4, and another children's burial ground (GA028- 012003-) in the townland of Cloonsheen c. 700m north of turbine T2. I note that concerns raised in public observations received included the potential impact of the turbines on the setting of children's burial grounds. This is considered further under the

assessment of EIAR chapter 15 (Archaeology, Architectural & Cultural Heritage).

Table 15-7 of the EIAR further identifies three monuments with potential visual alignments within 10km of the wind farm site boundary, namely a megalithic tomb (MA122-007----) in the townland of Ballinulty, Co. Mayo, c. 5.6km northwest of T10, a megalithic tomb (MA121-110----) in the townland of Knocknageeha, Co. Mayo, c. 8.9km west of T2, and a standing stone (GA042-010----) in the townland of Abbeytown, Co. Galway, c. 2.6km southwest of T4. The VIAR has not identified any recorded monument as a sensitive visual receptor for the purposes of visual impact assessment. I note that all these monuments are located on private land thus not readily accessible or frequently visited to justify further evaluation from a visual amenity perspective.

National Monuments

Table 15-9 of the EIAR lists six National Monuments (NM) in State Care and two archaeological sites subject to Preservation Orders (PO) located within 10km of the site, with these subject to statutory protection under Section 14 of the National Monuments Act (as amended). EIAR Image 15-1 shows these sites on an aerial photo relative to the proposed turbine locations The nearest of these National Monuments is located c. 3.85km to the west of the site and comprises Shrule Abbey (National Monument no. 95). Of the eight sites listed, it is stated that five have no formal / public access, namely Shrule Abbey, Kinlough Castle & Church, Kilbennen Church & Round Tower, Kilcreevanty Religious House, and Caltragh Ringfort & Souterrain. A sixth, Tuam High Cross, is said to be located inside St. Mary's Cathedral in Tuam town.

The remaining two are Ross Errily Abbey and Jennings Castle. Ross Errily Abbey, also referred to in the EIAR as Ross Friary ruins, is subject to CDP protected view Viewpoint 33, and evaluated for visual impact in the submitted LVIA under Viewpoint VP18. As outlined above, I agree that the significance of impact on the preserved view is slight. Jennings Castle is considered in further detail under Section 9.15 of my report above in the context of archaeological heritage, under which I consider that the windfarm will not impact on the setting

or visual amenity afforded by the castle, and therefore I concur with the EIAR that the significance of effect on the visual setting of Jennings Castle is deemed to be 'slight'.

Local Community Views

The EIAR outlines that local community views are considered to be those experienced primarily by those people who live, work and move around the area within approximately 5km of the site. I would consider this to be reasonable, whilst also noting that, as was outlined at Section 16.5 of the EIAR, significant visual impacts can arise through a combination of visual and spatial dominance as seen from highly sensitive receptor locations which is most likely to occur within 0-3km of the proposed development, and that visual clutter and ambiguity as seen from highly sensitive receptor locations can occur at any distance but tend to occur beyond 2-3km as turbines can become stacked in perspective, causing a more two-dimensional layout to be perceived.

As outlined in the table above, I have indicated the distance of the views from the site and note that 10 of the views are within this 5km parameter, namely VP6, VP7, VP8, VP9, VP10, VP11, VP12, VP13, VP14 and VP16. All these views bar one (VP16) were selected to represent local community view as a receptor type. VP16, taken from the church carpark located on the northern edge of the rural settlement of Carheenard, Co. Galway, represents the views for a local centre of population, which, by its very function, also represents the impact on the local community within this area. Note that I have discussed VP12 under the heading of 'Centres of Population' below. The significance of visual impact of all viewpoints, except VP10, was deemed to be Slight, Moderate-Slight or Moderate, whilst VP10 was deemed to be Substantial-Moderate, albeit I note that VP10 is taken from a local road which is sparsely populated with the pavement becoming a substantially inaccessible laneway through peatland further to the southeast, thus, in my view, a road which would not be frequently used by the wider community. I note that VP13 seeks to represent views of communities generally southwest of T4, with the view taken from a point where the land rises away from the road to the east thus providing an immediate sense of natural screening. I did observe during a site visit that whilst VP13 does

represent the undulating nature of the wider landscape, the majority of the same local road further south/southeast is afforded open far more open views across the landscape towards the proposed windfarm.

I note some consternation from observers with regards the location of viewpoints, however I consider that the applicant has sought to provide a reasonable representative examination of the impact on local views through the viewpoints chosen and a reasonable evaluation of visual exposure from the public domain within the study area, particularly noting the nature of the landscape with some public roads, such as the road northwest of VP11, traversing pockets of unpopulated low-lying vegetated peatland, where medium to long distances views are limited. Whilst further views might have assisted to the southwest of T4, I am conscious that it is not possible to provide a representation of each and every receptor within the central study area or 2-3km zone, nor is it necessary as given the context of the landscape many of the views selected are representative of more than just the actual view they portray.

I acknowledge that there will be a significant change on the visual amenity currently experienced and enjoyed particularly within 2-3 km of the proposed turbines. Placing structures of this scale within the local area cannot but change the views currently enjoyed from homes and along local roads. However, the need to address climate change by developing renewable energy in the State, requires a significant change in the context of accepting visual change.

Impact on Centres of Population

The subject site is located in a remote rural area at some remove from any urban centre. The closest centres of population are Shrule, Co. Mayo, at c. 4km to the southwest and Kilmaine, Co. Mayo, at c. 7.5km to the northwest, with the larger centres of Tuam and Headford c. 8km and 8.5km to the west and southwest, respectively. The applicant has provided a considerable number of visual representations from the various urban centres and I have assessed them in the Table above (VP1, VP2, VP3, VP4, VP5, VP15, VP16, VP21). VP12 is categorised as a view representing a Major Route and Local Community View,

but, in my opinion, considering its context, it is more suitably categorised as a Centre of Population.

As outlined in the table above, I concur with the conclusions reached with respect to the significance of visual impact on seven out of the eight centres of population viewpoint evaluations. By reason of distance, terrain and vegetation, conclusions reached were either imperceptible or slight. The only outlier in my opinion is Shrule. I judged the sensitivity of the view to be medium rather than medium – low and that the magnitude of impact to be medium-high rather than medium. By association, the significance of impact, in my opinion, is Substantial – Moderate. With regards Shrule, I also note the cluster of recorded monuments including, and associated with, Shrule Castle on the east side of the N84 to the southeast end of the settlement. There is no public access available to the structures or associated grounds. Due to the locational context of these structures and presence of mature trees, I am satisfied that that the turbines will be substantially screened from public view, both from a centre of population and cultural heritage perspective.

While I acknowledge that there will be an impact on the visual amenity of the setting of this settlement, altering what is currently enjoyed, I do not consider that the impact is adverse, noting that a conclusion of Substantial – Moderate, whilst suggestive of a higher significance of impact, remains not significant in EIA terms.

Visual impact on residential dwellings

Submissions received have raised concerns regarding the visual impact of the development on properties. As discussed above I consider that the most significant visual effects will arise for locations within 1km of the development site, in particular where views are not screened or have limited screening, such as from the public roads which run through the site and I would accept that substantial landscape and visual effects are likely to arise. Figure 2.4 of EIAR Volume 4 contains a map showing the location of the 11 no. turbines in the context of existing dwellings, demonstrating that there are no dwellings within the 720m mark (noting, with reference to EIAR Chapter 6, the dwelling at

Eircode H54 KH73, located c. 357m east of T1, is under the control of the applicant and thus not shown on the map in Figure 2.4). The map shows clusters of dwellings close to the 720m mark to the southeast and southwest of T5, northwest of T2, south of T4, and west and northeast of T10. Notwithstanding this, the proposed turbines are set back from nearest residential dwellings by a minimum of 4 x tip height i.e. c. 720m. At this distance the turbines will be visible but not overbearing on any individual dwelling. Furthermore, visual effects will be mitigated by existing mature vegetation in the foreground, the modest number of turbines and the open layout.

Impact on Major Routes

The road network within the area comprises local roads and the site does not directly interact with any national primary or secondary routes. The red line boundary extends along the L6483 to its junction with the R332 regional road at the northeastern end of the site to include works required to facilitate the turbine delivery. The N84 national secondary road comes to within 4km west of the turbines while the N17 national primary road and the N83 national secondary roads come within c. 7.5km east of the turbines. Seven of the applicant's viewpoints seek to represent views from these major routes in combination with at least one other receptor types, mainly a centre of population or local community view. I have addressed these in the table above and I would agree with the applicant's consideration that the impact varies from imperceptible to slight, however noting that in the case of VP12, which represents a viewpoint on the N84 where is passes through the village of Shrule, I consider the significance of impact to be Substantial – Moderate.

Visual effects of aviation lighting

Submissions received refer to the visual impact of aviation lighting. In response, the applicant outlines that red aviation lighting will be provided on the hubs of outer turbines within the array, comprising lighting of low intensity designed to be seen from distance, but not to illuminate the surrounding area. The application deals with lighting as part of the EIAR with respect to aviation

mitigation (Chapter 17). I am satisfied that the proposed development is acceptable in this regard.

Cumulative Impacts

Table 16.10 of the EIAR identifies operational and permitted wind farms within 20km of the development site, with the data represented on a contextual map in Figure 2.5 of Volume 4 and Figure 16.10 in Chapter 16 of Volume 2. All existing / permitted / proposed windfarms identified are located generally due east and south-east of the Shancloon site, and comprise the 2 existing turbines at Cloonlusk Wind Farm (c. 15km to the southeast), 1 permitted turbine at Cloonascragh (c. 12km to the southeast), 8 turbines in-planning at the proposed Laurclavagh Wind Farm (c. 10km to the south) and 11 turbines in-planning at the proposed Clonberne Wind Farm (c. 17km to the east). As noted that the beginning of this chapter, the members of Tuam Municipal District noted that the site is close to the proposed Laurclavagh Windfarm, leading to an intensification and concentration of large scale SID's within the Tuam Municipal district.

In its report to An Coimisiún Pleanála, Galway County Council raised no particular concern with respect to cumulative impact. However, the planning authority notes that the Cooloo Windfarm in-planning SID application (ACP-323761-25 refers) has been omitted from the 20km study area and thus not included in the cumulative visual assessment. The applicant's response notes the Cooloo windfarm location at a distance of c. 21.3km east of the proposed Shancloon wind farm, and thus outside the 20km study area. The Cooloo windfarm application relates to a proposal for 9 no. turbines on land generally located c. 13km east/southeast of Tuam. I have reviewed the Cooloo application documentation as made available on the An Coimisiún Pleanála website and using the ITM co-ordinates provided, I concur with the applicant with regards the separation distance. Both the 2006 windfarm guidelines and 2019 draft guidelines recommend a 20km zone of theoretical visibility where tip height is greater than 100m, and that the zone of theoretical visibility should be extended beyond the 20km mark where a landscape of national or international renown is located within 25km of the site. The Cooloo windfarm is located within

the same LCA and LCA unit as the Shancloon windfarm, thus located on land with a low landscape sensitivity, thus extending beyond the 20km mark in this case is not deemed necessary as per the Guidelines.

The EIAR determined that at 17 no. of the 21 no. viewpoints there would be a theoretical potential for cumulative visual impacts as the proposed development would be visible in addition to a portion to one of more of the other wind energy developments listed in Table 16.10. These 17 no. viewpoints are listed and assessed in Table 16.11.

Notwithstanding theoretical visibility, the EIAR identifies that the proposed turbines would be visible along with existing, permitted or in-planning turbines from just one viewpoint (VP10), in that case being a number of the in-planning turbines at Laurclavagh located c. 11km south of the application site, and that in all other cases, cumulative impact would be imperceptible. I would concur with this conclusion. In the case of VP10, the EIAR notes that at a distance of 11km, the scale of the visible portions of the Laurclavagh turbines would be reduced to such a degree that they would have a minimal visual presence and are unlikely to be noticed by a casual observer, and thus constitute a cumulative impact of Slight. I would again concur with this conclusion.

9.13.2.8 Conclusion

Having regard to the examination of environmental information in respect of landscape and visual effects, in particular the EIAR, the associated technical appendices, the submissions from Galway County Council and from the public, it is considered that the main significant direct and indirect effects are significant effects on the landscape character of the site, with the introduction of substantial wind energy development, significant visual effects for sensitive receptors within 1km of the site, particularly where there are open views of the development site, reducing with distance from the development site, and cumulative landscape and visual effects limited to distant and more elevated views from the southeast (Knockma Hill, VP19). Effects will be mitigated by existing natural and manmade features within the development site and wider landscape. However, local residual landscape and visual effects will remain.

I concur with the conclusions reached in the EIAR with respect to impact upon landscape and visual. Noting the extent of impact, the degree of sensitivity of the effected views, and the reversibility of these effects in the decommissioning phase; alongside the national, regional and local planning policy context, which support renewable energy projects as needed to urgently respond to the climate crisis; in my view these significant negative effects are justified and therefore acceptable. In reaching this conclusion, I have had particular regard to obligations under the Climate Act 2021 as set out in section 10 above, and in recognition that the proposed development will contribute to national renewable energy targets and reductions in GHG emissions.

9.14 Material Assets (Traffic and Transport)

9.14.1 Issues Raised

Submissions received from the general public raise the following issues:

- The narrow local roads in this area are entirely unsuitable for the level of heavy construction traffic proposed.
- The transport of turbine components, materials, and machinery will cause road damage, safety hazards, and prolonged disruption to local residents and farm operations.

The CE Report received from Galway County Council pursuant to Section 37E of the Planning and Development Act 2000 (as amended) raised the following issues with regards road safety and traffic:

- Local road network is not suitable to facilitate extended 6 axle rigid articulated movements, noting existing narrow roads where a sealed width of approximately 3.5m, bounded with open watercourses both verges in peat terrain with no provision of passing bays. Absence of auto-tracking assessment to verify that the local network can facilitate such extended 6 axle rigid articulated movements.

- No technical and structural analysis of R332, L6483, L2234-24, L2220, L2220-02 and L2220-04 for use for turbine delivery.
- Absence of Stage 1 / 2 Road Safety Audits for the entire site.
- Insufficient data submitted to determine the impact on road safety and network capacity, including in respect of existing / proposed junctions. Traffic count data provided at unclear locations and more than two years old (conducted in Sept 2023).
- Forward sight distance triangles where the subject site proposes to introduce site entrance(s)/access onto local road network is severely restricted and vertical envelope of visibility has not been demonstrated, the required land to achieve such sightlines outside the control of the applicant.
- The proposal would endanger public safety by reason of a traffic hazard on the basis that in the absence of details on sufficient legal interest to execute road upgrades and maintenance of same, the existing road network is unsuitable to carry the additional road traffic including additional generated turning movements likely to result from the proposed development; and also on the basis that the internal traffic circulation regime and the potential for conflicting traffic movements including rigid movements due to restricted and reversing vehicle manoeuvrability within and adjoining the site which may negatively impact on road and vulnerable road users' safety.
- Recommended conditions (no. 17 to 21) set out in Section 11 of the CE Report, including conditions relating to road condition surveys, revised traffic management plan, payment of a bond, and requirement for a Stage 3 road safety audit.

Appendix 1 to the CE Report includes the views from the Members of Tuam Municipal District. The submission of the District Members was attached to the CE Report pursuant to Section 37E(5) of the Planning and Development Act 2000 (as amended). With respect to traffic and transportation, the submission contends that by reason of scale and siting the proposed development will adversely impact the local road infrastructure which are not to a standard for such heavy transport of equipment and building materials.

Transport Infrastructure Ireland (TII) made the following points:

Haul Route

- Notes a number of modifications required to the national road network to facilitate turbine component delivery to site.
- Any proposed works to the national road network to facilitate turbine component delivery shall comply with TII publications, shall be subject to Road Safety Audit and prior to development all necessary licences, approvals or agreements with the local road authorities shall be in place.

Structures (with reference to a substation transformer)

- Abnormal (46 to 180 tonnes) or Exceptional Abnormal Loads (above 180 tonnes) required relevant permits from each relevant road authority.
- The carrying of Exceptional Abnormal Loads requires a structural assessment of all structures to be crossed on the haul route.

Grid Connection Routing

- Refers the Commission to Department of Transport Circular RW07 of 2025 and the 'Interim Guidance to Road Authorities (placement of medium or high voltage electricity assets)'.

9.14.2 Examination, analysis and evaluation of the EIAR

9.14.2.1 Context

Chapter 14 of the EIAR deals with Traffic and Transportation, the stated purpose of which is to evaluate the potential impacts of the construction, operation and decommissioning phases of the proposed wind farm, associated grid connection and turbine delivery route on the existing traffic conditions and transportation network, including changes to peak annual average daily traffic and the carrying capacity of the surrounding road network. The chapter is supplemented by the following Appendices and Figures contained in Volumes III and IV, respectively:

Appendix 2.1 Construction Environmental Management Plan (CEMP)

Appendix 2.3	Grid Connection Construction Methodology
Appendix 2.5	Bridge inspection report
Appendix 11.3	Review of Stabilising techniques for floating road on peat
Appendix 11.4	Peat and spoil Management plan
Appendix 14.1	Turbine Delivery Route Assessment
Appendix 14.2	Management plan
Figure 2.3	Turbine Delivery Route
Figure 14-1	Proposed Site Location and Surrounding Transport Network
Figure 14-2	Traffic Counter Locations
Figure 14-3	Haul Routes
Figure 14-4	Potential road / lane closures

9.14.2.2 Baseline

The baseline environment is described in section 14.4 of the EIAR. The location of the site in the context of the surrounding road network hierarchy is indicated in Figure 14.1.

Turbine Delivery Route

The proposed turbine delivery route is shown in Figure 2.3, with an associated Turbine Delivery Route Assessment / Route Survey Review set out in Appendix 14.1. The route commences at Galway Dock port of entry, travelling northeast on Lough Atalia Road / L5048, continuing on the R339, left onto Connolly Avenue /Joyce Road / L5034, right onto Tuam Road / R336, then right onto the N6 national primary road. The distance between Galway Docks and the N6 is c. 3.1km. The route continues on the N6 and then the M6, exiting left at Junction 18 to join the M17 northbound; then continuing onto the N17 Tuam bypass and existing same onto the R332 in a northwest direction. The route continues on the R332 for c. 6.8km, before turning onto the L6483, and then onto the L2234, off which the site entrance is proposed.

Locations for swept path analysis are shown in Appendix A of EIAR Appendix 14.1.

There are also three main points where construction vehicles / cabling works will cross local public roads. These crossing points are described in EIAR Chapter 14.5 and section 5.2 of the Preliminary Traffic Management Plan.

- Crossing Point 1 traverses the L2220 local road and provides a linkage between the east of the site where T1- T4 are located and the centre of the site where T5, T8, T9 and T10 are located.
- Crossing Point 2 traverses the L2220-02 local road and provides a linkage between T5 and T8 - T10 located centrally within the site.
- Crossing Point 3 also traverses the L2220-02 local road and provides a linkage between T6 and T7 with T8 - T10 located centrally within the site.

Transformer Delivery Route

The EIAR outlines that a substation transformer unit to be transported to the site will be categorised as an abnormal load and subject to an abnormal load permit. The EIAR does not provide a full transport route description however Section 3.3.1 of EIAR Appendix 14.1 (Turbine Delivery Route Assessment / Route Survey Review) is indicative that the transformer would be delivered from the southwestern end of the site. The Route Survey Review evaluates the final leg of the route, comprising a left turn off the L2104 onto the L6100 in the townland of Shrulegrove. The route follows the L6100 for c. 1.65km before existing the public road onto private land via a new entrance. Accommodation works on third party land is required on the L6100 to allow manoeuvring at a number of sharp bends, hence the associated land included within the red line boundary, with the extent of works shown on the swept path drawings SK16A Rev. 1, SKA17A Ref. 1 and SKA18A Rev. 1 in EIAR Appendix 14.1.

Haul Routes

Figure 14.3 of EIAR Chapter 14 indicates the road network for the haul routes for construction material (concrete and crushed aggregates), which relate to the location of three quarries, with all routes converging at the R332 junction with the L6483 at the eastern end of the site.

