An Coimisiún Pleanála

Inspector's Report

ABP-318701-23

Development	10 year planning permission for the proposed wind energy development consisting of 22 wind turbines and all associated infrastructure
Location	In the townlands of Glenora, Altderg, Keerglen, Ballykinlettragh, Ballycastle, Ballyglass, Killeena, Glencullin and Lugnalettin, Co. Mayo.
Planning Authority	Mayo County Council
Applicant(s)	Glenora Wind Farm DAC.
Type of Application	Strategic Infrastructure, Section 37E
Submissions	Mayo County Council Department of Defence Transport Infrastructure Ireland Fáilte Ireland An Taisce

	Department of Housing Local Government and Heritage
Public Submissions	Michelle McGrath, Michael & Rosalind Callander, Martin Tighe, Céide Coast Community Company. Des and Terri Kiernan, Kevin Loftus, Madeline Lavelle, Teresa Fagan-Lacken – Ballycastle Protection Group, Peter Sweetman, Kevin and Patrica Loftus. Dolores Boyd Geraldine McManus Lacken Ballycastle Community Landscape Protection Group - Grúpa Cosanta Tírdhreacha Phobal Leacáin Baile an Chaisil Marion Bourke Mary Clarke Boyd Brendan Boyd Dr Catherine Clark and Professor Dr Ian Williams

Date of Site Inspection	2nd and 3rd April 2025.
Inspector	Bríd Maxwell

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1.0 Introduction and Project Background

1.1 This application, under section 37E of the Planning and Development Act, 2000 (as amended) is for a wind energy development of 22 no wind turbines and associated infrastructure within Glenora and adjacent townlands, in north east County Mayo.

1.2 Under reference ABP.310528-21, the applicant, Glenora Wind Farm DAC, requested pre-application consultations with the Board under Section 37B of the Planning and Development Act, 2000 (as amended) for the construction of a wind energy development of 22 no wind turbines at the subject site. The status of the proposed development was confirmed by the Board in a letter to the applicant dated the 9th May 2023, stating that the development comprised strategic infrastructure within the meaning of section 37A of the Planning and Development Act, and that an application for permission should be made directly to the Board. In the same correspondence the Board provided the applicant with a list of Prescribed Bodies to be notified of the application for the proposed development. The subject application to the Commission comprises the proposed windfarm and ancillary infrastructure, subsequent to the pre-application process.

2.0 Site Location and Description

2.1 The application site (1,304 ha) is located in a remote rural upland setting to in the northwest of County Mayo approximately 6km southwest of the village of Ballycastle, 16.9km northwest of Crossmolina, 21.5km northwest of Ballina and 13.4km north west of Kilalla and 5km south of the Atlantic coastline. Wild Nephin National Park is located approximately 13.2km to the south. Access to the site is gained by way of forestry access roads off the Ballyglass local road which is approximately 4.7km northeast of the proposed site. The Ballyglass local road in turn meets the R314 approximately 1.6km further east. The Western Way walking trail traverses the application site. The site is partly located within a Gealtacht area (Béal Deirg Mór / Beldergmore DED).

2.2 The majority of the site (64% approximately) comprises commercial coniferous forestry plantation including clear fells. Other habitats on site include areas of upland

blanket bog and wet heath which connect to larger peatlands partially designated as NHAs/SACs. Several small potential dystrophic lakes / ponds are located to the south west and the larger Altderg lough (Annex I Natural Dystrophic Lakes and Ponds) To the north and southwest of the lake are large quaking areas which qualify as Annex I Blanket Bog. Also there are areas of spoil and bare ground and recolonising bare ground and eroding upland rivers and drainage ditches. Elevation of the site ranges between 110m above ordnance datum (AOD) in the southeast to 285m AOD in the west. The siting of the proposed turbines is within an area currently used for commercial forestry with widespread young to mature forestry coverage. The site is drained by the Sralagh, Glenora and Fiddaundoo watercourses which drain southwards into the Altderg River, which eventually flows into the Owenmore river and eastwards to the Keerglen River.

2.3 The Inagh Bog NHA is located to the west and the Ummerantarry Bog NHA is located to the south. There are a number of other designated sites within the wider landscape including Glenamoy Bog Complex SAC circa .2km west, Bellacorrick Bog Complex SAC .9km south, Bellacorrick Iron Flush SAC 7.3km south.

2.4 Within the wider landscape large scale wind energy is a prominent feature with the Bellacorick and Oweninny 1 Windfarms and consented ABO Sheskin Wind Farm and Phase II Oweninny wind farm (currently under construction) and consented Oweninny Phase III in addition to a number of proposed developments at pre planning and planning stage. In addition to forestry and wind energy other land uses in the surrounding area include agriculture, peat cutting and scattered residential development. The closest residences to the proposed windfarm site are largely concentrated to the southeast of the site.

3.0 Proposed Development

3.1 Development description

3.1.1 The proposed development, referred to as the Glenora Windfarm, involves the construction of 22 no wind turbines and all associated hard-standing areas in accordance with the following detail:

- Total blade tip height 180m
- Hub height 99m
- Rotor diameter 162m
- 1 no permanent meteorological anemometry mast with a height of 99m and associated hard standing area
- Upgrade of existing tracks and roads (15.4km), provision of new permanent site access roads (10.5km) and upgrade of 1 no existing site entrance including the provision of 1 no security cabin with automatic traffic barriers.
- Temporary widening of sections of public road in the townland of Ballyglass.
- The provision of a new temporary roadway in the townland of Ballyglass to facilitate the delivery of turbine components and other abnormal loads;
- 1 no wind farm operation and maintenance control building in the townland of Glenora;
- 3 no borrow pits;
- 13 no permanent peat placement areas.
- 5 no temporary construction compounds with temporary site offices and staff facilities.
- Permanent recreation and amenity works, including marked trails, seating areas, amenity car park and associated amenity signage.
- Site drainage.
- Site signage.
- Ancillary forestry felling to facilitate construction and operation of the proposed development.
- All works associated with the habitat enhancement and biodiversity management within the proposed wind farm site

- All associated site development works and ancillary infrastructure.