Bridges

The EIAR identifies one bridge within the site, across which turbine delivery would need to be facilitated. The bridge is located on the L2220-04 where the road crosses the Togher River within the townland of Shancloon. Crossing the bridge would be required to facilitate delivery of turbines to the location of T1, T2, T3 and T4. A Bridge Inspection Report contained in EIAR Volume 3, Appendix 2.5, provides an opinion on whether the existing bridge would be adequate to support turbine delivery loads and whether the existing bridge could be modified temporarily or permanently to facilitate turbine delivery.

The inspection, which was limited to a visual assessment, found that while the bridge appears to be in good condition overall and potentially suitable for turbine delivery, additional in-depth structural investigation needs to be carried out to determine key structural parameters to prepare a detailed analysis which will result in the determination of the load capacity of the existing structure.

Existing Traffic Data

Chapter 14 outlines that baseline AADT (Annual Average Daily Traffic) data was obtained by way of 7-day independent traffic count surveys conducted in September 2023 and open-source TII traffic counter information from 2023. Traffic count locations and the traffic count data are shown in Volume 4, Figure 14.2 and Chapter 14, Table 14-2, respectively. TII traffic counter data was used for the N17, whilst independent traffic count surveys were used for all other traffic count locations (N83, R332, L6483 and L6225). The total trip data is broken down between HGVs (Heavy Goods Vehicles) and LGVs (Light Goods Vehicles), noting that Section 14.6.2 of the EIAR defines LGVs to include cars, 4x4s and vans used by the workers and supervisory staff involved in the construction works.

Construction commencement year is anticipated to be 2028 and projected AADT traffic for this year for each traffic count location is calculated using TII guidance and is presented in Chapter 14, Table 14-9.

Trip Generation

The EIAR outlines that the construction of the project is expected to take 24 months, which takes account of an anticipated relatively longer than normal time for

construction of access tracks and turbine hard standings by reason of topographical conditions.

The proposed site entrance off the L2234 (northeastern end of the site) will serve all construction traffic entering the site to construct the wind farm infrastructure and is also the entrance point for delivery of all construction related material. The proposed entrance off the L6100 (southwestern end of the site) will be used by both HGV's and LGV's for substation construction.

Table 14-7 shows the anticipated monthly, weekly, daily and hourly two-way trips generated by the construction phase, providing a total figure and further broken down for HGVs and LGVs. The table indicates that the construction phase would generate c. 64 no. two-way HGV trips per day for months one and two, rising to 109 no. per day through months three to seven, rising to 129 no. per day for month eight and 132 no. for month nine before peaking at 135 two-way HGV trips per day for months ten, eleven and twelve. HGV trips decline thereafter for the remaining work programme.

This data correlates with Table 14-10 which shows the monthly vehicular trips in the context of the anticipated work programme, noting the overlap at months 8, 9, 10, 11 and 12 for the construction of internal access tracks, turbine hard standings and turbine foundations, with a high intensity of concrete being delivered to the site.

Table 14-8 shows the impact of the average daily construction phase traffic on the existing road network, whist Table 14-9 shows the impact of the peak construction phase traffic, which, as noted above, is anticipated to be months 10, 11 and 12. Concentrating on the peak construction phase, Table 14-9 indicates that the additional trips will have a relatively low impact on the N17 Tuam bypass, N84 and N83, with anticipated increases of 1.56%, 1.56% and 4.23%, respectively. A moderate increase of 13.45% on the R332 is expected and a substantial increase on the L6483 and L6225 at 305% and 310% respectively. The percentage change for the L6483 is, in my view, to be expected considering the nature of this road and the nature of the construction phase of the proposed development.

However, I have reservations with regards the accuracy of data for the L6225 as presented in Tables 14-8 and 14-9. The L6225 is located towards the southwestern end of the site, running north off the L6101 (see locational context in Figure 5-6 of the

Preliminary Traffic Management Plan – EIAR Appendix 14.2). For all intents and purposes, the L6225 is a cul-de-sac roadway noting that after c. 2km the road becomes a private roadway (not taken in charge) of substandard laneway condition, providing peatland and farmland access only, and continuing as such for some 2.5km before connecting in with the L2220 to the east. The construction phase only interacts with the L6225 for grid connection cabling, however Table 14-8 (average AADT) and Table 14-9 (peak AADT) suggest that traffic volumes generated on the L6225 during the construction phase will be the same as that generated on the L6483, being 74 no. two-way HGV trips per day on average across the 24 month construction period or 135 two-way trips per day during the peak construction months. This does not correlate with EIAR with regards access arrangements, which is very clear that all materials and turbine components will access the site via the main site entrance to the northeast, with the L6100 to the southwest to be used for substation construction access. Compared to the L6483 and L2234 to the northeast, there is a relatively large concentration of rural dwellings on the southern section of L6225 (the part that is a public road), a road which also includes a bridge over the Togher River. Without mitigation, the traffic volumes shown in Tables 14-8 and 14-9 would have significant implications on the operation of this road. In my view, the applicant has made an error in allocating anticipated trip generation on the L6225. It is most likely that the data is applicable to the L2234, being the road on which the main site entrance is to be located, and that context of traffic generation on the L6225 should be read from Table 14-13, which relates to grid connection cable works.

I note an issue with the Light Goods Vehicle (LGV) trip generation data in Table 14-7 when compared to Table 14-10, the former relating to the project as a whole and the latter relating to the project but excluding the grid connection. It appears that in the third row of data under Table 14-7 the applicant has not applied the multiplier of 2.5 (the purpose of which is described under EIAR section 14.7.1) to the monthly LGV trip generation figures, which has a knock-on effect for the tally of figures in the table. For this reason, taking month ten as an example, the Total Trips per Day under Table 14-7 (entire project including grid connection) reads as 153 no., compared to 174 no. under Table 14-10 (project excluding the grid connection), which doesn't make sense. The EIAR appears to set the number of construction days per month at 25.8, and using this number, Table 14-7 should read that LGV trips per day range from 45 no. two-way

trips per day for months one to fifteen, rising to 57 no. for months sixteen to twenty, peaking at 82 no. for months twenty-one, twenty-two and twenty-three, and falling slightly to 70 no. for the final month. This is in contrast to the figures shown in Table 14-7, under which, for example, the peak period at months twenty-one, twenty-two and twenty-three is given as 33 no. Notwithstanding, the figures for HGV related trips are not affected by this error.

The error in Table 14-7 should have ramifications for Tables 14-8 and Tables 14-9 which show the percentage increase in traffic on the local road network as a result of the windfarm, using average AADT and peak month AADT data, respectively. As noted above, the data for HGV trips is not affected by the error in Table 14-7, whereas the figure for the column titled *Average Daily LGV Trips Generated by Development* in Table 14-8 and titled *Average Daily LGV Trips Generated by Development during Peak Construction Month* in Table 14-9 should read 53 and 45, respectively, noting that while 45 is less than the average of 53, the peak period as a whole is through months ten, eleven and twelve. However, notwithstanding the error evident in Table 14-7, the actual figures used for average and peak month LGV trips in Tables 14-8 and 14-9 are 42 and 54, and whilst the calculation / origin of same is unclear, these are not, in my view, significantly distant from the correct figures of 53 and 45, and in the context of the larger figures associated with HGVs, the margins of error has little effect on the outcome in terms of percentage change for the project as a whole.

Table 14-11 seeks to demonstrate the percentage change to traffic on the road network for the construction phase of the windfarm project excluding the traffic associated with the grid connection, which is stated to be, for all intents and purposes, a separate project and ultimately accessed via the road network at the southwestern end of the site. Cross-referencing with previous tables in Chapter 14, it appears that the data in the last three rows of Table 14-11 is incorrect, potentially as a result of data for the N83 being re-inserted for the next row down, being the row associated with the R332, and possibly, by association, the correct data for the R332 moved down and so on. Notwithstanding, by reason of the relatively low volume of trips associated with the grid connection element, as shown in Table 14-12, there is little difference between Tables 14-11 and 14-8, as such, I am satisfied that the EIAR is not deficient of information to evaluate the traffic impact in this regard.

EIAR Table 14-12 and the graph in Image 14-2 show that the work programme for the installation of the grid connection cabling would run from month fifteen through to month twenty-four but that the main body of the work / peak construction period would take 6 months and would generate an anticipated 1 no. HGV and 6 no. LGV two-way trips per day. Construction access for the grid connection cabling works would be via the proposed new substation site entrance off the L6100 at the southwestern end of the site, thus separated from the main wind farm construction entrance to the northeast. EIAR Table 14-13 anticipates that trip generation associated with the grid connection cabling would have the effect of increasing the traffic on the local road network by c. 66%, albeit I note that Table 14-13 is slightly at odds with the data outlined in the preceding Table 14-12 and Image 14-2, insofar as Table 14-13 appears to use average weekly trips numbers rather than daily. Assuming the generation of 1 no. HGV and 6 no. LGV two-way AADT per day, the combined percentage change for HGVs and LGVs would be more likely in the region of 12.5% rather than 66%.

Traffic associated with the operational phase of the project relates to the wind farm owner/operator and grid network operator personnel visiting the substation, and maintenance staff. There will also be a limited infrequent attendance by routine environmental monitoring/compliance staff.

During operation, the wind farm will be unmanned and remotely monitored. In the highly unlikely event of a significant turbine component replacement during the Shancloon Wind Farm operational phase, this will involve a small number of HGV trips and potential abnormal load deliveries along the TDR route over a short period of time.

During decommissioning, there will be similar, but significantly less than the trip generation estimates for construction (many of the materials to be brought to site will be left in situ).

9.14.2.3 Potential Effects

Likely significant effects of the development, as identified in the EIAR, are summarised in Table TT1 below.

Table TT1: Summary of Potential Effects Material Assets Traffic and Transport

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	• No additional traffic generated or works carried out on the road network and therefore no effects with respect to traffic.
Construction	• Background / baseline traffic volumes and proposed traffic volumes are shown for the construction stage in Table 14-8 (average) and Table 14-9 (peak). Percentage increases are greatest for the smallest roads e.g. on average, the traffic would be increased by 204.8% for the L6483 and 208.46% for the L6225, or in terms of the peak months, 305.24% for the L6483 and 310.69% for the L6225. Taking the grid connection out, the average increase would be in the region of 200% for the L6483 and L6225. Notwithstanding the data presented in Table 14-10, which is averaged across each month, section 5.1.3 of the preliminary Traffic Management Plan outlines that the concrete pour for a turbine foundation would be carried out in one day, comprising c. 100 loads of concrete being delivered to the site, starting early morning and completed early afternoon. This equates to c. 200 two-way HGV trips per day for 11 days (1 day per turbine), and not necessarily consecutive days, rather is weather dependant. • Abnormal Indivisible Load Route Survey (EIAR Appendix 14.1). Carried out for turbine delivery route and latter end of the substation transformer delivery route. Turbine route - Route survey from Galway docks to site, which comprised evaluation of 18 no. points of interest, of which 15 no. points were subject to swept path assessment for blade and tower transporters (see drawings SK01 Rev. 1, SK02 Rev. 1, SK03 Rev. 1, SK04 Rev. 1, SK05 Rev. 1, SK06 Rev. 1, SK07 Rev. 1, SK08 Rev. 1, SK09 Rev. 1, SK10 Rev. 1, SK11 Rev. 1, SK12 Rev. 1, SK13 Rev. 1, SK14 Rev. 1, SK15 Rev. 1). Turbines would be delivered at off-peak times. Accommodation works to comprise hedge or tree cutting, relocation of powerlines/poles, lampposts, signage and temporary local road widening and junction widening including across third party land. Also, permanent re-routing / undergrounding or temporary disconnection of overhead utilities will result in a temporary disruption to power and telecommunications services for existing residents and businesses. The schedule of turbine component deliveries will be determined by the turbine supplier however it is reasonable to assume that several convoys will be required to deliver all of the turbine components to site over the course of the turbine installation works which is expected to take place over the course of 5 months.

	Substation transformer route - Route survey evaluates the final leg of the route, comprising a left turn off the L2104 onto the L6100 in the townland of Shrulegrove, with a swept path assessment carried out on 3 no. points of interest including the proposed new entrance point off the L6100 (see drawings SK16A Rev. 1, SKA17A Ref. 1 and SKA18A Rev. 1) In each of the 3 no. points of interest, the survey identified an overrun within third party land. The Preliminary Traffic Management Plan outlines that a sone-way system will operate on the L6100 and Figure 5-8 identifies existing passing opportunities along the road. • New permanent access on the L2234 at the northeastern end of the site, to comprise a sweeping bell mouth type entrance with visual obstructions (trees and other vegetation) 1.05m above ground level to be removed to achieve sightlines of 120m in both directions in accordance with TII design specifications (see drawing P20-306-0101-0001 Rev. A). • New permanent access on the L6100 to the southwestern end of the site, to comprise a sweeping bell mouth type entrance. No visual obstructions currently exist above 1.05 metres with sightlines of 70m in both directions in accordance with local council design standards and granted planning applications in the area (see drawing P20-306-0101-0003 Rev. A). • Within the red line boundary, construction vehicles will cross local public roads. These crossing points are described in EIAR Chapter 14.5 and also section 5.2 of the Preliminary Traffic Management Plan, as follows: o Crossing Point 1 traverses the L2220 local road and provides a linkage between the east of the site where T1- T4 are located and the centre of the site where T5, T8, T9 and T10 are located. The EIAR states that the access point on the western side of this crossing would be used by LGVs to carry out maintenance to T1 to T4 during the operational stage and that the entrance on the eastern side of the crossing would be decommissioned after the construction stage, noting that maintenance vehicles for T5 to T11 would access the site from the northeast via the main site entrance on the L2234. o Crossing Point 2 traverses the L2220-02 local road and provides a linkage between T5 and T8 - T10 located centrally within the site. o Crossing Point 3 also traverses the L2220-02 local road and provides a linkage between T6 and T7 with T8 - T10 located centrally within the site. o Whilst the EIAR is silent on the matter, given the layout of the windfarm in the context of the local road L2220-02, it is assumed that crossing points 2 and 3 will be retained for turbine maintenance access during the operational stage.

	• Based on the above, negative or adverse effects on the receiving environment associated with the construction works at the main wind farm site are considered to be short-term in duration and moderate in significance without appropriate mitigation. Negative or adverse effects on the receiving environment associated with the turbine delivery route are considered to be temporary in duration and slight to moderate in significance without appropriate mitigation. Negative or adverse effects on the receiving environment associated with the construction of the grid cabling works are considered to be short-term in duration and slight to moderate in significance without appropriate mitigation. • Grid connection. Works associated with the connection of the wind farm to the national electricity grid will comprise the installation of 33 kV medium voltage electrical and communication cabling underground between the proposed turbines and the proposed on-site substation. The substation will then connect, via a 110 kV underground cable and two new 16m high steel loop-in lattice tower end masts, to the existing Cashla-Dalton 110 kV overhead line c. 650m further south in the townland of Tonacooleen. All traffic associated with the construction of the substation will be via a new site entrance off the L6100. The 33kv cable connecting the substation to the turbines will be located largely across private land however there are 6 no. locations where the cable route must cross the public road to connect specific turbines onto the circuit. Road works at these locations are anticipated to be completed in less than 1 day, namely the L6225, L2220-02, L2220, L2220-04 and a private road near T01 and T02 used for turbary activity. On the route between the turbines and the substation, the cable will cross onto the east side of the L6225 in the townland of Derrymore, run north along the eastern side of the road for a distance of c. 158m, cross the road and continue through private land to the west (see drawings P20-306-0100-0004 Rev. A and P20-306-0100-0019 Rev. A). Construction traffic associated with the cabling works will average less than 1 no. trip per hour and is not expected to exceed 1 no. trip per hour throughout the duration of the works. Based on the above negative or adverse effects on the receiving environment associated with the construction of the grid cabling works are considered to be short-term in duration and slight to moderate in significance without appropriate mitigation.
Operation	• The trip generation for the project once operational is anticipated to be minimal as both the wind farm and substations will be operated remotely. • Effects on the receiving environment associated with the operation phase of the project are considered to be neutral in

	terms of quality, long-term in duration and imperceptible in significance. • For unforeseen or unplanned works, it is predicted that negative or adverse effects on the receiving environment will be temporary in duration and slight in significance without appropriate mitigation.
Decommissioning	• Impacts associated with the decommissioning of the project will be similar in nature to the construction stage but of a much lower magnitude primarily due to the following key reasons: o Wind farm access tracks will be left in-situ; o The grid connection will form part of the grid network and will be left in place; o Wind turbine components will be dismantled on site and can be removed on standard HGV's eliminating the requirement for temporary accommodation requirements needed at construction stage. Negative or adverse effects on the receiving environment associated with decommissioning works at the main wind farm site are considered to be temporary in duration and slight in significance without appropriate mitigation. • Infrastructure associated with the grid connection will form part of the national transmission and distribution system and will be left in-situ. Therefore, no impacts are envisaged upon decommissioning of the grid connection and no mitigation is required. Negative or adverse effects on the receiving environment associated with the turbine delivery route are considered to be temporary in duration and slight in significance without appropriate mitigation.
Cumulative	• Construction (predicted effects below, based on assessment of the potential for cumulative traffic effects arising from permitted development within 20km of the subject site, see EIAR Chapter 14.10). o Other wind farms. <u>Clonberne wind farm</u> (in-planning ACP. Ref. ABP-320089-24). Similar anticipated construction commencement year of 2028 is identified and shares a common turbine delivery route for c. 20km. Quarry source for construction material is not identified but does refer to a quarry to the southwest, possibly Mortimer's Quarry which is also a source for Shancloon (Haul Route A). The Clonberne EIAR also refers to the use of a borrow pit, which would reduce the need to import material. Potential negative cumulative effects on the road network are

	anticipated to have a temporary impact and slight to moderate in significance during the construction phase, if constructed alongside the subject development. The Clonberne Wind Farm does not share a common grid connection route (GCR) with the Shancloon Wind Farm, therefore, cumulative effects are not expected from the GCR. Laurclavagh wind farm (in-planning ACP ref. ABP-319307-24) Similar anticipated construction commencement year of 2028 is identified and shares a common turbine delivery route for c. 4km. Quarry source for construction material is not identified but does refer to quarries to the north and south, possibly Mortimer's Quarry which is also a source for Shancloon (Haul Route A). The underground cabling route for the Laurclavagh project has a section of the grid connection route within the N83 national secondary road which is to be utilised by the Shancloon project for hauling aggregates. This section of the grid connection will take approximately 50 days to construct as stated in the Laurclavagh EIAR. Potential negative cumulative effects on the road network are anticipated to have a temporary impact and slight to moderate in significance during the construction phase, if constructed alongside the subject development. o R332 Kilmaine to Foxhall Road Realignment, Widening and Resurfacing. Haul Route B (from Cong Quarry) for the Shancloon windfarm, passes the section of the R332. Road upgrade works may coincide with the windfarm construction stage. Potential negative cumulative effects on the road network are anticipated to have a temporary impact and slight in significance during the construction phase. It is considered that no cumulative impact will be created as a result of this development during the operation or decommissioning phases of the Shancloon Wind Farm.

9.14.2.4 **Mitigation**

Section 14.8.1 of the EIAR outlines the mitigation measures in the context of the construction, operation and decommissioning stages of the project. In terms the construction stage, the EIAR refers to the preliminary Traffic Management Plan (EIAR Appendix 14.2), which outlines the roads and traffic related mitigation measures for each element of the project, namely 1) the wind farm construction activities including haul routes, road crossings and passing bays, 2) turbine delivery route, 3) grid connection route and substation, including

passing bays and one-way system. The preliminary Traffic Management Plan is to be finalised and agreed with the road's authority and An Garda Síochána prior to construction works commencing. Whilst most of the mitigation measures outlined are considered to be best practice, the following are project specific:

Wind Farm General

- All construction transport including deliveries of quarry and building materials will use the main site entrance via the R332 / L6483 and L2234.
- Normal deliveries will be curtailed during concrete pours until the base pour is completed.
- The proposed crossing points, 1no. on the L2220 and 2no. on the L2220-02, will be managed appropriately to allow the safe passage of construction vehicles in, out and across the public road. Priority will be maintained for public traffic.
- Construction of 3 no. additional passing bays along the L6483 local road.
- If the construction phase coincides with the construction phase of the R332 Kilmaine to Foxhall Road Realignment, Widening and Resurfacing project, the developer will stop importing stone from McGrath's Quarry and utilise one of the other two haul routes identified from Harrington's Quarry or Mortimer's Quarry.
- If the construction phase coincides with the construction phase of the proposed Laurclavagh Wind Farm, the applicant is committed to phasing import deliveries appropriately with the other developments to avoid major traffic disruption on the road network. The applicant will also stop sourcing aggregate from quarries which require the use of the N83 where the project coincides with the construction phase of the Laurclavagh Wind Farm grid connection route.

Turbine Delivery Route

- Turbine delivery route subject to Abnormal Indivisible Load Route Survey.
- A programme of deliveries will be submitted to the roads authority in advance of deliveries of turbine components to the site. The programme will include details of the dates and times of each component delivery along with the route to be taken. Turbine component deliveries will be carried out during off-peak times and will be done using a convoy and a specialist heavy haulage company.

- Turbine deliveries will be escorted by An Garda Siochána.
- Consultation with the local residents and Galway County Council will be carried out in advance to manage turbine component deliveries.
- Any area affected by the works to facilitate turbine delivery will be fully reinstated to its original condition.
- Vehicles with similar dimensions of the abnormal load vehicles will complete an unloaded run of the route to ensure all temporary accommodation works are suitable for the loaded convoy.
- Noting that the turbine delivery route is broadly similar to that for the proposed Clonberne Wind Farm, the applicant is committed to phasing turbine deliveries appropriately with the Local Authority to avoid major traffic disruption on the road network.

Grid Connection and Substation

- It is intended that all traffic will be managed by a one-way system along the L6100 for the duration of the substation construction, anticipated to last 12 months.
- Substation transformer delivery route at local level subject to Abnormal Indivisible Load Route Survey.
- There are 6 no. locations where the cable route must cross the public road to connect specific turbines onto the circuit, namely the L6225, L2220-02, L2220, L2220-04 and a private road (continuation of L6225). Road works at these locations are anticipated to be completed in less than 1 day. The use for turbary activities of these roads is noted and the road works will be scheduled to avoid turbary cutting season to reduce the impact on local traffic.
- The L6225 and affected road sections northwest of the L6225 will require road trenching and cabling works for approximately 2 days. During this time, local access to the 6 no. dwellings and farms will be maintained and these residences will be notified in advance of the trenching works.

Operational Phase - Site entrances to the site will be maintained continually to ensure visibility conditions at these entrances has not deteriorated. Hedgerow

maintenance will be required periodically to ensure continued visibility at site entrances.

Decommissioning - All decommissioning works will be carried out in accordance with a decommissioning plan to be agreed with the planning authority in advance of the decommissioning works. Traffic management measures identified will be included in the decommissioning plan for the wind farm.

9.14.2.5 Residual Effects

With the implementation of mitigation measures, residual effects arising from the construction phase of the development, with the additional traffic arising on the public road network, are predicted to be short-term in duration and slight in significance with regards the main wind farm site, temporary in duration and slight with regards the turbine delivery route, and short-term in duration and slight in significance with regards the construction of the grid connection.

Effects on the receiving environment associated with the operation phase of the project are considered to be neutral in terms of quality, long-term in duration and imperceptible in significance. For unforeseen or unplanned works such as emergency turbine repair works, it is considered that negative or adverse effects on the receiving environment will be temporary in duration and not significant to slight following appropriate mitigation.

Negative or adverse effects on the receiving environment associated with decommissioning works at the wind farm site and turbine delivery route are, in both respects, considered to be temporary in duration and not significant following mitigation. Infrastructure associated with the grid connection will form part of the national transmission network and will be left in-situ. Therefore, no impacts are envisaged upon decommissioning of the project and no mitigation is required.

9.14.2.6 The Assessment: Direct and Indirect Effects

I have examined, analysed and evaluated Chapter 14 of the EIAR, the associated technical appendices and submissions on file in respect of traffic

effects. I am satisfied that the applicant's understanding of the baseline environment, by way of desk and site surveys, is comprehensive and that the key impacts in respect of likely effects on traffic and transport, as a consequence of the development have been identified. Further, I consider that the key direct and indirect effects of the development will be short term effects on the local, regional, and national road network during the construction phase of the development. Movement of construction workers, materials, plant, and turbines to the site will result in substantial vehicle movements. However, the applicant has demonstrated that these make relatively modest impacts on the traffic flows on the public road network, due to context (i.e. high levels of existing flows on the national and regional roads), temporary nature of effects, e.g. 11 days for concrete pouring, or timing of movements (e.g. abnormal loads during off-peak under supervised conditions). Greatest effects are likely to be on the local roads providing direct access to the site (L6483 and L2234) and to a lesser extent access to the substation site (L6100).

Submissions by third parties, local authorities and prescribed bodies have raised a number of issues in respect of traffic and transport, which I address below.

Local Road Network

Submissions received from the general public contend that the local road network is not suitable for the level of construction traffic proposed. In a similar vein, the local authority considers that that the local road network is not suitable to facilitate extended 6 axle rigid articulated movements, noting existing narrow roads where a sealed width of approximately 3.5m, bounded with open watercourses both verges in peat terrain with no provision of passing bays. Further, the local authority notes the absence of auto-tracking assessment to verify that the local network can facilitate such extended 6 axle rigid articulated movements.

I will address this issue in two parts, firstly with regards road condition and secondly in terms of traffic generation.

Road Condition / Geometry

In response, the applicant refers to meetings with the Galway County Council Roads Department Area Engineer on site to discuss the proposed haul routes, the turbine delivery route, road upgrades, and construction entrances, and states that all recommendations received were implemented into the design. The applicant notes that passing bays are to be provided along the L6483 and L2234 to cater for passing tipper trucks, and that the grid / substation access route has equally been assessed for passing opportunities and road capacity. The applicant also refers to the Swept Path Analysis contained in EIAR Appendix 14.1.

I note that Section 5.3.2 of the Preliminary Traffic Management Plan (EIAR Appendix 14.1) relates to the review of the road network to facilitate construction vehicles. It outlines a requirement for the provision of passing bays on the L6483 and L2234 and also localised widening to facilitate turbine delivery. Typical plans and sections of passing bays are provided in drawing P20-306-0300-0023.

I further note that under section 5.3.2.1, the EIAR outlines that the locations of passing opportunities were chosen with consideration for existing roadside drainage and that in all cases, locations were chosen with sufficient verge width to accommodate the extension to the existing carriageway and to avoid existing roadside surface drains. The EIAR does also outline that should interaction occur, existing surface drains will be re-directed to maintain hydrological connectivity and that prior to commencement, the applicant will submit detailed designs for approval to Galway County Council showing road build-up detail and all drainage information for each passing location.

As outlined in EIAR Chapter 2, internal access will be provided by way of construction of 13,725m of internal access tracks and associated drainage infrastructure, of which 1,770m will be floated road, along the upgrading of 3,565m of existing tracks and road and associated drainage infrastructure. Section 3.4.6.1 of the Construction and Environmental Management Plan (EIAR Appendix 2.1) notes that a floating road is proposed where peat depths are greater than 1.0m. The cross-sectional detail of excavated track design and floating track design, including road side drain, is provided on drawing P20-306-

0300-0016. Appendix 11.3 contains a 'Review of Stabilising Techniques for Floating Road on Peat', outlining a justification for the use of a double sheet pile wall with reinforced ties for a c. 245m section of the proposed floating road where it runs adjacent to the Black (Shrule) River, with the rationale based mainly around the need to address the inherent weaknesses of peat. It is noted however that Section 2.2 of Appendix 11.4 (Peat and Spoil Management Plan) states that 'where floating roads are proposed in this report, a typical methodology is presented however a detailed design will be carried out prior to construction commencing on site'.

There are three instances within the site where the internal access tracks, and hence the construction aggregate haul and turbine delivery route, would interact with public roads. These are referenced as Crossing Point 1, 2 and 3 in the EIAR. Crossing point 1 is a direct crossover of the L2220, midway between T1 and T5 (drawing P20-306-0100-0037 Rev. A), crossing point 2 is a crossover of the L2220-02 north of T5 (drawing P20-306-0100-0042 Rev. A), whilst crossing point 3 comprises a staggered crossing of L2220-02 north of T6 (drawing P20-306-0100-0050 Rev. A). The internal windfarm access track runs east of crossing point 3 towards T11 and would utilise c. 480m of the L2220-02. I would note that the part of the L2220-02 where it runs through crossing point 2 and 3 and further east comprises a substandard rural laneway used for farmland or peatland access. Drawing P20-306-0100-0008 Rev. A indicates that the section of roadway running east of crossing point 3 would be upgraded, with a typical detail of same provided in drawing P20-306-0300-0016 Rev. A.

West of crossing point 1, the internal route would, in part, run parallel to, and in part, utilise the L2220-04 (drawing P20-306-0100-0005 Rev. A), with the roadway to be upgraded as per detail shown in drawing P20-306-0300-0016 Rev. A. The route along the L2220-04 also crosses a bridge over the Togher River (as discussed under section 1.1.10 above). The internal access track will also cross a private road at two separate locations for access to T1 and T2, and again. As noted above, this section of private roadway is in reality a continuation of the L6225 but not taken in charge, thus a private road, extending north, northeast and east before connecting back in with the L2220.

Having regard to the forgoing, I am largely satisfied that the applicant understands the condition of the existing road network and has sufficiently identified the necessary upgrades required to facilitate construction phase vehicles including turbine delivery. However, having regard to the nature of peatland and the associated hydrogeological conditions, the vulnerability of risk to accident and /or disasters and the uncertainty identified with regard to the implications to the wider Cloonbar bog habitat and with cross reference to the reports of the specialist consultants appended, the evaluation of EIAR Chapters 11 and 12, I consider that the absence of a site-specific construction methodology for the proposed floating road is critical to understanding the broader environmental impact and significance of same. In this regard, I would ask the Commission to refer to sections 9.8 (land, soil geology) 9.9 (water) and section 9.17 (interactions) in my report.

Traffic Generation

Submissions received contend that the transport of turbine components, materials, and machinery will cause road safety hazards and prolonged disruption to local residents and farm operations.

The EIAR shows that all construction vehicles associated with the main wind farm site, including transport of aggregates, cement and turbine components, will access the site from the northeast via the new entrance off the L2234 at the northeastern end of the site. From that point, vehicles will utilise the proposed internal access track, crossing public roads where necessary, and noting, as outlined above, that where the access track utilises parts of the L2220-02 and L2220-04, such sections are currently cul-de-sac and / or laneway standard, not main traffic thoroughfares, used only for accessing farmland and peatland, and in the case of the L2220-04, a dwelling in the stated control of the applicant. Underground cabling from turbines will follow the alignment of the access track, crossing the public road, where necessary. The only prolonged period of trenching within a public road would be on the L6225 along which the cable route extends for c. 158m. The cable would also be laid along sections of the L2220-02 and L2220-04, however, as noted above, these sections of road are

of substandard laneway condition. For the substation, construction vehicles will use a new entrance off the L6100 at the southwestern end of the site.

With reference to EIAR Tables 14-8 and 14-9, the applicant, at section 14.7, contends that although the percentage increases on the local road network are quite high, the actual number of HGVs currently using these roads are very low which gives the impression of a significant impact when in reality there is not. I would concur with this statement but only in the context of proposed mitigation. In my view, the volume of traffic anticipated during the construction period has the potential to cause significant impact on the local road network, particularly HGVs and particularly with regards turbine delivery and on the foundation pouring days, which would comprise 100 trips in and 100 trips out in one day for each turbine. However, I consider that the mitigation measures proposed in the Preliminary Traffic Management Plan (EIAR Appendix 14.2) are adequate to ensure that the construction stage will not cause an adverse / significant impact on the local road network, and particularly in terms of road safety. Mitigation of note includes the provision of passing bays, one-way system (L6100), escorted turbine deliveries at off-peak times, controlled crossing points of local roads, and prior notification to local residents of turbine delivery and turbine foundation pouring.

On the basis of the above, I concur with the conclusions of the EIAR that with the implementation of mitigation measures, residual traffic related effects arising from the construction phase of the development would be relatively short term in duration and not significant in EIAR terms.

As outlined above, I have reservations with regards the accuracy of data for the L6225, as presented in Tables 14-8 and 14-9. I consider that the issue could be addressed by including a condition on a grant of permission, if one is forthcoming, which, in order to avoid any ambiguity, requires strict implementation of the access arrangements as set out in the EIAR and more specifically the mitigation measures set out in the Preliminary Traffic Management Plan (EIAR Appendix 14.2).

Road Safety

The local authority considers that the application is absent of satisfactory information relating to recommended Traffic and Transport Assessment in accordance to TII publications - PE-PDV-0204 and Stage 1 / 2 Road Safety Audits for the entire site. The local authority also considers that insufficient data was submitted to determine the impact on road safety and network capacity, including in respect of existing / proposed junctions and notes that traffic count data provided at unclear locations and more than two years old.

In response, the applicant outlines that the design of the wind farm and preparation of the Traffic Management Plan were informed by TII's Traffic and Transport Assessment Guidelines, May 2014, DN-GEO-03060: Geometric Design of Junctions, May 2023, and DN-GEO-03031: Rural Road Link Design, May 2023. With respect to network / junction capacity and traffic data, the applicant outlines that Chapter 14 of the EIAR provides a detailed overview of the existing baseline traffic and transport environment and provides detailed Vehicle Trip Distribution assessments; and that the Traffic Management Plan addresses Public Road Crossing Points / junctions and presents measures for the management of traffic streams and service access.

EIAR Figure 5-6, which shows the red line in the context of the local road network, demonstrates that the windfarm site is located within a relatively remote rural area and apart from the R332 to the northeast, the site interacts only with local roads and associated tertiary roads. The EIAR states that all construction related transport including deliveries of quarry and building materials, and transport of turbine components, will access the site via the main entrance on the L2234 to the northeast, and that construction vehicles for the substation will access the site via a proposed new entrance off the L6100 at the southwestern end of the site. In terms of turbine and substation transformer delivery, the application includes a delivery route assessment and autotrack analysis, which identifies the key issues associated with abnormal load deliveries and also identifies the remedial works, either in the form of physical works or as traffic management interventions that will be required to accommodate the predicted loads. The Preliminary Traffic Management Plan also outlines the full range of mitigation

measures to be incorporated for abnormal load delivery, noting particularly that permits will be required from the relevant road authority and An Garda Siochana.

The Preliminary Traffic Management Plan also identifies accommodation works necessary to facilitate normal construction vehicles, such as a 10m long large tipper, including localised road widening and the provision of passing bays. For accessing towards the main entrance, the EIAR identifies a requirement to construct new passing bays on the L6483, whilst for access towards the substation entrance, the EIAR identifies that existing passing opportunities are available on the L6100 with good intervisibility however it is intended that a one-way system would operate on the L6100 during the construction phase.

The local authority refers to outdated traffic data. The EIAR states that traffic count data for the N83, R332, L6483 and L6225 was obtained from 7-day independent traffic count surveys conducted in September 2023. The EIAR was lodged with An Coimisiún Pleanála in September 2025. In my view, given the nature of the local area and absence of any great change over time locally in terms of development, residential or otherwise (having regard to EIAR Table 14-15), I do not consider that updated traffic counts would yield data that would vary significantly from the baseline data presented in the EIAR. As such, I consider the EIAR to be acceptable in this regard.

Having regard to the foregoing, I am satisfied that having regard to the nature of the local road network and through the implementation of mitigation measures outlined in the Preliminary Traffic Management Plan, including use of the main entrance for all windfarm related construction vehicles, accommodation works identified in the abnormal load delivery route assessment and traffic control measures at road crossings, that the construction phase of the development is unlikely to cause any adverse impact on road safety. Notwithstanding the above, the local authority has recommended the inclusion of a condition which requires the commissioning of a Stage 1 and Stage 2 Road Safety Audit. Considering the nature of the local road network, I consider it reasonable to require Stage 1 and Stage 2 Road Safety Audit as per the local authority's recommended condition.

Sightlines

The local authority considered that the visibility in relation to forward sight distance triangles where the subject site proposes to introduce site entrance(s)/access onto local road network is significantly restricted, contravening DM standard 28 and DM standard 33a of the CDP, and in this regard the local authority considered that forward sight distances are not achievable insofar as the required forward sight distances lie outside the control of the applicant.

CDP DM Standard 33(a) relates to Traffic and Transport Assessment (TTA), Road Safety Audit (RSA) and Road Safety Impact Assessments (RSIA). The application, in the context of TTA and RSA, is considered under the heading Road Safety above. An RSA is only relevant to national roads, as per TII's Road Safety Impact Assessment PE-PMG-02001. CDP DM Standard 28 relates to sight distance requirements and outlines that vehicular entrances and exit points must be designed by the developer as part of a planning application with adequate provision for visibility so that drivers emerging from the access can enjoy good visibility of oncoming vehicles, cyclists and pedestrians. As part of DM Standard 28, Table 15.3 sets out the sight distances required for access onto roads. For roads with a road design speed of 60km per hour, the sight distance required is 90m in both directions at a setback of 2.4m. Table 15.3 suggests that the same standard applies to national, regional and local roads however for narrow local roads with poor horizontal and vertical alignment the CDP allows a reduced sight distance where a lesser operational speed is demonstrated.

Drawing P20-306-0101-0001 Rev. A shows the junction detail for the proposed main site entrance on the L2234, demonstrating a sightline of 160m in both directions at a setback of 3m, with clear visibility above 1m to be achieved. This exceeds the CDP requirement and is, in my view, sufficient for both entry and exit having regard to locational context and nature of the road in terms of current trip data. I note that the works required to achieve the visibility triangle are contained within the red line, thus in the stated control of the applicant.

The junction detail for the new substation entrance on the L6100 is shown on Drawing P20-306-0101-0003 Rev. A, indicating a sightline of 70m in both directions at a setback of 3m, with clear visibility above 1.05m without intervention. Notwithstanding this drawing, EIAR Chapter 14.5.4.1 states that a sightline of 120m exists to the east, which is credible considering the straight vertical alignment of the road in that direction. In my view, the important sightline is to the west for the reason that EIAR mitigation includes a one-way system for all traffic on the L6100 during construction, with vehicles making left-in and left-out only turns to/from the site, as such, traffic approaching from the west will require safe stopping distance, which, under the CDP, is 90m for a local road with a design speed of 60km per hour. I note that the visibility splay to the west runs over third-party land and is not within the red line boundary, however the EIAR states that no works are required to achieve a 70m sightline in that direction at a clearance height of 1.05m. During a site visit, I noted the relatively low nature and setback of roadside boundaries, including the boundary wall associated with a residential property immediately adjoining the entrance on its west side, facilitating visibility within and beyond the 70m mark. I also noted the nature of the L6100, being a relatively narrow country laneway, including the nature of the double bend in the road to the west, both attributes which would, in my view, have the effect of naturally slowing traffic. The substation would be constructed over a 12 month period, with HGV trips averaging 3 per day with a peak of 10 per day for months 10 to 12. The EIAR envisages that during the operational phase, LGV trips would average 2 to 3 per month. I consider that the entrance arrangement is acceptable and would not cause an adverse impact on road safety.

The internal access track would cross the L2220, while the cabling route to the substation would run along and cross the L6225, which, apart from the two site entrances discussed above, are the only public roads of reasonable standard which interact with the windfarm site. Drawing P20-306-0101-0002 Rev. A shows the detail and sightline at the crossing point on the L2220. As per the entrance on the L6100, the sightlines travel through third party land not included in the red line. Mitigation measures set out in the Preliminary Traffic Management Plan include that during the construction phase, traffic at this

junction will be managed by flagmen, which, in my view, is acceptable. The EIAR states that at operational stage, the western side entrance point will be retained to allow LGVs to access to the site for maintenance of turbines T1 to T4, which would be limited given that the windfarm is operated and monitored remotely. With respect to the L6225, cabling works are expected to take two days, with mitigation outlined in the Preliminary Traffic Management Plan to include prior notification to local residents and access for same to be maintained. Subject to the proposed mitigation / traffic management, I consider that the road crossing proposals are acceptable and would not cause an adverse impact on road safety.