3.1.2 The application is seeking a 10-year planning permission and a 35 year operational life from the date of commissioning of the entire development.

3.1.3 Grid connection is intended via 110kV underground cable connection to the existing Tawnaghmore 110kV substation located 14km southeast of the proposed onsite 110kV substation. Grid connection cabling route will measure approximately 26km. The grid connection does not form part of the subject application however it is incorporated in terms of assessment of effects within the submitted Environment Impact Assessment Report (EIAR) and Natura Impact Statement (NIS).

3.1.4 For the purposes of assessment it is assumed that the proposed wind turbines will have an electrical power output in the 6 to 9 megawatt (MW) range depending on further wind data analysis and power output modelling. Therefore, the potential output of the proposed wind farm will range from 132MW up to 198MW.

3.2 Documentation

3.2.1 The submitted application documentation includes the following:

- Application form
- Copy of public notices
- Planning cover letter including landowner consent letters
- Copies of letters to prescribed bodies
- Planning Report
- EIA portal confirmation
- Planning Drawings
- Environmental Impact Assessment Report (EIAR) – (In three volumes)

Vol 1 – Non Technical Summary (NTS) and Main Report

Vol 2- Photomontage Booklet

Volume 3 EIAR Technical Appendices

- Appropriate Assessment Screening Report and Natura Impact Statement (NIS)

3.2.2 **Additional Information**

During the course of the application, the following additional information was submitted by the applicant

(i) Response to submissions which includes as Appendix 2 Geotechnical and Peat Stability Response to submissions

(ii) Appendix 3 - Landscape and Visual Impact Assessment response.

(iii) In response to request by The Commission on 1st August 2025 bilingual public notices and copies of the EIAR Non Technical Summary and AA Screening Report and NIS as Gaeilge.

4.0 Planning History

ABP-310528-21 Pre application consultation. At meeting held on 8th May 2023 the Board determined that the proposed wind farm and related development constitutes development that falls within the definition of energy infrastructure in the seventh schedule and considered to be of strategic importance by reference to the requirements of Section 37A(2)(a) and (b) but not (c) of the Planning and Development Act 2000 as amended and therefore application must be made directly to An Bord Pleanála.

PL16.206517 (Mayo County Council reference 03/1383) (Site area 900 partly coincident with the current site) Application sought permission for wind farm of 29 no turbines total height not exceeding 100m, a 110kV substation including pylon and control building, one 65m high meteorological mast, construction and upgrading of site entrances, site tracks and associated works. An Bord Pleanála upheld the

refusal by Mayo County Council on appeal refusing permission for two reasons as follows:

"The proposed development is sited on the slopes of Maumakeogh Mountain of which the ridgeline is designated as vulnerable in the current Mayo County Development Plan. It is an objective of the planning authority, as set out in the development plan, to recognise and facilitate appropriate development in a manner that has regard to the character and sensitivity of the landscape, to ensure that the development will not have a disproportionate effect on the existing or future character of a landscape in terms of location, design and visual prominence, and to ensure that development will have regard to the effects on views from the public realm towards sensitive or vulnerable features and areas. This objective is considered reasonable. It is considered that the proposed wind farm sited at this location, which would be intervisible with existing and permitted wind farm developments at Bellacorick, would constitute an obtrusive development which would detract from the rural character and scenic amenities of this sensitive and vulnerable area. The proposed development would, therefore, conflict with the provisions of the development plan, would seriously injure the visual amenities of the area and would be contrary to the proper planning and sustainable development of the area.

Having regard to the extent of existing and permitted wind farm development in the general Bellacorick area, it is considered that the proposed wind farm development at this location would be premature pending the preparation of a Wind Energy Strategy for County Mayo, in accordance with objective TI-RE3 of the current Mayo County Development Plan. The proposed development, would, therefore, be contrary to the proper planning and sustainable development of the area."

PA 0031 Cluddaun. Site to south of the current application site but which also included a small portion of the current application site within the red line boundary comprising a proposed standalone borrow pit. No wind energy infrastructure was proposed within the current site. Cluddaun Windfarm comprising 48 turbines with maximum electricity generating capacity up to a maximum of 150 megawatts. Refused on grounds of potential for adverse impact on Bellacorick Bog Complex

SAC, Glenamoy Bog Complex cSAC, Inagh Bog proposed NHA and Ummerantarry Bog proposed NHA.

In the wider area a number of wind energy applications within 20k of the development include:

Sheskin Wind Farm

315933 Proposed development of 21 no wind turbines tip height 200m with total generating capacity between 126MC and 189MW and associated works at Sheskin Co Mayo. Permission granted 13/03/2024.

15/825 Permission granted for 8 turbines maximum height 150m. Permission altered under **PA Ref 19/457** to include height change to maximum height 176m. Grid connection refused by PA ref **20/834** and granted by the Board **311157** comprising 10.4km of 38KV underground cable from wind farm site to Belacorrick 110kV substation.

Bellacorrick windfarm

20837 (ABP311157) 10 year permission to develop an electricity service entailing the laying of approximately 10.4km of 38kV underground cable from the granted Sheskin windfarm to connect the windfarm to the national grid at the existing Bellacorrick 110kV ESB station, the proposed grid connection will be installed along existing private tracks, the public roadway and a short section of private agricultural land.

Mayo County Council 19457 Amendments to existing planning permission 15/825 for 8 turbines. Amendment to include increase in overall maximum height from 150m to 176m (turbines 1-3) and from 150m to 165m (turbines 4-8) An increase in maximum height of met mast from 100m to 120m. An amendment to condition 46 to revise community benefit payment to 2 euro/MWH.

Oweninny

316178-23 Application under Section 37E for development consisting of erection of 18 number wind turbines with an overall blade tip height of 200 metres, decommissioning and removal of 21 no existing Bellacorrick wind farm turbines. The proposed development referred to as Oweninny Wind Farm Phase 3 and will have an electrical output of c. 90MW. to replace the existing 21 no. existing Bellacorick Wind Farm. Granted by the Board January 2025.

ABP-PA0029 Oweninny windfarm and associated works. Permission granted 2/6/2016.

ABP309375 Oweninny windfarm phase three. Between 10 and 20 wind turbines with an approximate capacity of 90MW and maximum blade tip height of 200m. Pre app Consultation.