Having regard to the foregoing, I am satisfied that the applicant has demonstrated that access points to the local road network will operate effectively and will not result in an adverse impact on road safety.

Technical and Structural Analysis of Roads

The local authority also notes that no technical or structural analysis was submitted with respect to the R332, L6483, L223424, L2220, L2222-02 and L2220-04 for use for turbine delivery. In this regard, the local authority has recommended the inclusion of a condition (no. 15) on any grant of permission which required technical and structural pavement analysis on the regional and local road trafficked routes. Concern regarding the capability of the roads to handle the construction vehicles was also raised in submissions received from the general public and in the views of the Tuam MD elected members as contained in Appendix 1 of report received from Galway County Council.

In response, the applicant commits to establishing the pre-commencement condition of the L-6483, L-2234 and L-6100 by way of carrying out a Pavement Condition Rating (PCR) and Video Survey, and, where necessary, Falling Weight Deflectometer (FWD) Testing. The applicant also commits to carrying out a Post-Construction Audit upon completion of the 24-month construction phase, which would comprise a repeat of the pre-commencement surveys. The applicant states that 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. The applicant also refers to the purpose of a Financial Security Bond that would be lodged by the applicant with Galway County Council roads department and subsequently released once the Roads Authority is satisfied that the structural integrity of the local network has been maintained or improved.

I note that the local authority also refers to the L2220, L222202 and L222004. The turbine delivery route where it interacts with these and other roads is outlined in the preceding section of my report. The route crosses the L2220 midway between T1 and T5 (drawing P20-306-0100-0037 Rev. A), thus does not utilise the roadway beyond a straight crossing. The L2220-02 is a local tertiary road that runs east off the L2220 in the townland of Cloonbar. The road has the appearance of being maintained with hard surface where it provides access to residential properties on its western end close to its junction with the L2220. After approximately 800m, the roadway becomes a relatively substandard laneway. The haul / turbine delivery route would utilise c. 480m of the L2220-02 in the area generally between T6 and T11. Drawing P20-306-0100-0008 Rev. A indicates that this section of roadway would be upgraded, with a typical detail of same provided in drawing P20-306-0300-0016 Rev. A.

The L2220-04 is a cul-de-sac local tertiary road that runs west / northwest off the L2220 located across the townlands of Beagh More and Shancloon. The road appears to provide access to one residential property (Eircode H54 KH73 – stated to be in the applicant's control) and farmland. The haul / turbine delivery route would, in part, run parallel to, and in part, utilise the L2220-04 (drawing P20-306-0100-0005 Rev. A). The section of roadway to be utilised is to be upgraded as per the typical detail shown on drawing P20-306-0300-0016 Rev. A.

In the context of structures on the haul / delivery route, the applicant also refers to the Bridge Inspection Report contained in EIAR Appendix 2.5. As outlined in section 1.1.10 above, the bridge is located on the L2220-04 where the road crosses the Togher River which demarcates the division between the townlands of Beagh More and Shancloon. The bridge crossing would facilitate construction traffic and delivery of turbine components for T1, T2, T3 and T4.

The inspection, which was limited to a visual assessment, found that while the bridge appears to be in good condition overall and potentially suitable for turbine delivery, additional in-depth structural investigation needs to be carried out to determine key structural parameters to prepare a detailed analysis which will result in the determination of the load capacity of the existing structure.

Having regard to the forgoing, it can be deduced that once haul / turbine delivery vehicles enter the site at the main entrance, the proposed haulage and turbine delivery route thereafter has limited reliance on the public road network. The route follows a section of the L2220-02 local tertiary road which is currently a substandard laneway and a section of the L2220-04 local tertiary road which is a cul-de-sac laneway, both to be upgraded for the purpose required.

Having regard to the nature of ground conditions in the area, I consider it reasonable that pre-commencement and post-completion condition surveys be required and same to be conditioned, as per recommended condition no. 15 on the local authority's CE Report.

Works to facilitate turbine delivery

The TII notes a number of modifications required to the national road network to facilitate turbine component delivery to site and states that any proposed works to the national road network to facilitate turbine component delivery shall comply with TII publications, shall be subject to Road Safety Audit, that carrying of Exceptional Abnormal Loads requires a structural assessment of all structures to be crossed on the haul route and prior to development all necessary licences, approvals or agreements with the local road authorities shall be in place.

In response, the applicant acknowledges that no part of the application shall be construed as gaining consent to alter national road infrastructure without a separate, specific agreement, commits to pre- and post-construction structural and road condition surveys of the delivery route, and confirms that any damage to the national road network or associated assets will be remediated to TII Publications standards at the applicant's expense.

Having regard to the forgoing, I am satisfied that consultation with the relevant road authority can be addressed by condition. Further, it is also reasonable that any required works comply with TII standards and be subject to RSA as appropriate.

Grid Connection Routing

With regards the cable routing for the grid connection, the TII refers the Commission to Department of Transport Circular RW07 of 2025 and the 'Interim Guidance to Road Authorities (placement of medium or high voltage electricity assets)'.

In response, the applicant outlines that the 110kV loop-in connection to the Cashla-Dalton line has been designed to comply with DoT Circular RW 07 of 2025 and that the grid connection infrastructure will be designed and constructed in line with ESB and EirGrid standards and specifications. The applicant also note that trenching within public roads for this project is limited to local roads only.

Having regard to the forgoing, I am satisfied that no works to the national road networks is required for any part of the cabling, either from individual turbines or connection of same to the national grid. The detail with regards trenching within the public roads can be agreed with the local authority and I am satisfied that the consultation for same can be addressed by condition.

9.14.2.7Conclusion

Having regard to the examination of environmental information in respect of traffic and transport effects, in particular the EIAR and submission from the planning authority, TII and third parties, I am satisfied that the key direct and indirect effects of the development will be a short term increase in traffic on the public road network in the vicinity of the site, with greatest effects on local roads leading to the main entrance (L6483 and L2234) and to a lesser extent access to the substation site (L6100). Short term effects on the national road network will arise with the off-peak delivery of turbine components. Impacts on the public

road network can be mitigated by traffic management measures as set out in the Preliminary Traffic Management Plan and conditions of the permission.

9.15 Material Assets (Other)

9.15.1 Issues Raised

Third parties raise the following concerns:

- Impact of the grid connection cabling route on a 250mm potable water supply main, and concern that no agreement in place on same with Uisce Éireann.
- Impact on the operation of two existing private airfields located at Ironpool (Kilconly) and on the grounds of Castlehacket estate.

The Department of Defence submission identifies that the N84 route as an Irish Air Corps low level route, outlining that the location of structures higher than 45m above ground within 3 nautical miles of the route centreline of low level routes should be considered, and that the wind farm may impact on the ability of Irish Air Corps operational aircraft to access regional areas to the north in poor weather conditions.

The Irish Aviation Authority (IAA) submission requests a condition requiring consultation by the applicant with the IAA with regards obstacle warning lights.

Having regard to the proposal to cross a high pressure main and notwithstanding scoping consultations, the applicant had not formally notified Gas Networks Ireland (GNI) of this element of the project, the Commission requested GNI and Health and Safety Authority (HAS) to make an observation on the application pursuant to Article 213 of the Planning and Development Regulations 2000. A response was received from GNI which comprised maps showing the location of the high pressure gas main in the context of where the gas main was to be crossed, and also a copy of GNI's Code of Practice for Working in the Vicinity of the Transmission Network and HSA's Code of Practice For Avoiding Danger From Underground Services.

9.15.2 **Examination, analysis and evaluation of the EIAR**

9.15.2.1 Context

Chapter 17 of the EIAR deals with material assets in the form of power supply, gas supply, telecommunications, aviation, water supply and foul drainage infrastructure. EIAR Appendix 17.1 contains an Aviation Review Statement whilst EIAR Appendix 17.2 contains an EMI Impact Assessment (relating to telecommunications). The EIAR assesses potential for impact at construction, operation and decommissioning phases of the development.

9.15.2.2 Baseline

The baseline environment includes:

- Electricity – The Cashla (east of Galway City) to Dalton (east of Claremorris) 110kV OHL runs in a southeast to northwest direction at the southwestern end of the site, at which point it is proposed to construct a grid connection.

- Gas – Gas Networks Ireland's Mayo - Galway high pressure gas distribution main traverses the site, connecting through the Beaghmore Transmission Above Ground Installation (AGI), located on the L-2220 local road. Interaction with the access track and grid connection underground cable occurs at a point c. 705m east of proposed turbine no. 4 in the townland of Shancloon, with the context of same shown on drawing number P20-306-0100-0005 Rev. A.

- Water – An Uisce Eireann 250mm diameter uPVC watermain runs along the L2220 and will be crossed by the proposed grid connection underground cable, with the context of same shown on drawing number P20-306-0100-0037 Rev. A.

- Telecommunications – With reference to the EMI Impact Assessment in EIAR Appendix 17.2, there are two Telecom Operators with networks in the vicinity of the proposed wind farm that require a detailed technical analysis, namely Enet Network and CIE Network.

- Aviation – With reference to the Aviation Review Statement in EIAR Appendix 17.1, the following is noted:

    - 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, c. 19km from wind farm.

    - The wind farm is located outside of any Building Restricted Area in the airspace surrounding an aviation facility, the nearest being the Ireland West Airport located 35 km away.

    - There are 2 no. private unlicensed airfields of note. These are Kilconly Airfield and Castlehacket Airfield (both within 5 km of the wind farm), which are not licensed by the IAA, and operate in un-controlled Class G airspace (locations relative to the wind farm are shown in Appendix 17.1).

9.15.2.3 Potential Effects

Likely significant effects of the development, as identified in the EIAR are summarised in Table MA01 below

Table MA01: Summary of potential effects. Material Assets	
Project Phase	**Potential Direct, Indirect and Cumulative Effects**
Do Nothing	• No change to the existing telecommunications, broadcasting and aviation operations in the area.
Construction	Utility Infrastructure • There is a likely need to briefly interrupt the potable water supply to accommodate the cable crossing. Effects will be brief and not significant. • The standard requirements for 600mm separation from the red high pressure transmission pipeline, open cut cable trenching, and supervision of the works by GNI will be implemented. Therefore, there will be no requirement to interact with the gas mains, with no significant effects likely. • Th Cashla-Dalton overhead line will need to be de-energised by ESB for between 1 to 5 days to allow for loop-in tower construction and connection, resulting in slight temporary negative effects to this utility service.

	• Elements such as overhead utilities, poles and lighting columns etc. will require temporary removal by the service operators to accommodate the delivery of wind turbine components Telecommunications and Broadcasting • No potential electromagnetic interference effects associated with the construction phase. Aviation • The proposed turbines and cranes required for their installation can be an obstacle to low flying craft.
Operation	Utility Infrastructure • No impact on existing water or gas utility infrastructure will occur as a result of the Proposed development during the operational phase. • There is potential that overhead lines may require brief disruption in the unlikely event that a turbine component requires replacement. • The direct effect of electricity generated by the proposed development will give rise to a reduction in the quantity of fossil fuels required for electricity generation across the State Telecommunications and Broadcasting • There were no impacts reported by any of the telecommunications operators operating GSM Radio Access, Mobile Broadband Data Access, Tetra, Telemetry or TV/Radio Transmission networks. Network analysis carried out as part of the EMI Impact Assessment indicates that no radio network would be impacted by the proposed turbine layout. • There is potential that overhead lines may require brief disruption in the unlikely event that a turbine component requires replacement. Aviation • Shancloon Wind farm will be located 41.5 km southwest of the Ireland West Airport and as such is outside of the Obstacles Limitation Surfaces (OLS) and Building Restricted Area (BRA) of the airport (i.e. the airspace around the airport which must be maintained free from obstacles). Additionally, the wind turbines are below the Minimum Sector Altitudes (MSA) (i.e. obstacle clearance requirements) associated with Ireland West Airport and will not interfere with any Instrument and Visual Flight Procedures of the airport. • As both the Kilconly and Castlehacket airfields are in Class G airspace, any pilots flying to/from these airfields are obliged to fly by Visual Flight Rules (VFR), and in

	accordance with the IAA Rules of The Air. As the Rules of the Air state, it is the pilot's legal responsibility to be aware of and avoid any obstacles in his/her flight path, and therefore, he/she would be required to be aware of wind turbines if flying to/from the airfield in question, which is achieved by prudent flight planning by the VFR pilot prior to flight.
Decommissioning	Utility Infrastructure • There will be no likely negative impacts on utility infrastructure during the decommissioning phase. Telecommunications and Broadcasting • There are no decommissioning related impacts on telecommunications and broadcasting interests in the area. • There is potential for brief disconnection of overhead lines during the decommissioning phase as large turbine components are required to be removed from the wind farm site (noting however that larger components can generally be broken down on site before off-site transfer). Aviation • There will be no likely effects on aviation during the decommissioning phase.
Cumulative	• As the Proposed Development is not predicted to have any potential effect on existing telecommunications or aviation services, there is no potential for in-combination effects with other wind farms located nearby. Therefore, there will be no cumulative effects relating to the Proposed Project and surrounding projects in relation to telecommunications or aviation.

9.15.2.4 Mitigation

Mitigation measures comprise the following:

Utility Infrastructure

- Existing services which may be impacted along the proposed TDR have been predicted through an 'Abnormal Indivisible Load Route Survey' (Pell Frishman, June 2024) and will be re-confirmed through consultation with service providers pre-construction.
- Communication with service providers will be maintained for the duration of the construction works.

- Where services are required to be interrupted to accommodate turbine delivery and loop-in connection to the existing 110 kV overhead line, residents and business that will be affected will be informed by the service providers through the existing notification system i.e. https://www.esbnetworks.ie/power-outages.
- Crossing of the GNI underground High Pressure Transmission Gas Pipe by the proposed wind farm access road and 33kV cable will be carried out under the and supervision of GNI.
- The crossing of the Uisce Éireann potable water main by the proposed 33kV cables on the L-2220 road will be carried out in accordance with the requirements of Uisce Éireann's Diversions Team as per the 'Building-over or Near an Irish Water Asset' protocol and will be a below-pipe crossing.
- Uisce Éireann will notify the public of any interruption to service or changes in water pressure.

Telecommunications and Broadcasting

- Mitigation measures consist of mitigation by design to avoid impacts on telecommunication links.
- As there is no potential for electromagnetic interference from the Proposed Development on telecommunications, there are no mitigation measures proposed for the construction, operation, or decommissioning phase of the Proposed Development.
- Overhead telecommunication lines along the TDR will be briefly disconnected during turbine delivery during the construction phase. Any interference to service will be brief (lasting less than 1 day) and potential effects to service will be communicated in advance to those affected. Notice will be provided to all stakeholders affected prior to works commencing.

Aviation

- In line with standard practice for wind farm developments, the coordinates and elevations for turbines will be supplied to the IAA at the end of the construction phase.
- An aeronautical obstacle lighting scheme will be agreed with IAA in line with IAA’s consultation response and applied to the proposed turbines.

- The developer will notify the IAA of intention to commence crane operations with at least 30 days prior notification of their erection.
- The wind turbine locations will be added to aviation flight charts and clearly marked as en-route obstacles. The wind turbines will also be fitted suitable aviation obstacle lighting, as approved by the IAA. This will ensure that, in the event that Kilconly and/or Castlehacket airfields are operational, any VRF pilots using these airfields will be able to plan their flight routes to avoid the turbines.

9.15.2.5 Residual Impact

Utility Infrastructure

- The proposed on-site substation and loop-in cable will be taken in charge of by Eirgrid or ESB following decommissioning, providing a long-term slight positive residual impact on electricity infrastructure in the area.

Telecommunications and Broadcasting

- Following the implementation of mitigation measures, no significant residual effects are expected on telecommunications and broadcasting as a result of the Proposed Development of Shancloon Wind Farm.

Aviation

- Following the implementation of mitigation measures, no significant residual effects are expected on aviation as a result of the proposed Shancloon Wind Farm.

9.15.2.6 The Assessment: Direct and Indirect Effects.

I have examined, analysed and evaluated Chapter 17 of the EIAR and associated appendices 17.1 and 17.2. I am satisfied that the applicant understanding of the baseline environment, is comprehensive and that the key impacts in respect of likely effects on material assets as a consequence of the development have been identified. Direct and indirect effects arise from potential effects on key services e.g. water, electricity, gas and interference with telecommunications infrastructure. Subject to the implementation of proposed standard good practice mitigation measure, I am satisfied that no significant adverse effects will arise.

Specific issues raised by prescribed bodies and third parties are addressed below.

Impact on Irish Air Corps low level route

A submission received from the Department of Defence identifies the N84 route as an Irish Air Corps low level route, outlining that the location of structures higher than 45m within 3 nautical miles of the route centreline of low level routes should be considered.

In response, the applicant outlines that under the 'Air Corps Wind Farm/Tall Structures Position Paper' (Defence Forces Ireland, 2014) the N84 is not prescribed as a Critical low level flying route and that, as such, low-level Military flight activity operated on the N84 route 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 applicant's submitted Aviation Review Statement (EIAR Appendix 17.1) provides details of the "*Air Corps Wind Farm / Tall Structures Position Paper*" published in August 2014, outlining that the position paper states that the Air Corps are likely to oppose any wind farm / tall structure in certain restricted areas. Such restricted areas include critical low level routes and 3 nautical miles of same, low flying training areas and areas within 5 nautical miles of a military installation.

Critical low level routes are safeguarded to allow the Air Corp to access regional areas. In the context of the wind farm location, such critical low level routes include the N/M6 and also the N17 between Knock and Sligo. The proposed turbines are not located within 3 nautical miles (c. 5.55km) of those routes. Another form of restricted area are referred to as low level training areas, which include a relatively large area of land extending west from the western side of Lough Corrib and Lough Mask. The area is mapped in the submitted Aviation Review Statement and is well removed from the proposed wind farm, being geographically separated by the lakes. The Aviation Review Statement also shows the location of the nearest military installation, being Renmore Barracks, located c. 19km to the south, thus not within the 5 nautical miles (c. 9.26km) restricted area threshold.

Notwithstanding the above, the Department of Defence has stated in its submission that the N84 is identified as a low level route, and that the location of structures taller than 45m located within 3 nautical miles (c. 5.55km) should be considered. And perhaps by association with the identified low level route, the submission considers that the wind farm may impact on the ability of Irish Air Corps operational aircraft to access regional areas to the north in poor weather conditions. Turbines T1, T2, T3 and T4 are located within 3 nautical miles of the N84 therefore, on the basis of the Department of Defence report, this would require assessment by the Air Corp. I note that the submission from the Department of Defence makes no reference to the 2014 Air Corps Wind Farm / Tall Structures Position Paper or any update to same which shows that the N84 has been added to the list of low level routes. I also note that in the record of scoping (EIAR Chapter 5) a response from the Department of Defence, dated 05/05/2024, made no reference to any potential interactions with low level flying routes.

Having regard to the above and specifically having regard to the submission received from the Department of Defence, I consider that it remains unresolved whether part of the wind farm (T1 to T4) is located in an Air Corp prescribed low level flying restricted area, and thus it remains unresolved whether the proposal would adversely impact Air Corp operations. However, considering the substantive recommended reason for refusal set out in this report, it may not be necessary to pursue this issue at this time.

Impact on Private Airfields

Third party submissions raise concerns that the operational stage of the wind farm would impact negatively on the operation of two private airfields in the wider vicinity of the site, one being located at Ironpool, Kilconly and another within the grounds of the Castlehacket estate.

The Ironpool airfield land is located on the east side of the L6486, c. 500m north of the junction with the L6483 and c. 1.6km northeast of T11. The Aviation Review Statement refers to a field survey carried out in October 2023 and in respect of the Ironpool airfield, concludes that there was no sign of recent aviation activity indicating that the site it is not a currently active airfield, noting the presence of an

electric fence running through the land, which, in effect, splits the runway, indicative of agricultural use rather than airfield activity.

A submission made on behalf of the owner of the Ironpool airfield contends that the airfield is in active use and that the owner is in discussions with various bodies including the HSE to progress the use of the airfield as a helicopter medical emergency base; and that the owner also intends seeking planning permission to develop glamping pods in woodland adjoining the airfield.

A review of the Galway County Council online planning portal shows no planning permissions associated with an airfield use on the land. The planning authority did issue a grant of retention permission in 2019 (P.A. Ref. 191330) for an existing agricultural access roadway and a multi-purpose agricultural and farm machinery dry shed and all associated works. The application documentation, including maps, refer to the use of the land for agriculture with no reference made to an airfield, private or otherwise.

The Castlehacket airfield is located to the northwest of the house within the Castlehacket estate, c. 4.2km southeast of T7. The Aviation Review Statement outlines that the airfield was not accessible on the day of the field survey work and it is not known whether Castlehacket airfield is currently in use.

In response to the submissions made with regards the airfields, the applicant refers to the Aviation Review Statement submitted with the application. This document outlines that both the Kilconly and Castlehacket airfields are not licensed by the IAA and operate in un-controlled Class G airspace. As such, any pilots flying to/from these airfields are obliged to fly by Visual Flight Rules (VFR), and in accordance with the IAA Rules of The Air. As the Rules of the Air state, it is the pilot's legal responsibility to be aware of and avoid any obstacles in his/her flight path, and therefore, he/she would be required to be aware of wind turbines if flying to/from the airfield in question, which is achieved by prudent flight planning by the VFR pilot prior to flight. The applicant also outlines that in the event that planning permission is granted for the proposed wind farm development, the wind turbine locations will be added to aviation flight charts and clearly marked as en-route obstacles. The

wind turbines will also be fitted suitable aviation obstacle lighting, as approved by the IAA.

From the information on file, I am satisfied that subject to the inclusion of conditions regarding the above standard operational requirements, there are no reasonable grounds to conclude that the proposed development would result in a significant impact on the operation of any private airfield in the vicinity of the site.

Impact on Water Main

A third party submission raises concerns regarding the potential impact on a water main as a result of the undergrounding of the grid connection cable.

In response, the applicant outlines that the EIAR has duly considered the crossing and has engaged in the pre-connection enquiry process with Uisce Eireann, and that there are no unresolved mitigation measures.

From the information on file, I am satisfied that subject to standard conditions regarding agreements with Uisce Eireann, there are no reasonable grounds to conclude the proposed development, specifically the construction of an underground cable below or above an existing water pipe, would result in a significant impact on water supply.

9.15.2.7Conclusion

Having regard to the examination of environmental information in respect of material assets (other), in particular the EIAR and supplementary information provided by the applicant and the submissions from observers, it is considered that the main significant direct and indirect effects on material assets (other) are potential impacts on key services e.g. water, electricity, gas and interference with telecommunications infrastructure during construction and operation. Subject to the implementation of proposed standard good practice mitigation measures, I am satisfied that no significant adverse effects will arise on any of these factors.

9.16 Risks Associated with Major Accidents and/or disasters.

9.16.1 Issues raised

Concerns raised with respect to flood risk and risk of peat slippage. Risks of environmental pollution, fire risk and negative effect on human health are also raised.

9.16.2 Examination analysis and evaluation of the EIAR

9.16.2.1 Context

Chapter 6 of the EIAR notes that sources of pollution on site during construction operational and decommissioning phases are limited. Primary sources with potential to cause significant environmental pollution and associated negative effects on human health and the environment include storage of hydrocarbons, chemicals and waste. Potential natural disasters that may occur are limited to flooding, fire, major incidents involving dangerous substances, catastrophic events and landslides.

Chapter 12 of the EIAR addresses significant adverse effects of the proposed project on the hydrology and water quality deriving from its vulnerability to Major Accidents and/or Natural Disasters, as well as the potential of the proposed project itself to cause potential Major Accidents and/or Natural Disasters during the construction, operation and decommissioning phases which might have an effect on water quality or hydrology. Chapter 2 Development description also addresses risk of major accidents and disasters referring to the CEMP which includes an emergency response plan outlining details of procedures to be adopted in the event of an emergency relating to health and safety or environmental protection.

No limitations are identified.

9.16.2.2 Baseline

With the exception of turbine T7, the site infrastructure does not fall within a predictive 1% AEP (1 in 100 Year), 1% AEP + CC (1 in 100 Year Plus Climate

Change), or 0.1% AEP (1 in 1000 Year) fluvial flood zone. All vulnerable elements of the proposed turbines shall be constructed a minimum of 0.3m above existing ground levels and the new bridge crossing slab will be constructed above the 1% AEP + CC (1 in 100 Year Plus Climate Change).

Peat slippage risk assessment (Appendix 11,1) determined that the site has a satisfactory margin of safety.

The Proposed Development is not connected with or in close proximity of any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations (SEVESO sites), therefore no significant effects associated with major industrial accidents involving dangerous substances are anticipated.

In accordance with Article 19 of the Safety, Health and Welfare at Work Acts 2005 (as amended), the Proposed Development shall be subject to a fire safety risk assessment which will assist in the identification of any major risks of fire on site.

Surface karst features (predominantly collapse dolines) are noted throughout the site. The formation of these collapsed dolines is actively occurring across the site with newly forming depression observed during the site reconnaissance. No karst features were observed within the underlying shaley limestones of the Ardnasillagh Formation. No evidence of significant karst features such as caves were noted within the site.

9.16.2.3 Potential Effects

Likely significant effects of the development, as identified in the EIAR are summarised in Table MAND1 below:

Table MAND 1: Summary of Potential Effects Major Accidents and/or disasters	
Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	Existing land uses likely to remain. No risk of effects on the environment from proposed development's vulnerability to risk of major accident and/or disaster.

Construction	Extensive ground investigation and peat slippage risk assessment determined the site has satisfactory margin of safety. Severe weather may cause increased mobilisation of sediment. Flood risk assessment was prepared as supported by detailed hydraulic model of the catchment informed by detailed Digital Terrain Model (DTM) and surveyed watercourse cross sectional data from the catchment. The model has determined that the proposed development will not increase flood risk elsewhere within the catchment. Traffic and transport impacts.
Operation	Contamination – Discharge or spillage of fuel chemical solvents, sewage or wastewater Traffic Incident
Decommissioning	Disassembly of above ground turbine components Traffic and transport
Cumulative	No potential for significant effects due to the low risk associated with the proposed development and a review of the nature of the surrounding land uses and projects.

9.16.2.4 Mitigation

Mitigation by avoidance in design and layout to avoid /minimise potential significant effects on water quality and hydrology . Site layout and drainage infrastructure is designed to be sympathetic to the existing topography and aims to maintain the existing hydrological regime such that it does not create a changed hydrological response to precipitation. Infrastructure has been located such that it is set back as far as reasonably practicable from hydrological features, with a minimum setback of 50 m between mapped surface waters and wind farm infrastructure, and a minimum setback of 10 m from non-mapped streams and drainage features with the exception of HDD locations and watercourse crossings. A Surface Water Management Plan is in place for the construction, operation and decommissioning stages of the Proposed Development.

The Flood Risk Assessment has identified that the Proposed Development will not result in an increased flood risk to the locality. Drainage design will ensure that

there will be no increase in the risk of surface water runoff as a result of the windfarm development.

An Environmental / Ecological Clerk of Works (EnCoW / ECoW) will be appointed by the Developer with responsibility for monitoring during the construction phase of the Development and will have the authority to temporarily stop works to prevent negative effects on hydrology or to ensure corrective action is taken to mitigate adverse effects.

Best practice construction methods during the construction and decommissioning phases will be used to avoid potential effects on water quality and hydrology and are detailed within the Construction Environmental Management Plan CEMP.

Traffic Management Plan to address road safety.

9.16.2.5 Residual Effects

With mitigation and monitoring measures in place there will not be a significant residual effect in terms of risk of major accident and disasters associated with construction operation and decommissioning of the development.

9.16.2.6 The Assessment : Direct and Indirect Effects

I have examined, analysed and evaluated the EIAR. I am satisfied that the applicant has sought to address the likely risk of direct and indirect significant effects on the environment derived from the vulnerability of the proposed development to risks of major accidents and/or disasters as well as the potential for the proposed development to cause major accidents and/or natural disasters.

In terms of mitigation an Emergency Response Plan (ERP) is set out in Section 6 of the Construction Environmental Management Plan (CEMP) which is included at Appendix 2.1 of the EIAR. The ERP contains predetermined guidelines and procedures to ensure the safety, health and welfare of those involved in the proposed development and to protect the environment during the construction phase. This outlines the immediate response to an emergency situation and will be developed by

the main construction works contractor and construction stage supervisor as part of their construction stage Safety and Health Plan. In relation to potential vulnerability of the project to major accidents and natural disasters it is concluded within the EIAR that the potential susceptibility of the Project to major accidents and or natural disaster of the proposed Shancloon Wind Farm is not significant/slight. No potential for significant in combination or cumulative mitigation effects is identified.

With regard to flood risk I refer An Coimisiún Pleanála to the report of the consultant hydrologist which notes that while the applicant sets out to justify the development of Turbines in flood Zone A, proposing finished floor levels above flood level, however the flood risk assessment does not recognise areas of groundwater flooding adjacent to the site and particularly in the vicinity of the substation compound and turbines T1-T4. The submitted flood risk assessment does not highlight that the road/track north of the sub-station is also within a 1%AEP flood zone and that the sub-station compound abuts a 1% AEP flood zone. The access road east of T11 is also affected by a 1% AEP flood zone. The expert consultant considers that *"The level of assessment is appropriate for the flood risk, as it provides a data set against which receptors can be identified, and affects/impacts can be measured. However, while it does provide a data set against which could be used to inform a hydrogeological conceptual model, the hydrological setting has not been used to inform the hydrogeological setting. The interaction between surface water systems including groundwater, flooding and turloughs have not been considered within a geological or hydrogeological context."*

The report also notes that

"Mitigation measures to prevent the discharge of contaminated water have been described but have not been quantitively designed, as such they do not take account of site level details. The lack of an evidence based conceptual hydrogeological model means that the connectivitiy between the site and development and local groundwater linked receptors including turloughs streams and rivers and private wells/boreholes cannot be established."

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of site level details. The lack of an evidence based conceptual hydrogeological model means that the connectivitiy between the site and development and local groundwater linked receptors including turloughs streams and rivers and private wells/boreholes cannot be established."

Chapter 11 Soils Geology and Hydrogeology sets out slope stability assessment to investigate the lands potential for slope failure. As part of site walkover, peat depth, in-situ peat strength and slope angles were recorded at various locations across the site. Peat depth probes were carried out at / near to proposed turbine locations and access roads and other main infrastructure elements. At turbine locations up to 5 probes were carried out and an average peat depth was calculated. Strength testing was carried out in situ at selected locations to provide representative coverage of indicative peat strengths. Slope angles at each main infrastructure element were record during site reconnaissance using FT handheld equipment. Based on the peat depths recorded across the site by FT and the exploratory holes by GII, the peat varied in depth from 0.1 to 8.0m with an average depth of 2.0m. The results of the peat stability risk assessment for potential peat failure at the main infrastructure elements is presented in Appendix 11.1: Geotechnical and Peat Stability Assessment. The risk rating for each infrastructure element is designated negligible to low following mitigation /control measures. It is outlined that sections of access roads to the nearest infrastructure element will be subject to the same mitigation control measures applying to the nearest infrastructure element. Mitigation control measures are set out in the Geotechnical Risk Register for each infrastructure element (Appendix A to Appendix 11-1). Table 8-2 Summary of Peat Stability Risk Register sets out that T5 has medium pre control measure peat risk rating (category 11 to 16 requiring notable control measures) which is reduced to low risk (category 5-10) post control measures.

I have noted a number of anomalies, inconsistencies and contradictory statements within the submitted documentation with regard to the recorded peat depth at various infrastructure locations. I also consider that the extent of survey in terms of peat probes at key infrastructure locations is inadequate in terms of assessment of the assessment of peat thickness and type across the wider site and represents a gap in terms of the potential implications of the wider on peatland and risk assessment. The

risks associated with roads, tracks and particularly the proposed floated road and sheet piling are poorly defined and this represents a significant gap in knowledge with regard to the potential implications on the wider peatland context.

With regard to site geology and specifically karst the expert report notes that the conclusions drawn are inconsistent with the evidence given - that is karst cannot be confined to quaternary deposits and the presence of karst features within the quaternary deposits is evidence of karst processes and features in the underlying carboniferous limestone. Thus it is outlined that the recommendations relate only to turbine foundation design and do not take account of the link between karst and hydrogeological pollution risks. The concern that no protection is propsoed against contamination entering karst fast flow pathways. On this basis the effectiveness of propsoed mitigation and conclusion with regard to residual impacts is not supported.

As noted at 9.18.2.6 above with respect to aviation risk having regard to the submission received from the Department of Defence, there remains some uncertainty with regard to whether part of the wind farm (T1 to T4) is located in an Air Corp prescribed low level flying restricted area. In the absence of agreed mitigation it is not possible to say with certainty that the proposal would not lead to aviation risk.

7.16.2.6 Conclusion

On the basis of the forgoing it is concluded that the application fails to provide sufficient detail and evidence to support the conclusions set out with regard to residual effect and the implications on the wider environment particularly with regard to peatland risk assessment and pollution risk.

9.17 Interactions

9.17.1 Issues Raised

No specific issues have been raised in the course of the planning application in respect of significant environmental effects arising from interactions of impacts. Key concerns in third party submissions relate to the landscape, ecology, visual and population impacts of the development.

9.17.2 Examination, analysis and evaluation of the EIAR

9.17.2.1 Context

Chapter 18 of the EIAR deals with impact interactions. A matrix is presented in Table 18-1 which seeks to identify potential interactions of impacts between various aspects of the environment.

9.17.2.2 Baseline

The baseline environment comprises the environmental context as set out in the individual chapters of the EIAR.

9.17.2.3 Potential Effects

Likely significant effects of the development, as identified in the EIAR are summarised in Table I1 below

Table I1: Summary of Potential Effects	
Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	None
Construction, Operation and Decommissioning	Population and human health. Interactions are greatest for people living, working and travelling in the local area with potential interactions from noise, air quality, human health and climate, land soils and geology, water, material assets and changes to landscape and visual effects. No significant effect is identified with respect to any interaction. Biodiversity. Interactions arise with regard to land soils and geology, removal of forestry peat and spoil, water, air climate, noise and vibration and landscape. No significant effect is identified with respect to any interaction. Ornithology. Key interactions arise in terms of land soils and geology water, air climate noise and vibration particularly during the construction phase and in terms of collision risk in the operational period. No significant effect is identified with respect to any interaction. Land, Soils and Geology. Movement and removal of peat and spoil gives rise to potential interactions with water, archaeological architectural and cultural heritage landscape and visual. No significant effect is identified with respect to any interaction.

	Air Quality and Material Assets. Movement of construction within the site and to and from the site has the potential to give rise to dust nuisance and effects. No significant effect identified for interactions. Climate. Air and Material Assets. Movement of plant and machinery has potential for negative impact on GHG emissions. Operational effects will be positive in terms of displacement of carbon dioxide over the lifetime of the windfarm. No significant effect is identified with respect to any interaction. Landscape and Visual and Cultural Heritage. Changes to landscape has potential impact on setting of recorded sites and monuments. Based on significant separation distance - no significant effect identified for any interaction.
Cumulative	Not addressed in the EIAR however no significant interactions identified therefore no potential for cumulative effects.

9.17.2.4 Mitigation

The EIAR notes that where potential interactive negative impacts have been identified the mitigation measures included in the relevant chapters of the EIAR will reduce or remove the potential for these effects.

9.17.2.5Residual Effects

Residual effects following mitigation have been presented in each relevant chapter of the EIAR.

9.17.2.6 The Assessment: Direct and Indirect Effects

I have examined, analysed and evaluated Chapter 18, and the associated chapters of the EIAR. I am satisfied that the applicant has identified the key interactions arising for the subject development. Similarly, I consider that the greatest number of impact interactions (direct and indirect) arise for people, landscape, biodiversity, ornithology, and risks to water quality, for all phases of the development with the greatest concentration of effects arising during construction.

Having regard to the detailed assessment of likely effects on these parameters, as considered in this report, I am not satisfied that it has been demonstrated that no

significant adverse environmental effects will arise by virtue of the interaction of impacts particularly with regard to risks to water quality and biodiversity.

9.18 Reasoned Conclusion on the Significant Effects.

9.18.1 Having regard to the examination of environmental information set out above, to the EIAR and other information provided by the developer, and to the submissions from the planning authority, prescribed bodies and third parties in the course of the application, it is considered that the main significant direct and indirect effects of the proposed development on the environment are and will be mitigated as follows:

Population & Human Health: Short term direct and indirect negative effects during the construction phase by way of noise, vibration, dust and traffic. Negative impacts will be mitigated by a managed approach to construction as set out in CEMP and the Traffic Management Plan. Long term negative direct and cumulative effects on landscape character and visual impacts in the immediate area will result from the proposed development with visual effects being more pronounced where open views of the site are available. Longer term potential for noise, shadow flicker and visual impacts mitigated by distance from residential dwellings, intervening vegetation and topography. Short term positive effects for the local economy during construction and longer term positive effects arising from the community benefit fund.

Biodiversity – Long term loss of habitats improved agricultural grassland, cutover bog, scrub, dry grassland mosaics) within the development footprint with potential for temporary deterioration of aquatic habitats and works areas. Potential for degradation or loss of aquatic habitat of ecological value during works through indirect effects resulting from water pollution. Construction of floated access road to T11 along periphery of Cloonbar Bog will encroach into uncut raised bog and result in disruption to groundwater flow feeding the groundwater dependent terrestrial ecosystem. Habitat loss and disturbance to terrestrial fauna potential damage to badger sett within the site during construction works. Collision risk to

bats low to moderate mitigated by feathering and curtailment. With regard to habitat classification of Cloonbar East Wetland having regard to the submissions on file the adequacy of botanical survey has not been verified. With regard to the biodiversity enhancement measures outlined in the BEMP and the proposal for marsh fritillary habitat enhancement the adequacy of habitat appraisal and species survey to characterise the marsh fritillary resource at a functionally meaningful scale has not been demonstrated. With regard to the construction of floated access road to T11 along the periphery of Cloonbar Bog and noting that active raised bog is a priority habitat listed on Annex I of the EU habitats directive it has been concluded that on the basis of the information submitted there is insufficient site and project specific peatland evidence to support a robust independent appraisal of the conservation value of Cloonbar bog and the likely implications of the proposed development for peatland ecology and bog restoration.

Ornithology

Potential loss of habitat disturbance and collision risk. Significant effects are not predicted for a large proportion of recorded species. The conclusion that the lands within the zone of influence may not perform a functional role for Greenland White-fronted has been questioned in terms of the interpretation of the ecological functionality of the wider turlough rich landscape given the absence of a habitat based analysis. With regard to the collision risk modelling a degree of caution is noted in terms of conclusions reached in the context of the location of the site within a complex turlough-rich wetland habitat.

Land, soil, water, air and climate - The excavation of peat, subsoils and bedrock has the potential for direct and indirect effects on water quality, particularly during construction, alterations to flow paths, changes to hydro morphology, risk of flooding, peat instability and failure and localised effects on air quality. The lack of an evidence based conceptual hydrogeological model means that the connectivitiy between the site and development and local groundwater linked receptors including turloughs, streams and rivers and private wells/boreholes cannot be established. Efficacy of mitigation measures cannot be verified. Regarding climate, the proposed development will have a long-term positive effect on climate. The

supply of renewable electricity to the national grid will displace CO_2 emissions otherwise used to generate electricity.

Archaeology, cultural heritage, landscape and material assets.