ABP316178 Proposed development of Oweninny Windfarm Phase 3 consisting of 18 no wind turbines. Granted with conditions 21/02/2025.

Kilsallagh Windfarm

312282 Preapplication for Kilsallagh Windfarm comprising 13 turbines. The Board determined that the development constitutes development that falls within the definition of energy infrastructure in the seventh schedule and an application should therefore be made directly to the Board.

Kilalla Community Windfarm.

17619 10 year permission for 5 turbine windfarm. Granted by Mayo County Council 15.02.2018.

19/260 25 year permission for a single electricity generating wind turbine with overall maximum height of up to 125m.Granted 15.10.2019.

Dooleg More Single turbine

20467 Permission for single turbine generator and 20kV grid connection to Belacorrick 110kV substation

Bunnahowen Wind Farm

Permission granted under 18/873 to modify existing permission granted under PA ref 08/1997 for three 1MW wind turbines.

Keerglen Wind Farm – Adjacent circa 600m to the southeast.

PL16.500344 Appeal of 24/60537 conditional grant of permission by Mayo County for 10 year permission for development of windfarm project in the townlands of Keerglen, Ballinglen and Ballykinlettragh on a site measuring combined c 81.88ha. Development to consist of the construction of up to 8 no wind turbines with a maximum overall tip height of between 176-180m comprising rotor diameters ranging between 133-150m and hub heights ranging between 105-112m associated wind turbine foundations and hard standing. 1 no 38kV electrical substation building, compound and associated works. Provision of new temporary roadway connecting the R315 and L51723 in the townland of Ballinglen to facilitate delivery.

Tirawley Wind Farm

PAX16.323778 Invalid Application submitted to ACP September 2025 6.9km east.

5.0 Consultations

5.1 Details of the application were circulated to the following prescribed bodies:

- Irish Water
- Inland Fisheries Ireland
- Office Of Public Works
- Irish Aviation Authority
- An Taisce
- The Arts Council
- Health Service Executive

- Mayo County Council
- National Parks and Wildlife Services
- Transport Infrastructure Ireland
- Northern and Western Regional Assembly
- Commission for Regulation of Utilities
- Fáilte Ireland
- The Heritage Council
- Minister for the Environment, Climate and Communications
- Minister for Housing Local Government and Heritage
- Minister for Agriculture
- Minister for Tourism, Culture, Arts, Sports and Media
- Department of Rural and Community Development
- Údarás na Gaeltachta

5.2 Submission received by the Board from **Mayo County Council,** on 28th March 2023. Main issues are summarised below.

- Chief Executive Report refers to the policy context including Mayo County Development Plan 2022-2028 and Renewable Energy Strategy.
- The Board should satisfy itself that the NIS adequately addresses the likely impact on Natura 2000 sites identified.
- Céide Fields and North West Mayo Boglands were previously included in the 2010 UNESCO world heritage site tentative list.
- Notably a number of National Monuments and RMP sites lie within the potential zone of influence.
- Regarding the EIAR it is for the most part set out in a clear format and consists of a wide ranging comprehensive assessment of the full range of issues and factors that could reasonably be anticipated for a wind farm development of this scale. Non-technical summary considered adequate.
- Regarding carrying capacity and safety of road network, concern is raised by Area Engineer of Ballina Municipal District in relation to transportation aspect

of the proposals. Circuitous route for component deliveries from Ballina along the N59 through Crossmolina Regional Road R313 and along local road L1204 is not approved. Deliveries shall be from Ballina to Ballycastle. Details of any proposed alterations to the public road to be agreed with Mayo County Council in advance of works and road safety audit shall be completed for alterations to public road. Approved route may be reconsidered/amended if it can be established that due to restrictions it is not passable. Road closures may not be guaranteed and contingency may be required.

- A less circuitous transportation route should be explored. Clarity is required in relation to road closure proposals and contingency proposals. An Bord Pleanála must be satisfied that the transportation route required to serve the delivery of component parts is achievable and agreed. All other transportation possibilities should be explored and exhausted.
- Directional drilling and private lands should be used for grid connection where possible as the proposed make up of trench with 6 ducts spacing etc would have a significant impact on public roads and may not be feasible due to drainage infrastructure, road conditions, existing services etc. Special design considerations will be required in the case of bog ramparts.
- An on-site effluent treatment system should be considered as an alternative to road tankering effluent generated by circa 120 site staff for two years. Notably Oweninny windfarm obtained and environmental award for an on-site UV treatment system.
- Environment Section recommends water protection measures as described in NIS to be implemented during all phases of the works including tree felling, construction and replanting. Soil removal to be timed in accordance with weather conditions. Forestry advisor to be engaged to determine potential to plant site with native tree species. Suitable temporary welfare facilities to be provided and measures to deter illegal dumping. Measures set out in the CEMP to be undertaken in line with best practice to address potential issues relating to waste dust and noise.

- All recommendations outlined in the Archaeology and Cultural Heritage Chapter to be implemented in full. Conditions recommended
- Tourism section – No objection.
- Regarding principle of proposed development. Note RES for County Mayo adopted on 9th May 2011. The proposed development is in an area that includes Tier 1 'preferred' and Tier 2 'open for consideration' areas with a large tranche of unclassified lands to the north and east of the site. In principle the location is considered acceptable. Noting previous refusals were over 20 years ago which were subject to provisions of the County Development Plan then in place. Proposals were considered premature at the time pending the preparation of a wind energy strategy. Use of lands in this area for renewable energy projects is broadly acceptable.
- Regarding impacts on residential amenity, it is noted that the proposed turbines are located over twice the required set back distance from the nearest residential property with topographical screening mitigation visual effects. No significant impact on existing visual amenity of inhabited dwellings anticipated. Shadow flicker modelling indicates that the 1 no residential dwelling located within the shadow flicker study area will not experience shadow flicker due to the development. No significant noise effects predicted.
- Regarding visual impact the proposal would have a visual impact from roads in the vicinity and from residential properties where screening is not available or maintained. Direct effects on landscape character are localised with visual impacts ranging from imperceptible to moderately significant in a landscape of 'High to Moderate' sensitivity to the type of development proposed. In the wider context the vulnerability of the designated scenic views along the north Mayo coastline including Downpatrick Head is noted.
- Regarding impacts on the environment it is considered that subject to mitigation measures proposed in the EIAR the proposed development will not have a significant impact on the environment of the area.
- Mayo County Council is supportive of renewable energy projects within the County. Based on the current policy, in particular the Renewable energy

Strategy for County Mayo the location is considered to be on a landscape that could assimilate wind turbines. It should be noted that the RES for Co Mayo is currently at review stage.