Potential for direct adverse effects on sub-surface archaeology, and the indirect landscape and visual effect of the development on the setting of features of cultural heritage, with greatest effects on features within relative close proximity to the site. Landscape visual effects will be mitigated by the distance of the development from these features, the character of the landscape in which the site is situated and landscape features which will screen the visual effects of the development and protect the local setting of these features. Significant effects on the landscape character of the site, with the introduction of substantial wind energy development. Significant visual effects for sensitive receptors within 1km of the site, particularly where there are open views of the development site, reducing with distance from the development site, and cumulative landscape and visual effects limited to distant and more elevated views from the southeast (Knockma Hill, VP19).The location of the site and existing topography and landscape features provides for a level of assimilation of the development into the landscape. No significant residual effects predicted with respect to material assets including land use, telecommunications, electricity networks, air navigation, quarries and utilities. Traffic impacts during construction can be appropriately mitigated.

10. Appropriate Assessment

10.1 Stage 1 Appropriate Assessment Screening

In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of the information provided by the applicant, I conclude that it is not possible to exclude that the proposed development alone or in combination with other plans and projects will give rise to significant effects on Lough Corrib SAC [000297], Lough Masc SPA [004062}, Lough Corrib SPA [004042] and

Shrule Turlough SAC [000525] in view of the sites conservation objectives. Appropriate Assessment (Stage 2) is required.
See Appendix 1 for AA Screening.

10.2 Stage 2 Appropriate Assessment

In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on Lough Corrib SAC, Lough Corrib SPA, Lough Masc SPA and Shrule Turlough SAC in view of the conservation objectives of those sites and that Appropriate Assessment under the provisions of S177U was required.

Following an examination, analysis and evaluation of the NIS all associated material submitted and taking into account observations by prescribed bodies, third parties and the reports of specialist consultants, I consider that adverse effects on site integrity of Lough Corrib SPA and Lough Masc SPA the can be excluded in view of the conservation objectives of these sites and that no reasonable scientific doubt remains as to the absence of such effects.

However, the evidence presented does not robustly support the lack of potential effects on Shrule Turlough SAC and Lough Corrib SAC due to the lack of an overarching, three dimensional and transient, consistent conceptual hydrogeological model that links the local and site level geology and hydrology. On this basis I am not satisfied that no reasonable scientific doubt remains as to the absence of adverse effects.

See Appendix 1 for Appropriate Assessment Stage 2.

11. Recommendation

Having regard to the foregoing, I recommend that permission for the proposed development be refused for the following reasons.

Reasons and Considerations

1. It is a policy of the Planning Authority as set out in the current Galway County Development Plan 2022-2028 WTWF1 to protect and conserve the ecological and biodiversity heritage of the wetland sites in the County and to ensure that an appropriate level of assessment is completed in relation to wetland habitats that are subject to proposals which would involve drainage or reclamation that might destroy, fragment or degrade any wetland in the county. This includes lakes and ponds, turloughs, watercourses, springs and swamps, marshes, fens, heath, peatlands, some woodlands as well as some coastal and marine habitats. Policy NHB 4 seeks to ensure, where appropriate, the protection and conservation of areas, sites, species and ecological/networks of biodiversity value outside designated sites. Policy NHB 5 seeks to support the protection and enhancement of biodiversity and ecological connectivity in non-designated sites, including woodlands, trees, hedgerows, semi-natural grasslands, rivers, streams, natural springs, wetlands, stonewalls, geological and geo-morphological systems, other landscape features and associated wildlife areas where these form part of the ecological network and/or may be considered as ecological corridors in the context of Article 10 of the Habitats Directive.

   The proposed development includes the construction of a floated access road along the periphery of Cloonbar Bog, which will encroach into uncut raised bog habitat resulting in disruption to groundwater flow feeding the groundwater dependent terrestrial ecosystem. Noting that active raised bog is a priority habitat listed on Annex I of the EU Habitats Directive it has been concluded that on the basis of the information submitted with the application there is insufficient site and project specific peatland evidence to support a robust independent appraisal of the conservation value of Cloonbar Bog and to predict the likely implications of the proposed development for peatland ecology and bog restoration. Having regard to the application site configuration and to the complex hydrological and

hydrogeological conditions pertaining on-site and on the adjoining lands, to the limited investigation carried out of those conditions and hence to the potentially inadequate mitigation outcomes associated with the proposed development, it is considered that it has not been demonstrated that the proposed development would not have a significant adverse effect on Cloonbar Bog and on peatland ecology and restoration. The Commission is not satisfied that the proposed development will not result in a significant loss of biodiversity**.** The proposed development would, therefore, be contrary to objectives of the National Biodiversity Action Plan 2023-2030, the Objectives of the Galway County Development Plan 2022-2028 and contrary to the proper planning and sustainable development of the area.

2. Having regard to the hydrogeological setting of the site and particularly the presence of karst below and in the local and regional setting of the site and based on the information submitted the Commission is not satisfied that the application has adequately addressed the alteration of peat groundwater flow and link between karst and hydrogeological pollution risks. The absence of an integrated evidence based hydrogeological conceptual model that considers the relationship between the site local geology and hydrology does not allow the hazards and risks to be identified and evaluated. The Commission is of the view that the evidence presented does not robustly support the lack of potential effects on Shrule Turlough SAC (Site Code 000525) and Lough Corrib SAC (Site Code 000297) due to the lack of an overarching, three dimensional and transient, consistent conceptual hydrogeological model that links the local and site level geology and hydrology. Therefore, it cannot be assumed beyond reasonable scientific doubt that the Proposed Project, individually or in-combination with other plans or projects, will not adversely affect the integrity of any European Site and would not give rise to a risk of deterioration in the ecological and /or chemical status of a water body contrary to the requirements of Article 4 of the EU Water Framework Directive (2000/60), as transposed into Irish Law by the European Communities (Water Policy) Regulations 2003 (SI No 722 of 2003), as amended and would be inconsistent with the objectives of the

Water Action Plan 2024 and the proper planning and sustainable development of the area.

The Commission is satisfied that a refusal for the reasons as indicated above is consistent with the CAP 2025 and the 'national climate objective' to pursue and achieve the transition to a climate-resilient, biodiversity-rich, environmentally sustainable, and climate neutral economy by the end of the year 2050. While the proposed development would contribute to the reduction in greenhouse gas emissions, the potential for significant loss of biodiversity given the impact on Cloonbar Bog and the uncertainty regarding pollution risk and potential for adverse implications arising for Shrule Turlough SAC and Lough Corrib SAC and the precedent it would set, would not pursue, or contribute to the achievement of, a biodiversity-rich economy, as required under the national climate objective. The Commission is satisfied that a refusal of permission as indicated above is consistent with its obligations under section 15(1)(a) and (d) of the Climate Action and Low Carbon Development Act 2015, as amended

I confirm that this report represents my professional planning assessment, judgement and opinion on the matter assigned to me and that no person has influenced or sought to influence, directly or indirectly, the exercise of my professional judgement in an improper or inappropriate way.

Bríd Maxwell

Planning Inspector

14th August 2026

Appendix 1

Appendix 1.1 Appropriate Assessment Screening

Screening for Appropriate Assessment Test for likely significant effects	
Step 1: Description of the project and local site characteristics	
Brief description of project	Shancloon Windfarm. 11 turbine windfarm with a ground to blade tip height range of 178m to 180m with 110m meteorological mast and 1 no 110kV substation along with ancillary civil, drainage and electrical infrastructure and all associated works. See Section 3 of the Inspector's report for detailed description of the project.
Brief description of development site characteristics and potential impact mechanisms	The site is located in county Galway, proximate to the Mayo border, approximately 2km south of Kilconly village, 8.6km northwest of Tuam and 4km northeast of Shrule Village, Co Mayo. A detailed description of the proposed development is provided in Section 3 of the Inspector's report. The proposed development encompasses an area of 154 hectares (ha) with the infrastructure footprint spanning 19.6ha. The site comprises a rural landscape characterized by agricultural lands with areas of peatland, forestry and watercourses. Site character is described as gently undulating drumlin topography with ground elevations ranging from approximately 28m to 40m above Ordnance Datum. (AOD) The Turbine Delivery Route (TDR) will be from Galway Port. There are no geographically overlapping designated sites with any actions or aspects of the project. None of the terrestrial habitats to be lost, damaged or degraded as a result of the proposed development are integral to the maintenance or functions of any other habitats within any European sites and do not form continuity with such habitats. The Proposed Development is located within the Corrib-Togher-BeaghMore, CorribTogher-Bellanagarraun and Corrib-Black-CloghansBeg waterbody catchments. The drains and watercourses within these catchments flow to the BLACK (SHRULE)_020 river which is part of the Lough Corrib SAC designated for bog habitats and associated woodland, grasslands, lake habitats, springs and fens, limestone pavement, old oak woodland, freshwater species including salmon, otter and lamprey, freshwater pearl mussel and crayfish, lesser horseshoe bat and flora species: Slender Naiad and Slender Green Feather-moss. The TDR crosses the Clare (Galway)_060 River and its tributaries (part of Lough Corrib SAC). Shrule Turlough SAC – has no surface hydrological connection and is considered by the applicant to be beyond the source pathway receptor SPR for hydrogeological interaction. As set out below connectivity between the site and development and local groundwater linked receptors including Shrule Turlough SAC cannot be ruled out in the absence of more detailed geological interpretation of the site. The Lough Corrib SPA (Site code 004042) is located approximately 9.1km from the site. Lough Carra SPA (18.5km) and Lough Mask SPA 20.3km. Potential for functional connectivity between the development and SCI species. TDR includes minor accommodation works near Galway Harbour proximate to Inner Galway Bay SPA (004031) However given the location within an urban context and minor nature of works there is no landscape /ecological connectivity to the SPA.
Screening report	Yes, Fehily Timoney, dated August 2025

Natura Impact Statement	Yes, Fehily Timoney, dated August 2025
Relevant submissions	No submission was received from the Development Application Unit, Department of Housing Local Government and Heritage however involvement in pre application scoping is noted. Inland Fisheries Ireland IFI submission raised concern regarding ecological connectivity, supporting habitat and potential effect pathway, hydrological and water quality aspects. Issues raised in third party submissions relate to: Inadequate ornithological assessment, inappropriate methodology and survey effort in a turlough dense landscape, underestimation of bird activity. Absence of nocturnal monitoring and acoustic monitoring. Inappropriate placement of turbines on raised bog, inadequate botanical survey. Mischaracterisation of karst landscape. Submissions are summarised at Sections 4 and 5 of Inspector's report.

Step 2. Identification of relevant European sites using the Source-pathway-receptor model

European Site (code)	**Qualifying interests[1] Link to conservation objectives (NPWS, date)**	**Distance from proposed development (km)**	**Ecological connections[2]**	**Consider further in screening[3] Y/N**
Lough Corrib SAC Site Code (000297)	https://www.npws.ie/protected-sites/sac/000297	c10.4km	Yes -Hydrological connectivity Within likely zone of influence.	Yes
Lough Masc SPA (Site Code 004062)	https://www.npws.ie/protected-sites/spa/004062	c20.3km	Yes Functional Use by mobile species.	Yes
Lough Corrib SPA (Site Code 004042)	https://www.npws.ie/protected-sites/spa/004042	c11.2km	Yes – Functional Use by mobile species	Yes
Lough Carra SPA (Site Code 004051)	https://www.npws.ie/protected-sites/spa/004051	c18.5km	No	No
Shrule Turlough SAC (Site Code 000525)	https://www.npws.ie/protected-sites/sac/000525	C3.2km	No surface water pathways. There may be groundwater pathways	Yes
Cloughmoyne SAC (Site Code 000479)	https://www.npws.ie/protected-sites/sac/000479	C7.5km	No	No
Ardkill Turlough SAC (Site Code 000461)	https://www.npws.ie/protected-sites/sac/000461	C8.5km	No	No
Skealoghan Turlough SAC (Site Code 00541)	https://www.npws.ie/protected-sites/sac/000541	C10km	No	No
Mocorha Lough SAC (Site Code 001536)	https://www.npws.ie/protected-sites/sac/001536	12.5km	No	No
Clyard Kettle holes SAC (Site Code 000480)	https://www.npws.ie/protected-sites/sac/000480	C9km	No	No
Greaghans Turlough SAC	https://www.npws.ie/protected-sites/sac/000503	C8km	No	No

(Site Code 000503)				
Kilglassan /Caheravoostia Turlough Complex SAC Site Code 000504)	https://www.npws.ie/protected-sites/sac/000504	C9.5km	No	No
Cloughmoyne SAC (Site Code 000479)	https://www.npws.ie/protected-sites/sac/000479	C7.5km	No	No

Step 3.
AA Screening matrix

Site name **Qualifying interests**	**Possibility of significant effects (alone) in view of the conservation objectives of the site***	
	Impacts	**Effects**
Site 1: Lough Corrib SAC QI list Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130] Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140] Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210] Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410] Active raised bogs [7110] Degraded raised bogs still capable of natural regeneration [7120] Depressions on peat substrates of the Rhynchosporion [7150] Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210] Petrifying springs with tufa formation (Cratoneurion) [7220] Alkaline fens [7230]	Indirect: Negative impacts (temporary) on surface water/water quality due to construction related emissions including increased sedimentation and construction related pollution to Black (Shrule) River and Togher River. Invasive species Water Fern and Canadian Pondweed occur in the Togher river. - Instream works have the potential to contribute to the spread of these invasives to downstream areas. Crossings of Black Shrule and Togher River and bankside works give rise to potential for accidental pollution Alterations of peat groundwater flow through increased drainage, compaction and or damming.	Changes to supporting habitat quality / function Spread of invasive species. Habitat alteration Reduction in habitat quality. Reduction in aquatic habitat quality Undermine conservation objectives related to water quality Loss of submerged vegetation and alterations in water quality can destablise natural structure and function necessary to support aquatic habitats and species of the SAC. Hazard to features dependent on peat groundwater.

Limestone pavements [8240] Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] Bog woodland [91D0] Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] Austropotamobius pallipes (White-clawed Crayfish) [1092] Petromyzon marinus (Sea Lamprey) [1095] Lampetra planeri (Brook Lamprey) [1096] Salmo salar (Salmon) [1106] Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303] Lutra lutra (Otter) [1355] Najas flexilis (Slender Naiad) [1833] Hamatocaulis vernicosus (Slender Green Feather-moss) [6216]	Potential interruption to occur commuting feeding along riverbanks at location of culverts and bridge crossing and sheet piling works. Water quality	Habitat fragmentation. Disturbance.
	Likelihood of significant effects from proposed development (alone): Yes	
	Possibility of significant effects (alone) in view of the conservation objectives of the site*	
	Impacts	**Effects**
Site 2: Lough Masc SPA QI list Tufted Duck (Aythya fuligula) [A061] Black-headed Gull (Chroicocephalus ridibundus) [A179] Common Gull (Larus canus) [A182] Lesser Black-backed Gull (Larus fuscus) [A183] Common Tern (Sterna hirundo) [A193] Greenland White-fronted Goose (Anser albifrons flavirostris) [A395] Wetland and Waterbirds [A999]	Construction Small Direct loss of habitat which supports SCI species loss of scrub raised bog and woodland Potential for disturbance and/or displacement during construction and decommissioning Operational Collision with turbine blades	Disturbance and/or displacement. Short term impact. Barrier to bird migratory flyways or local flight paths. Bird mortality.
	Likelihood of significant effects from proposed development (alone): Yes	
	Possibility of significant effects (alone) in view of the conservation objectives of the site*	
	Impacts	**Effects**
Site 3: Lough Corrib SPA Pochard (Aythya ferina) [A059] Tufted Duck (Aythya fuligula) [A061]	Construction Potential to introduce pollutants to Togher and Black (Shrule) Rivers which ultimately flow into Lough Corrib SPA.	Disturbance and/or displacement. Degradation of wetland habitats. Pollution – adverse impacts on the aquatic influenced QI habitats and species within the SPA via

Common Scoter (Melanitta nigra) [A065] Hen Harrier (Circus cyaneus) [A082] Coot (Fulica atra) [A125] Golden Plover (Pluvialis apricaria) [A140] Black-headed Gull (Chroicocephalus ridibundus) [A179] Common Gull (Larus canus) [A182] Common Tern (Sterna hirundo) [A193] Arctic Tern (Sterna paradisaea) [A194] Greenland White-fronted Goose (Anser albifrons flavirostris) [A395] Shoveler (Spatula clypeata) [A857] Gadwall (Mareca strepera) [A889] Wetland and Waterbirds [A999]	Small Direct loss of habitat which supports SCI species loss of scrub raised bog and woodland Potential for disturbance and/or displacement during construction and decommissioning Operational Collision with turbine blades	deterioration of water quality in the absence of mitigation. Barrier to bird migratory flyways or local flight paths. Bird mortality.
	Likelihood of significant effects from proposed development (alone): Yes	
	Possibility of significant effects (alone) in view of the conservation objectives of the site*	
Site 4: Shrule Turlough SAC Turloughs [3180]	Construction: Negative Impact on groundwater due to construction, mobilization of suspended solids, release of pollutants. Movement and stockpiling of peat.	Reduction in habitat quality.
	Likelihood of significant effects from proposed development (alone): Yes	
	Possibility of significant effects (alone) in view of the conservation objectives of the site*	

Screening Determination

Finding of likely significant effects.

In accordance with Section 177U of the Planning and Development Act 2000 (as amended) and on the basis of the information considered in this AA screening, I conclude that it is not possible to exclude that the proposed development alone or in combination with other plans and projects will give rise to significant effects on Lough Corrib SAC [000297], Lough Masc SPA [004062}, Lough Corrib SPA [004042] and Shrule Turlough SAC [000525] in view of the sites conservation objectives. Appropriate Assessment is required.

This determination is based on:

- Objective information provided in the Appropriate Assessment Screening Report, the EIAR and various documentation supporting the application
- The zone of influence of potential impacts
- Distance from European sites
- Qualifying interests and conservation objectives of the relevant European sites

Appendix 1.2. Appropriate Assessment

Stage 2. Appropriate Assessment
The requirements of Article 6(3) as related to appropriate assessment of a project under part XAB, sections 177V of the Planning and Development Act 2000 (as amended) are considered fully in this section.
Taking account of the preceding screening determination, the following is an appropriate assessment of the implications of the proposed development of the Shancloon Windfarm in view of the relevant conservation objectives of Lough Corrib SAC, Lough Corrib SPA and Lough Masc SPA and Shrule Turlough SAC based on scientific information provided by the applicant and considering expert opinion set out in observations on nature conservation and reports of specialist consultants to An Coimisiún Pleanála. The information relied upon includes the following: • Natura Impact Statement prepared by Fehily Timoney August 2025. • The Shancloon Wind Farm Response to Third Party Submissions Document. Fehily Timoney. February 2026. • The Environmental Impact Assessment Report (EIAR) for the proposed Shancloon wind Farm. Fehily Timoney. August 2025 • Reports of Specialist Consultants: - Specialist Consultant Report to The Assistant Director of Planning Prepared for An Coimisiún Pleanála (ACP) Case Ref. No.: ACP-323699**,** BW Consulting Engineer Ltd, dated 10 June 2026 - 323699 Shancloon Windfarm, Co Galway, Hydrogeological Review, JD Solutions dated June 2026. I am not satisfied that the information provided is adequate to allow for Appropriate Assessment. I note the identified lacunae with respect to a three dimensional and transient consistent conceptual hydrogeological model that links the local and site level geology and hydrology. I am not satisfied that all aspects of the project which could result in significant effects are considered and assessed in the NIS and on this basis mitigation measures designed to avoid or reduce any adverse effects on site integrity cannot be assessed for effectiveness.

Submissions/observations

No submissions were received from Development Applications Unit however the NPWS was involved in pre application consultations /scoping discussions. Submission from Inland Fisheries Ireland raised concern regarding ecological connectivity, supporting habitat, and potential effect pathway, hydrological and water quality aspects and stressed the significance of the Corrib catchment system in terms of water quality and ecological status.

Galway County Council submission referred to the requirement for An Coimisiún Pleanála as competent authority to satisfy itself that the proposed development can be authorised without adverse effects on the integrity of the European Sites network.

Third party observer submissions raise concerns regarding inadequate ornithological assessment, inappropriate methodology and survey effort given location in a turlough dense landscape, underestimation of bird activity, absence of nocturnal monitoring and acoustic monitoring, inappropriate placement on raised bog, inadequate botanical survey, misinterpretation of karst landscape and inadequate mitigation.