- Photomontages demonstrate that the proposed development will have impacts of varying magnitude on the landscape of the area. While the location is considered suitable in terms of the Mayo Renewable Energy Strategy 2011 it should be noted it was adopted prior to significant escalation in turbine height and changes in renewable energy technology.
- Of some concern is photomontage 8 Derry Lower which shows the cumulative visual impact of the several renewable energy projects including proposed and permitted Sheskin, existing and proposed Oweninny, existing Bellacorrick proposed met mast and proposed Glenora windfarm from along the R312 Western Way. Photomontage No 3 Knockaun view from Downpatrick Head demonstrating impact on the landscape of the area. The proposed development may result in intrusion on the landscape along the Wild Atlantic Way major tourist route. A visual analysis of the impact of the development along the coastal scenic route and designated views should be further considered.
- Cumulative impact including in terms of impact on tourism product along the Wild Atlantic Way and the sensitive archaeological and heritage landscape associated with the Céide fields.
- It is an objective of the County Development Plan “To protect the tentative world Heritage Site in Mayo on the UNESCO Tentative List – Ireland 2010, the Céide Fields from inappropriate development and support its nomination to World Heritage Status (Objective BE02).”
- Impact of red flashing warning lights including cumulative impact on human population, light sensitive species or environment is required.
- Consideration should be given to exploring shorter alternative route for grid connection possibly via infrastructure serving exiting /permitted renewable energy developments

In the event of permission conditions recommended to include the following:

- Prior road structural capacity survey. Pavement damage or deterioration to be addressed by the developer.
- Advance Bridge Structural Surveys and at monthly intervals during construction period. Deterioration to be repaired in consultation with Mayo County Council.
- Details of road construction to be agreed. Road strengthening and upgrading.
- Construction haul routes to be submitted, Local Roads L5189 and L51892 shall not be used.
- Fencing and reinstatement of roadside boundaries.
- Wheel wash.
- Traffic Management Plan.
- Abnormal load permits. Road surface water drainage to be maintained.
- Public road closure parking restriction notices and associated costs to be borne by the developer.
- Grid Connection (efficient feasible and shortest) to existing 110kV infrastructure to be established prior to commencement of development.
- Where overhead power lines to be relocated undergrounding.
- Dedicated community liaison officer to be appointed. Meaningful engagement before during and after construction.
- Detailed complaints procedure.
- Contingency plan for dealing with breakdown during delivery of components.
- Before and after survey of diversions. Refundable cash deposit of €300,000 to cover costs in respect of damage to road network.
- Archaeology. All recommendations of Archaeology and Cultural Heritage chapter to be implemented. Pre development testing. Archaeological monitoring. Buffer zone around the corn kiln (ITM E502753.N834154) and associated structure to protect them from possible damage. A buffer zone

around complex of derelict and ruinous buildings (ITM E505889 N833391) to protect them from possible damage. If archaeological material is uncovered works to be stopped pending agreement with National Monuments Service with regard to necessary mitigation. Planning Authority and National Monuments Service to be furnished with report describing results of archaeological monitoring.

- Conditions with regards to construction hours.
- Decommissioning / reinstatement programme.
- Protocol for assessment of radio television or other telecommunications interference.
- Undergrounding of cables.
- Costs incurred by Environmental staff with regard to monitoring checks inspections and environmental audits to be reimbursed by the developer.
- Environmental Monitoring Committee (EMC) to be established to assess and monitor surface water runoff, drainage, traffic management, road maintenance, dust control, noise monitoring and other environmental issues during construction. EMC to comprise two representatives of the developer, two representatives of Mayo County Council and an invitation to be extended to Inland Fisheries Ireland and National Parks and Wildlife Service. One representative of the local community to be selected in accordance with procedures to be agreed with Mayo County Council. EMC shall have the right to co-opt other members as required.
- Site preparation and construction to adhere to IFI guidelines “Requirements for the Protection of Fisheries Habitat during Construction and Development Works at River Sites”.
- In the event that works give rise to siltation of watercourses the environmental Clerk of Works or supervising hydrologist will stop works and additional drainage measures to be installed. All pollution incidents to be recorded and reported to Inland Fisheries Ireland.

- All measures in CEMP to be undertaken in line with best practice to address potential issues related to waste dust and noise.
- Emergency Response Procedure to be prepared with IFI included as notifiable body.
- Measures to prevent spread of invasive species.
- Water quality monitoring locations parameters and schedules to be agreed with IFI. Daily surface water monitoring during construction period.
- Use of poor tensile strength rock such as shale as road construction material not permitted.
- Silt mitigation and surface water control measures such as silt fences and settlement ponds are in place prior to ground works commencing. Peat storage areas to be reseeded or have vegetated turf placed on them once completed.
- Emissions limit value 25mg/l suspended solids to apply to all discharges from the site to watercourses. Details of monitoring to be agreed.
- Environmental Scientist or Environmental Engineer to be employed for the period of earthworks and construction phase.
- Noise level limits.
- Dust levels shall not exceed 350mg/m2 (TA Luft Air Quality Standard).
- Bunding of tank and drum storage areas. Oil abatement kits, booms and absorbent materials to be maintained at site.
- Waste Management Plan.
- No stream diversions, culvert installations or replacement without prior consultation.
- Construction outside breeding season of locally sensitive bird species.
- Conservation plan for rehabilitation of the site following completion of construction prepared by suitably qualified ecologist. Forestry advisor to determine potential to replant the site with native species.

- Bond for reinstatement demolition and removal.
- Contribution of €10,000 per megawatt of electricity produced from the development in accordance with Mayo County Council's Development Contribution Scheme.
- Annual contribution of €10,000 per megawatt in accordance with Table 1 of policy document entitled "Policy on community benefit contributions required for certain major developments" towards the provision of environmental improvements, recreational or community amenities.

Comments from a number of Elected Members - Cllr J Munelly, Cllr G Coyle, Cllr G Murray, Cllr M Loftus, Cllr J O Hara, Cllr Mc Loughlin, Cllr A Forkan, Cllr R Finn refer to:

- Notable visual and archaeological sensitivities of the site (Céide Fields, Down Patrick Head and North Mayo coast)
- Recommend the same rigour of assessment as is applied to proposals for dwellings.
- Need for renewable energy acknowledged however number and scale of such proposals creating anxiety.
- Projects benefits investors with no great benefit to community noting many power outages despite these developments.
- Need for up to date Renewable Energy Strategy - 13 year old strategy out of date.
- Fund for road repair and restoration of lighting. Question of rates.
- Bog slippage.
- Damage arising from road construction impact along the N59 particularly for the town of Crossmolina.
- Community Benefit Scheme should be ensure locally beneficial impact.

5.3 Department of Housing, Local Government and Heritage. (DHLGH)

5.3.1 Drainage impacts on **Inagh Bog NHA** are noted and as set out in Chapter 9 of the EIAR the worst case scenario presents that approximately 3ha (equivalent to approximately 0.5% of the area of the NHA) could be affected by lowering water levels in peat caused by drainage. This potential drainage impact on Inagh Bog NHA is not characterised in Chapter 6 on Biodiversity. No botanical or habitat surveys were conducted in the areas of the Inagh Bog NHA which may be affected and consequently the relative sensitivity of those areas potentially effected are not characterised or discussed in terms of their conservation value. The Department recommends that any assessment of the significance of this potential impact should be undertaken with reference to the relative sensitivity of those areas affected and not simply done with reference to the quantity (3ha) of the site that may be affected. Site synopsis states that the highest quality Blanket bog habitat within the Inagh Bog NHA is located in the south eastern corner of the site, which may correspond to the area affected. Any potential deterioration or loss of blanket bog, particularly active blanket bog inside the Inagh Bog NHA should be avoided. It is noted that any such deterioration or loss of blanket bog inside Inagh bog NHA, for which the site is designated, may be in material contravention of Policies of the Mayo County Development Plan. NEP1. NEO 8, NEP9, and NEP 10. If impacts on Inagh Bog NHA cannot be avoided with the current proposed layout of turbines, consideration should be given to a different layout or a minor alteration of the existing layout, which avoids drainage impacts on Inagh Bog NHA to ensure the conservation of this nationally designated site.

5.3.2 Regarding characterisation and analysis of **collision mortality impacts**, the Department considers the Bird Impact Assessment Report does not accurately use the methodology outlined to determine the significance of the potential mortality caused by collisions with the proposed turbines. The Bird Impact Assessment Report makes reference to the methodology outlined by Percival (2003) for determining the magnitude of an effect on a given population. According to Percival 2003 the magnitude of impact on a species population as a result of collisions, would be negligible if the estimated mortalities does not increase the natural mortality rate by 1%. However, Percival (2003) states that one issue in this process concerns the precise area or bird population against which the degree of impact should be judged. For protected SPAs this is usually quite straightforward, comprising simply the

populations for which the site has been designated (Percival 2003). Outside of protected sites Percival 2003 recommends that an analysis be undertaken as to whether a homogenous area of suitable habitat occurs with which a population may be associated and the density of this population within this area. In the current application the bird impact assessment report makes reference to the national populations only when undertaking an analysis of the magnitude of the predicted collision risk impact on the species identified. For example Section 4.3.3 of the Bird Impact Assessment report makes reference to the national wintering population of **Golden Plover**, stated as 92,060 birds, when contextualising the estimated collision mortality of 10,491 bird per year during the lifetime of the proposed development. The Department also notes that the output, and subsequent analysis of the collision risk modelling does not differentiate between the potential collision mortality on wintering populations and breeding populations. Section 3.3.1.9 of the Bird Impact Assessment Report outlines the records for Golden Plover during surveys undertaken to inform the impact assessment. Golden Plover were recorded in the zone of influence of the turbines during both breeding and wintering periods. As the population and distribution of golden plover in Ireland during breeding season is significantly smaller than during wintering season the Department considers that a separate analysis should be undertaken where collision mortality impacts occur in both seasons. The population of breeding Golden Plover in Ireland during breeding season is approximately 150 pairs and has a very regional distribution in Ireland with the wider area of the application site being a stronghold for breeding Golden Plover. Consequently a relatively small impact on the breeding population in this area caused by the current application, either alone or in-combination with other similar developments, could have a significant effect on the national breeding population of this species. Percival's methodology requires an analysis of habitat suitability, and the potential density of species in such habitat, in the wider area of the application site in order to determine the baseline population from which to assess the magnitude of any impacts. Populations of each important species at the wind farm within this zone should be estimated using best available data on bird densities and habitat availability. These populations then constitute baseline against which the magnitude of any predicted effects should be judged. For example in relation to the current proposal the foraging behaviour of Golden Plover during both breeding and

wintering period (which differs), the habitats that this behaviour is associated with during the respective seasons, and the potential densities these habitats are likely to support should be considered in relation to the wider area of the application site before a determination is made on the magnitude or significance of any impacts caused by the proposed development. This impact should only then be contextualised in a wider geographical context, i.e. whether it has local, county or national effect.

5.3.3 In relation to the potential **cumulative or in-combination effects** with other wind farms in the wider area in particular Oweninny Wind Farm phase 3, the EIAR predicts potential cumulative collision mortality of golden plover. No analysis is undertaken on the significance of this impact on the relevant population. No differentiation is made between potential mortality impacts on the breeding or wintering population of this species. Such differentiation would be useful to better understand potential risk to local populations. It is also noted that there was no collision mortality analysis undertaken for Oweninny Phase1 and 2. Consequently cumulative impacts in relation to wind farms already built and under consideration for consent in the wider area remains uncertain. Golden Plover are a red listed species whose population is in decline. The breeding population in Ireland is unevenly distributed with North West Mayo being one of its national strongholds due to the presence of suitable habitat. Potential impact on this species should be characterised accurately in EIAR and NIS. Methodology as outlined in Percival 2003 should be used for all target species identified at risk of collision mortality, especially those for which a relatively substantial annual mortality is predicted (such as kestrel)

Regarding archaeology

5.3.4 Conditions recommended as follows:

- All mitigation measures in relation to archaeology and cultural heritage as set out in Chapter 13 of the EIAR to be implemented in full except as may otherwise by required to comply with the conditions of this order.