European Sites:			
NAME OF SAC/ SPA (SITE CODE): **Lough Corrib SAC (000297)** Key issues that could give rise to adverse effects: Water quality degradation (construction, decommissioning and operation) Disturbance of mobile species (construction, decommissioning and operation) Spread of invasive species (construction and decommissioning) See Table 4-1 NIS			
Qualifying Interest features likely to be affected	Conservation objectives Targets & attributes	Potential adverse effects	Mitigation measures
Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110]	Restore favourable conservation condition- Stable or increasing habitat area subject to natural processes. No decline in habitat distribution. Maintain appropriate hydrological regime water quality.	No potential for direct effect. Deterioration in water quality in the event of pollution runoff during works in and adjacent to the Black (Shrule) and Togher Rivers during construction has potential to flow downstream and enter Lough Corrib. However given small scale of instream works, distance from the lake and relative available dilution in the lake no adverse effects would be experienced. Lack of an evidence based conceptual hydrogeological model means that connectivity between the site and local groundwater linked receptors cannot be established.	

Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea [3130]	Restore favourable conservation condition Stable or increasing habitat area subject to natural processes. No decline in habitat distribution. Maintain appropriate hydrological regime water quality.	No potential for direct effect. Deterioration in water quality in the event of pollution runoff during works in and adjacent to the Black (Shrule) and Togher Rivers during construction has potential to flow downstream and enter Lough Corrib. However given small scale of instream works, distance from the lake and relative available dilution in the lake no adverse effects would be experienced. Lack of an evidence based conceptual hydrogeological model means that connectivity between the site and local groundwater linked receptors cannot be established.	
Hard oligo-mesotrophic waters with benthic vegetation of Chara spp. [3140]	Restore favourable conservation condition**.** Stable or increasing habitat area subject to natural processes. No decline in habitat distribution. Maintain appropriate hydrological regime water quality.	No potential for direct effect. Deterioration in water quality in the event of pollution runoff during works in and adjacent to the Black (Shrule) and Togher Rivers during construction has potential to flow downstream and enter Lough Corrib. However given small scale of instream works, distance from the lake and relative available dilution in the lake no adverse effects would be experienced. Lack of an evidence based conceptual hydrogeological model means that connectivity between the site and local groundwater linked receptors cannot be established.	
Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260]	Maintain favourable conservation condition Stable or increasing habitat area subject to natural processes. No decline in habitat distribution. Maintain appropriate hydrological regime water quality.	Habitat not recorded during aquatic surveys**.** No potential for direct effect. Small section of riparian habitat will be removed as part of the proposed development, however these are not at location in co-incidence of floating river vegetation habitat. The target to 'maintain the area and condition of fringing habitats necessary to support the habitat and its sub-types' will not be affected. A deterioration in water quality in the event of pollution runoff during works in and adjacent to the Black (Shrule) and Togher Rivers during construction has potential to flow downstream. This could have an effect on the attributes of 'Substratum composition: particle size range' and 'water quality'. The conservation objective to maintain the favourable conservation condition of water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho Batrachion vegetation in Lough Corrib SAC might be adversely affected.	NIS Design Mitigation Avoidance of habitats of high ecological value Site layout and drainage infrastructure maintenance of existing hydrological regime. Setback from hydrological features Swales and drainage channels settlement ponds. Watercourse crossing design. Best practice construction methods. CEMP SWMP Supervision by ECOW

Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) (* important orchid sites) [6210]	To maintain favourable conservation condition	No potential S-P-R connectivity relative to the hydrological and hydrogeological regime, geology and location of the proposed development. There is no potential for adverse effects on the conservation objective of these habitats and species
Molinia meadows on calcareous, peaty or clayey-silt-laden soils (Molinion caeruleae) [6410]	To maintain favourable conservation condition	No potential S-P-R connectivity relative to the hydrological and hydrogeological regime, geology and location of the proposed development. There is no potential for adverse effects on the conservation objective of these habitats and species
Active raised bogs [7110]	To restore favourable conservation condition	No potential S-P-R connectivity relative to the hydrological and hydrogeological regime, geology and location of the proposed development. There is no potential for adverse effects on the conservation objective of these habitats and species
Degraded raised bogs still capable of natural regeneration [7120]	The long-term aim for Degraded raised bogs still capable of natural regeneration is that its peat-forming capability is re-established; conservation objective for this habitat is inherently linked to that of Active raised bogs (7110) and a separate conservation objective has not been set in Lough Corrib SAC	No potential S-P-R connectivity relative to the hydrological and hydrogeological regime, geology and location of the proposed development. No potential for adverse effects on the conservation objective of these habitats and species
Depressions on peat substrates of the Rhynchosporion [7150]	Depressions on peat substrates of the Rhynchosporion is an integral part of good quality Active raised bogs (7110) and thus a separate conservation objective has not been set for the habitat in Lough Corrib SAC	No potential S-P-R connectivity relative to the hydrological and hydrogeological regime, geology and location of the proposed development. No potential for adverse effects on the conservation objective of these habitats and species
Calcareous fens with Cladium mariscus and species of the Caricion davallianae [7210]	To maintain the favourable conservation condition	No potential S-P-R connectivity relative to the hydrological and hydrogeological regime, geology and location of the proposed development. There is no potential for adverse effects on the conservation objective of these habitats and species

Petrifying springs with tufa formation (Cratoneurion) [7220]	To maintain the favourable conservation condition	No potential S-P-R connectivity relative to the hydrological and hydrogeological regime, geology and location of the proposed development. There is no potential for adverse effects on the conservation objective of these habitats and species	
Alkaline fens [7230]	To maintain the favourable conservation condition	No potential for adverse effects on the conservation objective of these habitats and species	
Limestone pavements [8240]	To maintain the favourable conservation condition of Limestone pavements	No potential S-P-R connectivity has been determined for these habitats / species relative to the hydrological and hydrogeological regime, geology and location of the proposed development. There is no potential for adverse effects on the conservation objective of these habitats and species.	
Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0]	To maintain the favourable conservation condition	No potential S-P-R connectivity has been determined for these habitats / species relative to the hydrological and hydrogeological regime, geology and location of the proposed development. There is no potential for adverse effects on the conservation objective of these habitats and species.	
Bog woodland [91D0]	To maintain the favourable conservation condition of bog woodland in Lough Corrib	No potential S-P-R connectivity has been determined for these habitats / species relative to the hydrological and hydrogeological regime, geology and location of the proposed development. There is no potential for adverse effects on the conservation objective of these habitats and species.	
Margaritifera margaritifera (Freshwater Pearl Mussel) [1029]	To restore the favourable conservation condition of Freshwater Pearl Mussel in Lough Corrib SAC	Freshwater Pearl Mussel absent from Black (Shrule) Togher River catchment**.** No potential for likely significant effect on the population of freshwater pearl mussel for which this SAC has been designated	
Austropotamobius pallipes (White-clawed Crayfish) [1092]	To maintain the favourable conservation condition of White-clawed Crayfish in Lough Corrib SAC,	Suitable habitat for the QI species is present along the Black (Shrule) and Togher Rivers, including at the locations of some of the proposed watercourse crossings**.** Crayfish were not recorded within these rivers during aquatic surveys. Given the suitability of habitat in the rivers and downstream in the Corrib river, it is assumed that crayfish are present in these watercourses. It is noted however that within the Lough Corrib catchment, there have been confirmed detections of crayfish plague (Aphanomyces astaci) associated with the River Clare. A deterioration in water quality in the event of pollution runoff during works in and adjacent to the Black (Shrule) and Togher Rivers during construction has potential to	NIS Design Mitigation Avoidance of habitats of high ecological value Site layout and drainage infrastructure maintenance of existing hydrological regime. Setback from hydrological features Swales and drainage channels settlement ponds**.**

		result in adverse effects on the conservation objection to maintain the favourable conservation condition of White-clawed Crayfish in Lough Corrib SAC as in-stream works can result in the spread and increase / spread of crayfish plague, which is contrary to the target for 'no instances of disease' a reduction in water quality is likely to be only a short-term effect and would be unlikely to reduce quality to below Q3-4 at sites sampled by the EPA, however it may impact the distribution of crayfish in the catchment	Watercourse crossing design. Best practice construction methods. CEMP SWMP Supervision by ECOW
Petromyzon marinus (Sea Lamprey) [1095]	To restore the favourable conservation condition of Sea Lamprey in Lough Corrib SAC	No pathway for effect, No potential for adverse effect.	
Lampetra planeri (Brook Lamprey) [1096]	To maintain the favourable conservation condition of Brook Lamprey in Lough Corrib SAC	Suitable juvenile habitat for the QI species is present along the Black (Shrule) and Togher Rivers. Spawning habitat is known to be present downstream. Deterioration in water quality in the event of pollution runoff during works in and adjacent to the Black (Shrule) and Togher Rivers during construction has potential to result in adverse effects on the conservation target for "no decline in extent and distribution of spawning beds". Creation of dry works area during instream works will act as a temporary impediment to lamprey movement up or downstream will temporarily impede access however will not significantly impede movement such that an adverse effect is experienced. Electrofishing in advance thereby ensuring no effect on adult lamprey population. Electrofishing can be ineffective for recovery of juvenile lamprey from riverbed sediments, as such there is potential for reduction in juvenile population locally from within the works areas. Could impact the target for "at least three age/size groups of brook/river lamprey present" locally to the works.. Potential for adverse effect on the Conservation Objective to maintain the favourable conservation condition of Brook Lamprey in the Lough Corrib SAC.	Culverts in accordance with IFI requirements buried 500mm below the bed of the watercourse. This will ensure no loss of juvenile lamprey habitat and allow sufficient sediment depth above the anoxic zone (typically 1 to 5cm below sediment-water interface in fine sediment) Supervision by ECoW. Watercourse crossing design. Best practice construction methods. CEMP SWMP Supervision by ECOW
Salmo salar (Salmon) [1106]	To maintain the favourable conservation condition of Atlantic Salmon in Lough Corrib SAC,	Dry works area during instream works. Potential temporary impact to impede movement. Deterioration in water quality has potential to result in adverse effect.	

Rhinolophus hipposideros (Lesser Horseshoe Bat) [1303]	To restore the favourable conservation condition of Lesser Horseshoe Bat in Lough Corrib SAC	Site not part of lesser horseshoe bat core sustenance zone. No potential for adverse effect.	
Lutra lutra (Otter) [1355]	To maintain the favourable conservation condition of Otter in Lough Corrib SAC	Construction and decommissioning potential to act as barrier to connectivity. Disturbance -displacement	Pre construction mammal survey to reconfirm existing environment If otter holt encountered NPWS informed and NRA guidance followed. Phasing of works in and adjacent to watercourses. Supervision by ECOW
Najas flexilis (Slender Naiad) [1833]	To restore the favourable conservation condition of Slender Naiad in Lough Corrib SAC,	No potential for direct effect on habitat extent of the lake which supports this species. Hydrological regime will not be affected. Given small scale of in stream works and distance from the lake and relative available dilution of the lake no potential for adverse effect.	
Hamatocaulis vernicosus (Slender Green Feather-moss) [6216]	To maintain the favourable conservation condition of Slender Green Feather-moss (Shining Sickle-moss) in Lough Corrib SAC	No potential source pathway connector connectivitiy No potential for adverse effect.	

The above table is based on the documentation and information provided on the file**.** The submitted NIS has identified the relevant attributes and targets of the Qualifying Interests. In particular, I note those relating to Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260], Austropotamobius pallipes (White Clawed Crayfish) [1092], Lampretra planeri (brook lamprey) [1096], Salmo salar (Salmon)[1106]. Lutra lutra (Otter)[1355].

Assessment of issues that could give rise to adverse effects view of conservation objectives

(i) Water quality degradation

Downstream surface water connectivity between the proposed windfarm site and Lough Corrib SAC via the Black (Shrule) and Togher Rivers. The proposed development has the potential to cause deterioration in surface water quality during construction operation and decommissioning phases due to the release of pollutants including suspended solids and hydrocarlougbons potentially affecting the following QIs /SCIs in the form of deterioration of water and habitat quality in the absence of mitigation: Water courses of Plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260], Austropotamobius pallipes (White Clawed Crayfish) [1092], Lampretra planeri (brook lamprey) [1096], Salmo salar (Salmon)[1106]. Lutra lutra (Otter)[1355]

Groundwater connectivity **-** Given the absence of an evidence based conceptual hydrogeological model that links the local and site level geology and hydrology. The hydrology of the peat has also not been considered.

Mitigation measures and conditions

Avoidance by design. Footprint of the development has been specifically designed to avoid hydrological features with minimum 50m setback from mapped surface waters and minimum 10m setback from non-mapped streams and drainage features with exception of HDD crossing and watercourse crossings.

Best practice construction methods will be used to avoid potential for effects on water quality. These measures will prevent sediment and pollution runoff to the aquatic environment thereby blocking pathway for effects on downstream European sites. Ecological Clerk of Works (ECoW) will monitor implementation of measures.

Peat and spoil management plan. Surface water management plan (SWMP) and Construction Environmental Management Plan (CEMP).

Water Quality Monitoring. Biological water quality assessment, annual river hydromorphology assessment technique assessments, daily visual monitoring of surface water network.

(ii) Loss /damage to aquatic habitat through invasive species.

Mitigation by way of Biosecurity protocols and measures to prevent spread of invasive aquatic species to downstream European sites.

(iii) Direct mortality of aquatic species.

Mitigation measures and conditions.

The installation of flume on the Togher River and construction of culvert on arterial drainage channel and HDD crossing works will be carried on outside of the salmonid and lamprey spawning seasons. Fluming of Togher river to accommodate new bridge crossing, piling work on Black (Shrule) River and new culvert on arterial drainage channel will require mitigation for lamprey. Electrofishing for lamprey ammocoetes. Translocation to suitable nursery habitats upstream of works to ensure the juvenile lamprey are effectively removed from works areas in advance of the construction activities so as to ensure the protection of the populations in the catchment.

Protection of salmonid spawning habitat. The habitat on arterial drainage channel CH4/13/5 where the existing crossing is to be replaced by a larger culvert hosts suitable salmonid spawning gravels. Following dewatering, the spawning gravels will be removed from within the works area for later reinstatement, under the instruction of the ECoW. These will be stored locally and following culvert installation (which will be in accordance with IFI guidelines and will be embedded 500mm below existing bed level), the gravels will be reinstated.

(iv) Disturbance to Otter.

Pre construction mammal survey by ECoW. If otter holt is encountered NPWS to be informed and NRA Guidelines for Treatment of Otters Prior to construction of National Road Schemes will be followed.

In-combination effects

Plans and projects that could act in combination with the proposed development are detailed and assessed. (Appendix 2.4 Volume III EIAR).Focus within the NIS is on developments within the same catchment that have the potential to have their construction stage overlap. No proposed or consented windfarms share the sub catchment or sub basin. Potential cumulative projects within the shared waterbody relate to small scale single dwellings, extensions or agricultural developments. Based on the small scale and distance to watercourses, there is no potential for them to act cumulatively with the proposed development in terms of water quality/hydrology. Consideration is given to OPW maintenance works as part of the Corrib Headford Arterial Drainage Scheme on a 4-6 year rolling basis. Cumulative effects are not anticipated where drainage works are carried out in accordance with best practice measures and the relevant environmental and ecological assessments. Cumulative effects with forestry and turbary activities are not predicted.

Findings and conclusions :

The applicant determined that following the implementation of mitigation measures the construction and operation of the proposed development alone, or in combination with other plans and projects, will not adversely affect the integrity of this European site.

However based on the information provided, and in the absence of a detailed conceptual hydrogeological model I am not satisfied that adverse effects arising from aspects of the proposed development can be excluded for the European sites considered in the Appropriate Assessment and it has not been evidenced that the mitigation measures proposed to prevent adverse effects will be effective.

Reasonable scientific doubt

I am not satisfied that no reasonable scientific doubt remains as to the absence of adverse effects.

Site Integrity

Based on the detail provided it has not been demonstrated that the proposed development will not affect the attainment of the Conservation objectives of the Lough Corrib SAC [000297]. Adverse effects on site integrity cannot be excluded.

NAME OF SAC/ SPA (SITE CODE): Lough Corrib SPA [004042]

Summary of Key issues that could give rise to adverse effects :

Water quality degradation (construction and operation)

Collision risk

See Table 4.1 NIS

Qualifying Interest features likely to be affected	**Conservation Objectives Targets and attributes**	**Potential adverse effects**	**Mitigation measures (summary)**
Pochard (Aythya farina) [A059]	To restore favourable conservation condition	No potential for adverse effect on conservation objective of QI species. Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
Gadwall (Anas Strepera) [A051]	To restore favourable conservation condition	No potential for adverse effect on conservation objective of QI species. Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
Shoverler Anas clypeata [A056]	To restore favourable conservation condition	Given the low level of activity within the footprint of the works, there is no potential for adverse effects on the conservation objective of this species. Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
Tufted Duck (Aythya fuligula)[A061]	To restore favourable conservation condition	No potential for adverse effect on conservation objective of this species Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
Hen Harrier (Circus cyaneus) [A082]	To restore favourable conservation condition	No potential for adverse effect. No displacement effect anticipated due to low level of activity and	Avoidance and design, construction phase controls

		unsuitability of the habitat present. No barrier effect anticipated. Potential degradation of water quality which might support conservation interests. Potential degradation of water quality which might support conservation interests.	and post construction monitoring.
Coot (Fulica atra) [A125]	To restore favourable conservation condition	No potential for adverse effect on conservation objective of this species Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
Golden Plover (Pluvialis apricaria) [A140]	To maintain favourable conservation condition	48 observations during VP watches. Flock size ranged from one to 180 birds with an average flock size of 27 birds. Flight activity was recorded during the non breeding seasons with higher activity noted over winter 2023-24 compared to winter 2020-21 and winter 2020-19. Construction of road and turning head within Cloonbar East Wetland and T5, 6, 8 and 9 overlap areas of high GP wintering activity. Minor loss of habitat and disturbance during construction. Collision risk during operational phase. Based on 98% avoidance rate magnitude of risk effect is negligible max 8.95 collisions per year 0.429% of the Lough Corrib SPA Population. Based on 99.8% avoidance rate, negligible 2.24 collisions per yr, 0.107% of Lough Corrib SPA population. There is potential for wintering golden plover to be displaced from the lands within the site boundary during the	Avoidance and design, construction phase controls and post construction monitoring.

		operational phase of the wind farm. There is potential for barrier effect. As such, there is potential for adverse effects on the conservation objective of this species through displacement Potential degradation of water quality which might support conservation interests.	
Black-headed Gull (Chroicocephalus ridibundus) [A179]	To restore favourable conservation condition	No potential for adverse effects on the conservation objective of this species. Displacement not envisaged. Barrier effect not anticipated. Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
Common Gull (Larus canus) [A182]	To restore favourable conservation condition	No potential for adverse effects on the conservation objective of this species. Displacement not envisaged. Barrier effect not anticipated. Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
Common Tern (Sterna hirundo) [A193]	To restore favourable conservation condition	No potential for adverse effects on the conservation objective of this species. Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
Arctic Tern (Sterna paradisaea) [A194]	To restore favourable conservation condition	No potential for adverse effects on the conservation objective of this species. Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
Greenland White-fronted Goose (Anser albifrons flavirostris) [A395	To restore favourable conservation condition	Lack of evidence to suggest species regularly wintering within the site, No potential for adverse effects on the conservation objective of	Avoidance and design, construction phase controls and post construction monitoring.

		this species. Potential degradation of water quality which might support conservation interests.	
Shoveler (Anas clypeata) [A056]	To restore favourable conservation condition	Given the low level of activity within the footprint of the works, there is no potential for adverse effects on the conservation objective of this species. Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
Wetland and Waterbirds [A999]	To maintain favourable conservation condition of wetlands	Waterbird flight activity (Mallard, Cormorant, Lesser Black backed gull and heron) predominantly observed in association with Black (Shrule) and Togher Rivers. Waterbird species found roosting and foraging in surrounding hinterland (Shrule Turlough (c4.7kmN) and Hackett Lough (c3kmS). Waders (e.g., snipe and curlew) mainly observed in association with raised bog habitat, cutover and wetland. Potential for adverse effect through displacement. Potential degradation of water quality which might support conservation interests.	Avoidance and design, construction phase controls and post construction monitoring.
The above table is based on the documentation and information provided on the file and I am satisfied that the submitted NIS has identified the relevant attributes and targets of the Qualifying Interests. In particular, I note those relating to Golden Plover (lugialis apricaria)[A140} and wetland and waterbirds [A999].			
Assessment of issues that could give rise to adverse effects view of conservation objectives **(i) Water quality degradation** Downstream surface water connectivity between the proposed windfarm site and Lough Corrib SPA via the Black (Shrule) and Togher Rivers during construction, operation and decommissioning may result in pollution to surface waters. The proposed development has the potential to cause deterioration in surface water quality during construction operation and decommissioning phases due to the release of pollutants			

including suspended solids and hydrocarbons potentially impacting the supporting habitats and resources for the SCI species and in the absence of mitigation.