- Qualified archaeologist to be engaged to carry out pre development archaeological testing in areas of proposed ground disturbance and submit archaeological impact

assessment report for written agreement in advance of site preparation works or groundworks. Report to include archaeological impact statement and mitigation strategy, Archaeologist to advise and establish appropriate exclusion zones around external most elements of vulnerable heritage assets. CEMP to include location of any and all archaeological or cultural heritage constraints.

- Archaeologist to advise on archaeological mitigation plan for decommissioning. Planning authority and the Department to be furnished with final archaeological report describing results of all archaeological monitoring and any investigative work/excavation required and post excavation specialist analysis.

5.4 An Taisce

5.4.1 Owenmore river catchment runs through the site (Altderg and Fiddaundoo rivers). The catchment has been designated as high water quality status under the Water Framework Directive. Application needs to be fully assessed against Article 4 of the WFD to determine whether the project may cause a deterioration of the status of a surface or ground water body or if it may jeopardise the attainment of good surface or ground water status or good ecological potential and good surface or ground water chemical status. Measures to mitigate sediment run-off and other discharges during the intensive construction phase should be fully assessed.

5.4.2 15 of the turbine are located in areas which are unspecified within the Mayo Renewable Energy Strategy 2011-2020. The Board should conduct a careful analysis regarding justification to determine site suitability taking into account relevant factors such as landscape sensitivity, slope, soil type, visual amenity and proximity to waterbodies.

5.5 Fáilte Ireland

5.5.1 Landscape is one of primary assets for tourism the country and the cornerstone of international tourism marketing campaigns. The quality, character and distinctiveness of the landscape resource needs to be protected. Fáilte Ireland recognises the importance of developing the state's renewable energy sector. Noting research on visitor attitudes - the 2007 study commissioned by Fáilte Ireland

updated in 2012 which may be outdated given newer larger turbines. Study undertaken in 2018 on visitor awareness and perceptions of the Irish landscape is a more appropriate reference. Key findings were that the majority of visitors appeared not to notice the majority of developments even the very large and visually prominent structures such as turbines and powerlines. It appears that there are significant divergences between what can be seen and what is noticed. The majority of visitors expressed very limited desire to change developments that they do notice.

5.5.2 The Céide Fields Visitor centre, a significant tourist destination which received in excess of 22,000 visitors in 2022 lies c 5.5km north of the windfarm site. It is an objective of the Mayo County Development Plan 2022-2028 (BEO 2) to protect the world heritage site on the UNSECO tentative list -Ireland 2019 The Céide Fields from inappropriate development and support its nomination to world heritage status. A 32km section of the Western Way runs from Bellacorrick to Ballycastle. Approximately 12km of this amenity, recreational and tourist route is dominated by the presence of existing permitted wind farms turbines at Bellacorrick, Oweninny, Sheskin. The remaining c 20km on the Way passes through a rural and isolated landscape including the site where with the exception of coniferous plantations, upland peatland landscapes drained by streams and lakes and natural processes prevail. Tourism and recreation policy TR11 is noted.

5.5.3 Site is within Landscape Area E “North Mayo Mountain Moorland” as per landscape appraisal for County Mayo (Vol 4 of Mayo County Development Plan 2022-2028). The ridgelines /skylines including Maumakeogh, surrounding the site are highlighted as being 'vulnerable features' as are the river / stream corridors surrounding the site. Policy requires that development not impinge in any significant way on character and distinctiveness. Site is also within the ‘Slopes >10º landscape which are ‘Areas designated as sensitive’. In terms of landscape policy, the proposed wind farm is in policy area 3 – uplands, moors heath or bogs where the wind farms have high potential for adverse impact on existing landscape character. “*Having regard to the intrinsic physical and visual characteristics of this landscape area, it is unlikely that such impacts can be reduced to a widely acceptable level*.” Three turbines are within Tier 1 preferred area and 4/5 in a tier 2 – open for consideration and remaining 14 or 15 are outside areas where wind farm developments are open for consideration.

These excluded areas coincide with the sensitive slopes >10^{o} and the vulnerable features stream / river corridors.

5.5.4 Regarding Assessment of tourism impact Céide Fields Visitor centre greater consideration beyond the visitor centre and looped walk should be afforded to the wider landscape context of the Céide Fields as a nationally and internationally significant tourism and heritage asset and experience. Assessment of 18-24 month construction phase is basic and high level and fails to adequately address the major landscape and visual disturbance that the introduction of this development will bring to this remote and secluded landscape. Assessment also fails to adequately address the nature of direct and indirect and potentially secondary impacts that the development will have on the landscape and tourism including the Western Way, the wild Atlantic way and wider context of the Céide fields. Proposed windfarm would directly straddle or adjoin c6.2km of the most isolated section of the Western Way and proposed road upgrades would directly alter the character of a further 5km of the Way from Glenora to Sralagagh East, which follows a scenic rural track. The impact on 32km section of the Western Way from Bellacorrick to Ballycastle is on top of the c12km of the route which already passes alongside existing and permitted windfarms Bellacorick and Oweninny, Sheskin. Request the Bord to give full and adequate consideration to the impact of the construction phase on tourism. Consideration of operational phase is basic and high level and fails to address the major change that the proposed development will bring to the character of this secluded landscape including Western Way, the wider context of the Céide Fields the Wild Atlantic Way and the coast including Downpatrick Head from where the proposed turbines will be visible and visually discordant. The sole finding of the impact of the operation phase of the proposed development on tourism is that “the addition of dedicated recreational and amenity routes for locals and tourists will have a moderate positive effect on amenity in the local area”. Request that the board give full and adequate consideration to the impact of the operation phase on tourism.