Mitigation measures and conditions

Mitigation by avoidance in the design phase sought to avoid/minimise potential for adverse effect. Site layout and drainage infrastructure designed to be sympathetic to existing topography and maintain existing hydrological regime and avoid habitats of high ecological value. Setback from hydrological features ensuring minimum setback of 50m between mapped surface waters and windfarm infrastructure and minimum 10m setback from non mapped streams and drainage features (exception HDD locations and watercourse crossings). The use of swales drainage channels discharging runoff to settlement ponds. Best practice construction methods will prevent sediment and pollution runoff to the aquatic environment thereby blocking a pathway for effects on the downstream European sites

(ii) Displacement, barrier effect. Collision risk

With regard to Golden Plover (Pluvialis apricaria) [A140] taking a 98% avoidance rate the magnitude of collision risk effect is assessed as negligible based on maximum number 8.95 predicted collisions per year, equal to 0.429% of the local Lough Corrib SPA population. Taking a 99.8% avoidance rate the magnitude of effect is assessed as negligible – based on maximum number of predicted 2.24 collisions per year equal to 0.107% of the local Lough Corrib SPA population. There is potential for adverse effect on the species through displacement.

With regard to wetlands and waterbirds [A999] waterbird flight activity there is potential for adverse effects on this species through disturbance and displacement.

Mitigation measures and conditions

The mitigation strategy relies on design avoidance, timing and supervision of construction activity, pre-construction survey checks and long term monitoring and reporting. Timing of works involving impulsive noise during the construction period . A 70dB(A) impulsive noise is likely to trigger adverse behavioural response in birds. The wetland habitats in the locality which support wetland birds are Cloonbar Bog, Commonage Area/Cloonbar East Wetland, Beagh More North Cutover, Cloonsheen-Shancloon bog and cutover complex and Cloonmweelaun-Cloonaglasha. Works which could cause an impulsive noise >70dB(A) at the boundary of these habitats will be avoided where feasible during the wintering season. ECoW on site to monitor bird activity and response to noise stimuli. Noise barriers where timing of works cannot be curtailed to outside the winter period. An Environmental / Ecological Clerk of Works (EnCoW / ECoW) will be appointed by the Developer with responsibility for monitoring at the Site during the construction phase of the Development. The Clerk of Works will have the authority to temporarily stop works to prevent negative effects on SCI/QI species of European sites or to ensure corrective action is taken to mitigate adverse effects.

Post construction monitoring will be implemented to confirm / monitor bird collision and displacement.

I note the specialist consultant report, by BW Consultant Engineer Ltd. (Appendix 1) which provides an independent appraisal of the information submitted within the EIAR, NIS and supporting documentation. The report also takes account of observations made by prescribed bodies and public submissions. The report considers that the ornithological information and survey programme was adequate in extent and content for a development of this type and scale and methodological framework was acceptable having regard to best practice guidance.

An evidential limitation is noted in relation to Greenland White-fronted Goose (Anser albifrons flavirostris) and the extent to which the wider landscape functionality has been demonstrated. It is noted that while the submitted material supports the view that the proposed development lands do not appear to be subject to regular use by this species, the evidential basis for that conclusion is less fully developed than for some other bird species. It is noted that it would have been strengthened by a more focused site and project specific appraisal of habitat suitability and functional use within the wider zone of influence. Furthermore no dedicated nocturnal dataset was provided. The consultant asserts that the issue is less one of the assessment structure which is broadly adequate than of the evidential basis supporting the conclusion reached. The applicant's position is that there is a lack of survey evidence demonstrating that the species regularly uses the lands within the ZoI and the collision risk zone, Based on documented flight time of less than 200 seconds within the collision risk zone the species was omitted from collision risk modelling and no significant direct indirect or cumulative effect was concluded.

It is noted that Lough Corrib SPA and Lough Masc SPA conservation objectives for Greenland White Fronted Goose extend beyond collision risk to winter spatial distribution, disturbance at wintering sites, barriers to connectivity and site use, forage spatial distribution extent, roost spatial distribution and the availability of supporting habitat in ecologically important sites outside of the SPA. The conservation objectives state that the general foraging range of wintering Greenland White fronted Goose is estimated at 5-8km (may vary depending on site and landscape features). Given the documented evidence of repeated historical usage of lands within the ZoI, a conclusion that the proposed development lands are not functionally linked to SPA Greenland White-fronted Goose populations may have been assisted by a site and project-specific assessment of the potential suitability and functional use of habitats within the ZoI. Based on the materials presented, the evidential basis does not appear to have been fully developed to the same extent as the collision and flight activity-based assessments. This approach is consistent with current best practice NatureScot survey guidance, which indicates that feeding distribution surveys should be carried out for such species in areas of suitable habitat where the survey area lies within core foraging distance of relevant SPAs, or major roosts, unless it can be established from existing data that the area is no longer suitable or utilised for such activities. While the Applicant may ultimately prove non-functionality or negligible functional importance, that position is not currently demonstrated to the same degree of certainty as several of the other direct and indirect effects conclusions.

The specialist consultant concludes that having regard to the submitted materials as a whole including the survey effort undertaken, the extended wider area wintering waterbird surveys, lack of recorded regular use of the development lands by Greenland White Fronted Goose and the low level of activity within the collision risk zone, the evidential uncertainty identified does not undermine the assessment presented of the implications of the proposed development for Lough Corrib SPA and Lough Mask SPA, in view of the conservation objectives of these European sites. The assessment is considered adequate subject to the qualification that aspects of the wider landscape functional interpretation are not expressly articulated as they might have been.

With regard to the complexities of bird turlough interaction it is considered that based on the information submitted there is no evidential basis to indicate intermittent use by SPA linked wetland species would give rise to adverse effects on site integrity and the wider landscape interpretation relied upon by the applicant is not considered insufficient for the purposes of Appropriate Assessment.

The consultant asserts that the proposed mitigation strategy including additional measures proposed in Section 2.6 lends additional support to the assessment presented and further reinforces the basis upon which the appropriate assessment can be carried out.

The specialist consultant does not consider that the evidential uncertainty identified rises to a level that would materially undermine the assessment presented of the implications of the proposed development for Lough Corrib SPA and Lough Masc SPA in view of the conservation objectives of these sites or prevent the competent authority from carrying out the appropriate assessment in respect of these sites

Conditions recommended by the specialist consultant with regard to post construction ornithological monitoring and adaptive management protocol would ensure a precautionary and enforceable response to post construction collision risk and disturbance affecting key target species.

In-combination effects

I am satisfied that in-combination effects has been assessed adequately in the NIS. The applicant has considered the potential for cumulative effects arising from other wind energy development within the wider area in accordance with NatureScot guidance (SNH 2012). This was based on a planning search extending to a 25km radius of the site which inc. Developments assessed included Laurvlavagh Windfarm. Clonberne windfarm, Cloonlusk windfarm and single turbine development at Cloonascaragh. No significant additive antagonistic or synergistic effects are anticipated. The applicant has demonstrated satisfactorily that no significant residual effects will remain post the application of mitigation measures and there is therefore no potential for in-combination effects.

Findings and conclusions

The applicant determined that following the implementation of mitigation measures the construction and operation of the proposed development alone, or in combination with other plans and projects, will not adversely affect the integrity of this European site.

Based on the information provided, I am satisfied that adverse effects arising from aspects of the proposed development can be excluded for the Lough Corrib SPA considered in the appropriate Assessment. In combination effects have been considered and it has been demonstrated that as no significant residual effects will remain post the application of mitigation measures there is no potential for in combination effects.

Reasonable scientific doubt

I am satisfied that no reasonable scientific doubt remains as to the absence of adverse effects.

Site Integrity

The proposed development will not affect the attainment of the Conservation objectives of the [Lough Corrib SPA Site Code 004042]. Adverse effects on site integrity can be excluded and no reasonable scientific doubt remains as to the absence of such effects.

NAME OF SAC/ SPA (SITE CODE): Lough Mask SPA (004062)

Summary of Key issues that could give rise to adverse effects (from screening stage):

Collision Risk, Displacement, Barrier effect

See Table 4.2 NIS

Qualifying Interest features likely to be affected	**Conservation Objectives** Targets and attributes.	**Potential adverse effects**	**Mitigation measures (summary)**
Tufted Duck Aythya fuligula {A061]	To restore favourable conservation condition	No potential for adverse effect	
Black-headed Gull Chroicocephalus ridibundus [A179]	To restore favourable conservation condition	No potential for adverse effect	
Common Gull Larus canus [A182]	To restore favourable conservation condition	No potential for adverse effect	
Lesser Black-backed Gull Larus fuscus [A183]	To maintain favourable conservation condition	Potential for construction related disturbance. / displacement Collision risk in the operational phase. Considering avoidance rate 99% magnitude of effect negligible based on 0.18 collisions per year annual predicted loss 0.013% of the local SPA population No significant effect anticipated.	Good practice measures. Measures to limit noise ECoW oversight. Post construction monitoring to verify whether predicted collision disturbance displacement and barrier effect remain within ranges anticipated.
Common Tern Sterna Hirundo [A193]	To maintain favourable conservation condition	No potential for adverse effect.	

Greenland White-fronted Goose Anser albifrons flavirostris [A395]	To restore favourable conservation condition	No potential for adverse effect.	
Wetlands and waterbirds [A999]	To maintain favourable conservation condition	Waterbird flight activity predominantly observed in association with the Black (Shrule) and Togher rivers, with flight direction often in a parallel direction to the watercourse. Roosting and foraging in the surrounding hinterland sites including at Shrule Turlough (~4.7km N) and Hackett Lough (~3km S). Waders such as Snipe and Curlew were mainly observed in association with raised bog habitat, cutover complex and wetland/cutover. Although these species were observed less frequently during the breeding season, there was evidence of breeding within the bogs. As such, there is potential for adverse effects on the conservation objective of this species through displacement.	Good practice measures. Measures to limit noise levels. ECoW oversight. Post construction monitoring to verify whether predicted collision disturbance displacement and barrier

The above table is based on the documentation and information provided on the file and I am satisfied that the submitted NIS has identified the relevant attributes and targets of the Qualifying Interests. In particular, I note those relating to Lesser Black-backed Gull Larus fuscus [A183] and Wetlands and waterbirds [A999].

Assessment of issues that could give rise to adverse effects view of conservation objectives

(ii) Disturbance Displacement, barrier effect. Collision risk

With regard to lesser black backed gull, the species were seen frequently flying commuting over the site. There is potential construction related disturbance risk. Potential risk of collision during the operational phase. Taking an average rate of 99% magnitude of the effect on the local population is assessed as negligible based on a maximum predicted 0.18 collisions per year annual predicted loss is 0.013% of the local Lough Masc SPA population. There is no potential for adverse effect on the conservation objective of this species.

With regard to wetlands and waterbirds [A999] waterbird flight activity there is potential for adverse effects on this species through disturbance and displacement.

Mitigation measures and conditions

The mitigation strategy relies on design avoidance, timing and supervision of construction activity, pre-construction survey checks and long term monitoring and reporting. Timing of works involving impulsive noise during the construction period . A 70dB(A) impulsive noise is likely to trigger adverse behavioural

response in birds. The wetland habitats in the locality which support wetland birds are Cloonbar Bog, Commonage Area/Cloonbar East Wetland, Beagh More North Cutover, Cloonsheen-Shancloon bog and cutover complex and Cloonmweelaun-Cloonaglasha. Works which could cause an impulsive noise >70dB(A) at the boundary of these habitats will be avoided where feasible during the wintering season. ECoW on site to monitor bird activity and response to noise stimuli. Noise barriers where timing of works cannot be curtailed to outside the winter period. An Environmental / Ecological Clerk of Works (EnCoW / ECoW) will be appointed by the Developer with responsibility for monitoring at the Site during the construction phase of the Development. The Clerk of Works will have the authority to temporarily stop works to prevent negative effects on SCI/QI species of European sites or to ensure corrective action is taken to mitigate adverse effects.

Post construction monitoring will be implemented to confirm / monitor bird collision and displacement.

I note the specialist consultant report, by BW Consultant Engineer Ltd. (Appendix 1) which provides an independent appraisal of the information submitted within the EIAR, NIS and supporting documentation. The report also takes account of observations made by prescribed bodies and public submissions. The report considers that the ornithological information and survey programme was adequate in extent and content for a development of this type and scale and methodological framework was acceptable having regard to best practice guidance.

An evidential limitation is noted in relation to Greenland White-fronted Goose (Anser albifrons flavirostris) and the extent to which the wider landscape functionality has been demonstrated. It is noted that while the submitted material supports the view that the proposed development lands do not appear to be subject to regular use by this species, the evidential basis for that conclusion is less fully developed than for some other bird species. It is noted that it would have been strengthened by a more focused site and project specific appraisal of habitat suitability and functional use within the wider zone of influence. Furthermore no dedicated nocturnal dataset was provided. The consultant asserts that the issue is less one of the assessment structure which is broadly adequate than of the evidential basis supporting the conclusion reached. The applicant's position is that there is a lack of survey evidence demonstrating that the species regularly uses the lands within the ZoI and the collision risk zone. Based on documented flight time of less than 200 seconds within the collision risk zone the species was omitted from collision risk modelling and no significant direct indirect or cumulative effect was concluded.

It is noted that Lough Corrib SPA and Lough Masc SPA conservation objectives for Greenland White Fronted Goose extend beyond collision risk to winter spatial distribution, disturbance at wintering sites, barriers to connectivity and site use, forage spatial distribution extent, roost spatial distribution and the availability of supporting habitat in ecologically important sites outside of the SPA. The conservation objectives state that the general foraging range of wintering Greenland White fronted Goose is estimated at 5-8km (may vary depending on site and landscape features). Given the documented evidence of repeated historical usage of lands within the ZoI, a conclusion that the proposed development lands are not functionally linked to SPA Greenland White-fronted Goose populations may have been assisted by a site and project-specific assessment of the potential suitability and functional use of habitats within the ZoI. Based on the materials presented, the evidential basis does not appear to have been fully developed to the same extent as the collision and flight activity-based assessments. This approach is consistent with current best practice NatureScot survey guidance, which indicates that feeding distribution surveys should be carried out for such species in areas of suitable habitat where the survey area lies within core foraging distance of relevant SPAs, or major roosts, unless it can be established from existing data that the area is no longer suitable or utilised for such activities. While the Applicant may ultimately prove non-functionality or negligible functional importance, that position is not currently demonstrated to the same degree of certainty as several of the other direct and indirect effects conclusions.

The specialist consultant concludes that having regard to the submitted materials as a whole including the survey effort undertaken, the extended wider area wintering waterbird surveys, lack of recorded regular use of the development lands by Greenland White Fronted Goose and the low level of activity within the collision risk zone, the evidential uncertainty identified does not undermine the assessment presented of the implications of the proposed development for Lough Corrib SPA and Lough Mask SPA, in view of the conservation objectives of these European sites. The assessment is considered adequate subject to the qualification that aspects of the wider landscape functional interpretation are not expressly articulated as they might have been.

With regard to the complexities of bird turlough interaction it is considered that based on the information submitted there is no evidential basis to indicate intermittent use by SPA linked wetland species would give rise to adverse effects on site integrity and the wider landscape interpretation relied upon by the applicant is not considered insufficient for the purposes of Appropriate Assessment.

The consultant asserts that the proposed mitigation strategy including additional measures proposed in Section 2.6 lends additional support to the assessment presented and further reinforces the basis upon which the appropriate assessment can be carried out.

The consultant does not consider that the evidential uncertainty identified rises to a level that would materially undermine the assessment presented of the implications of the proposed development for Lough Corrib SPA and Lough Masc SPA in view of the conservation objectives of these sites or prevent the competent authority from carrying out the appropriate assessment in respect of these sites

Conditions recommended by the specialist consultant with regard to post construction ornithological monitoring and adaptive management protocol would ensure a precautionary and enforceable response to post construction collision risk and disturbance affecting key target species.

In-combination effects

I am satisfied that in-combination effects has been assessed adequately in the NIS. The applicant has demonstrated satisfactorily that no significant residual effects will remain post the application of mitigation measures and there is therefore no potential for in-combination effects.

Findings and conclusions

The applicant determined that following the implementation of mitigation measures the construction and operation of the proposed development alone, or in combination with other plans and projects, will not adversely affect the integrity of this European site.

Based on the information provided, I am satisfied that adverse effects arising from aspects of the proposed development can be excluded for the Lough Masc SPA considered in the appropriate Assessment. In combination effects have been considered and it has been demonstrated that as no significant residual effects will remain post the application of mitigation measures there is no potential for in combination effects.

Reasonable scientific doubt

I am satisfied that no reasonable scientific doubt remains as to the absence of adverse effects.

Site Integrity

The proposed development will not affect the attainment of the Conservation objectives of the [Lough Corrib SPA Site Code 004042]. Adverse effects on site integrity can be excluded and no reasonable scientific doubt remains as to the absence of such effects.

NAME OF SAC/ SPA (SITE CODE): Shrule Turlough SAC (000525)
Summary of Key issues that could give rise to adverse effects (from screening stage):
Water quality degradation (construction and operation)

Qualifying Interest features likely to be affected	Conservation Objectives Targets and attributes.	Potential adverse effects	Mitigation measures (summary)

Turluoghs [3180]	To Maintain the favourable conservation condition of Turloughs in Shrule Turlough SAC	Potential release of deleterious material to groundwater body Significant effects on species and habitats dependent on maintaining good level of water quality. The evidence presented does not robustly support the lack of potential effects on Shrule Turlough SAC and Lough Corrib SAC due to the lack of an overarching, three dimensional and transient, consistent conceptual hydrogeological model that links the local and site level geology and hydrology.	

Assessment of issues that could give rise to adverse effects in view of conservation objectives.
Water quality degradation
The evidence presented does not robustly support the lack of potential effects on Shrule Turlough SAC and Lough Corrib SAC due to the lack of an overarching, three dimensional and transient, consistent conceptual hydrogeological model that links the local and site level geology and hydrology.
On this basis I am not satisfied that no reasonable scientific doubt remains as to the absence of adverse effects.
Site integrity
It has not been demonstrated that the proposed development will not affect the attainment of the conservation objectives of the Shrule Turlough SAC Site Code 000525. Adverse effects on site integrity cannot be excluded**.**

Appropriate Assessment Conclusion: Integrity Test
In screening the need for Appropriate Assessment, it was determined that the proposed development could result in significant effects on Lough Corrib SAC, Lough Corrib SPA, Lough Masc SPA and Shrule Turlough SAC in view of the conservation objectives of those sites and that Appropriate Assessment under the provisions of S177U was required.
Following an examination, analysis and evaluation of the NIS all associated material submitted and taking into account observations by prescribed bodies, third parties and the reports of specialist consultants, I consider that adverse effects on site integrity of Lough Corrib SPA and Lough Masc SPA the can be excluded in view of the conservation objectives of these sites and that no reasonable scientific doubt remains as to the absence of such effects.

However, the evidence presented does not robustly support the lack of potential effects on Shrule Turlough SAC and Lough Corrib SAC due to the lack of an overarching, three dimensional and transient, consistent conceptual hydrogeological model that links the local and site level geology and hydrology. On this basis I am not satisfied that no reasonable scientific doubt remains as to the absence of adverse effects.