5.5.5 Assessment of landscape and visual impacts is basic and high level leading to an inadequate assessment of impacts and underrepresenting major changes and significant effects for the landscape and tourism resource. Question the

representation of the impact of the landscape finding of the 18 to 24 month construction phase. Full and adequate consideration of this impact is recommended.

While there is good discussion on operation phase landscape and visual impacts, for the most part the assessment underestimates the effects arising from the introduction of wind farm development into the landscape, the direct and indirect change in the character of the landscape and the change in the viewer including tourist experience.

5.5.6 It is noted that the proposed turbines are set between 153.5m (T10) to 231.5m (T22) above ordnance datum, However 11 are set above the 200m contour and eight above the 220m contour. With an overall height of 180m these eleven turbines will rise to over 380m AOD (with eight to over 400m AOD) which is higher than the surrounding topography. Photomontage from Céide Fields Visitor centre shows no visibility due to screening by intervening rising topography however the assessment does not address visibility from the wider context of the Céide fields. Failte Ireland would have concerns of the impact on the local and wider tourism resource as highlighted by the number of landscape designations. Proposed development may be contrary to policies and objectives NEO 14, NEO 25, NEO26, NEO27 and NEO 28. Request that the Board gives full and adequate consideration to the likely significant impact that the Glenora Windfarm would have on the high quality landscape environment which is a critical tourism asset and resource underpinning the value and quality of the Wild Atlantic Way, the Céide Fields and the north Mayo coast, the Western Way and local tourism initiatives.

5.6 **Transport Infrastructure Ireland. (TII)**

5.6.1 Submission notes official policy regarding development management and access to national roads as outlined in Section 28 ministerial guidelines “Spatial Planning and National Roads Guidelines for Planning Authorities” DoECLG 2012. Noting that Section 2.5 sets out policy seeking to avoid the creation of additional access points from new development or the generation of increased traffic from existing accesses to national roads to which speed limit greater than 50kph apply TII welcomes the fact that direct access to all turbine locations is facilitated via non-national road network.

A number of operational issues should be resolved prior to decision relating to network maintenance and road safety. Proposed haul route within Counties Galway and Mayo and each county council should be consulted. National Road network is managed by a combination of PPP concessions motorway maintenance and renewal contracts (MMaRC) as well as local roads authorities over which the haul routes traverse to ascertain any operational requirements such as delivery timetabling and ensure strategic function of the national road networks. Works to the national road network to facilitate turbine component delivery to comply with TII publications and shall be subject to road safety audit as appropriate. Works to ensure ongoing safety of all users and prior to development necessary 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. Deed of indemnity will be needed. Structures on haul route to be checked to confirm capacity to accommodate abnormal loads. It is noted that grid connection proposals are accommodated on site with no material impact on national road networks. Consultation required with Mayo County Council with regard to Greenway proposals.

5.7 Department of Defence

5.7.1 Ministry for Defence responsible for the regulation of military aviation, whereas the IAA is responsible for the safety regulation of civil aviation including aerodromes. Safeguarding of military flight operations and installations is intended to protect both current and future aircraft operations and also to take account of the security requirements associated with some of those operations. All turbines should 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 to be operational H24/7 days a week. Obstacle lighting should be incandescent or if LED or other types are used of a type visible to night vision equipment. Obstacle lighting used must emit light at the near Infra-Red (IR) range of the electromagnetic spectrum, specifically at or near 850 nanometres (nm) of wavelength. Light intensity to be of

similar value to that emitted in the visible spectrum of light. Irish Air Corps (IAC) requirements are separate to Irish Aviation Authority requirements.

5.8 Observations

5.8.1 Observations from interested third parties were received by the Commission at two stages during the application. Firstly in the initial period following receipt of the application and the second period following the submission of bilingual public notices and documents *as Gaeilge*. Submissions were received from the following third parties both individuals and representatives of the local community:

Céide Coast Community Company (CCCC)

Teresa Fagan, Chairperson of Lacken Ballycastle Protection Group.

Madeline Lavelle

Kevin Loftus

Peter Sweetman and on behalf of Wild Irish Defence CLG

Des and Terri Kiernan

Martin Tighe

Michael and Rosalind Callander

Michelle Mc Grath

Dolores Boyd

Geraldine McManus

Kevin Loftus

Lacken Ballycastle Community Landscape Protection Group - Grúpa Cosanta Tírdhreacha Phobal Leacáin Baile An Chaisil.

Marion Bourke

Mary Clarke Boyd

Michael and Rosalind Callander

Brendan Boyd

Dr Catherine Clarke and Professor Dr Ian Williams

Céide Coast Community Company.

The submissions, many of which include accompanying documentation to elucidate arguments made, raise a number of distinct and common issues which for the avoidance of repetition I have summarised thematically as follows:

Procedural Legal Matters.

- Three specific legal tasks to be addressed by the Board under the Planning Acts, the Environmental Impact Assessment Directive and the Habitats Directive. Board must ascertain if the contents comply with the Planning Regulations in particular Articles 22 and 23 of the 2001 regulations. (Humphries J judgement Sweetman v An Bord Pleanála 2020 No 557JR). Merits of the application to be assessed in accordance with the Planning and Development Act 2000 to ensure that the development is in accordance with the proper planning and sustainable development of the area. Compliance with EIA directive to be addressed with particular reference to information referred to in Article 4(4). Board required to form and record view as to environmental impacts of the development considering EIAR. Board is the competent authority having responsibilities under the Habitats Directive. Legal case for screening is noted. (Case 258/11 Peter Sweetman and Others V AN Bord Pleanála). On the basis of the lack of certainty in the information submitted it is not possible for An Bord Pleanála to make a decision to grant permission which will comply with CJEU Case 258/11.

Principle of Development - Policy

- Inappropriate development negative impact on community and local area. area. Impact on Cluddaun and Inagh villages.
- Noting that the Céide Coast Community Company (CCCC) was created approximately 6 years ago to address rural decline, depopulation closure of

schools and post offices in the parish of Ballycastle/Belderrig and surrounding areas, its objectives are to sustain and improve tourist potential of the area. Note concern with regard to the effect on the visual scenic amenity and tourism value of the area.

- Contradicts and severely undermines the whole concept of the Wild Atlantic Way and planned 15km coastal walk from Downpatrick to Céide.
- Proposal will have adverse impact on tourism during construction and operational stages. Western Way Trail, Shralogga Loop Walk.
- Outside area zoned for wind farm development in the Development Plan .
- History of refusals for locals for residential dwellings on visual and scenic amenity grounds a manifestation of unfairness and injustice. Concern at prioritisation of commercial interests over the wellbeing if residents.
- More appropriate for wind energy development to take place proximate to Dublin and urban centres.
- Concern that efforts to meet energy targets should not jeopardise eco system services. Need to prevent degradation of natural carbon storage and carbon sinks in the pursuit of green energy.
- Conflict of interest between blanket bog restoration and the development of wind energy infrastructure on blanket bog
- Climate change implications.
- Planning history of refusals for wind energy developments.
- Fifteen of the 22 proposed turbines would be located outside an area designated in the Mayo County Renewable Energy strategy. Inappropriate to disregard the RES in favour of the applicant's own ambitions
- Carbon credit bill facing government in 2030 is no reason to allow light touch planning or regulation. Question and confront adopted energy policy.
- Alternatives - More appropriate to preserve boglands and their store of carbon. Develop tourism environmental protection. Area is jewel in crown of

Co Mayo. Tourism development, dark night trails, restored bogland, education and tourism trails more appropriate.

Visual Impact

- Turbines at 180m will dominate the local landscape. Visual impact is understated. Impact on skylines. Overbearing and intrusive impact. Proposal out of character and would have a significant negative impact on the scenic amenity of the area.
- Negative impact on Downpatrick Head a vitally important tourist amenity for north Mayo is a signature point along the Atlantic way and was the chosen site of Red Bull world cliff diving event in 2021 which was broadcast to much acclaim on TV channels across the world showcasing the scenery of the area.
- Impact on Céide Fields UNESCO world heritage potential. The change in tentative list does not alter the requirement to assess the proposal against the full sensitivity of a world heritage site.
- Impact on Wild Atlantic Way and Western Way.
- Photomontages inadequate. Understatement of impact.

Archaeology

- Impact on Céide fields complex and the integrity of sensitive archaeological heritage. Road widening impacts on Céide fields environs, historical monuments and ring forts.
- Glenora fields - Section 13.3.2.6 notes further archaeological artefacts could be uncovered. Archaeology of Rathlacken , Blanamore and other adjacent areas not addressed within the EIAR. Significance of Ballyglass megalithic court tomb and house ignored. Designated access road in proximity to this monument would result in harm to the archaeology of the area.
- Evidence points to the Céide excavation as being only the tip of the iceberg and that the field complex extends across the mountains.

- Táin Bó Flidhais Natural Heritage site - Queen Maeve - route passes through the site passing from Altderg to Keerglen. Further investigation required.

Community Engagement

- Inadequate public consultation procedures. Covid restrictions limited engagement.
- Failures to comply with the Aarhus convention.
- Meetings inadequate, Poor interaction, no feedback.
- No planning notices erected in Ballinglen and entering townlands of Keerglen, Ballykintrelagh. Nearest notices roadside are at Ballyglass Ballycastle 9km away. Site notices difficult to read.
- Power imbalance of the local community who do not have resources to employ level of expertise to advocate on their behalf. Community is disadvantaged when faced with evaluating complex voluminous reports. Power imbalance should be factored into the considerations and decision of the adjudicator.
- Local Knowledge undervalued and not respected.
- Access to information difficulties, observations were not made available on the An Coimisiún Pleanála website until 13th January close to submission date. Historic cases were not available. High levels of community education and participation are required to enable meaningful public engagement.
- Citizen rights being eroded in planning legislation undermining natural justice.

Traffic

- Road network deficient to cater for traffic arising.
- Proposed site delivery route would have to navigate acutely narrow pin bend at Glenlossera which is difficult for ordinary trucks heavy vehicles.

- Disruption, inconvenience and traffic hazard.

Biodiversity.

- Negative impact on wildlife
- Impact on designated sites. Impact on adjacent designated sensitive sites. NHA Innagh Bog, Glenamoy Bog Complex SAC, Ummerantarry Bog NHA
- Bird surveys incomplete. Areas to the southwest south and southeast included as part of the proposal at a later stage after completion of bird survey. Areas adjacent to NHA of Ummerantarry and Inagh with both established as breeding grounds for red listed species such as Golden Plover and Red Grouse as stated by NPWS. Eastern side of the site not surveyed on health and safety grounds. Noted to be suitable woodcock breeding ground.
- Short timeframe dedicated to bird surveys for example only 5 hours of nocturnal breeding surveys over 3 years.
- Annex I Whooper swan (Cygnus cygnus) amber listed and is well known migrant visitor to the area. Can be seen flying to and from Lough Conn between October and April. Proposed site is on flight path of Whooper swans
- Impact on hen harrier through disturbance, habitat loss and fatalities.
- Barrier effects and collision risk. Cumulative impact with Oweninny and Bellacorick. Impact on grey heron, grouse and snipe. Nocturnal breeding surveys inadequate.
- Marsh Saxifrage (*Saxifraga hirculus)* Annex II plant in Glenamoy SAC growing on the banks of the Owenpollaphuca tributary of the Ballinglen River. Potential for pollution impact increased waterflow or landslide events. Question the exclusion of Glenamoy SAC from ZoI at 6.12 where potential for pollution through waterways as acknowledged.
- Deluge of windfarms will eradicate local bird life as well as other flora and fauna.

Hydrology / Hydrogeology

- Impact on wells.
- Flood risk. History of flash flooding in the Keerglen, Ballykinlettragh and Ballinglen with local villages being regularly cut off and unable to reach the main Ballycastle Crossmolina Road. Area of Currower near the beach in Ballycastle particularly susceptible to high flooding. Substantial flash floods since 2021. Keerglen at risk in the event of landslide.
- Smaller lakes and freshwater areas interconnected.
- Water quality issues, eutrophication of Ballinglen River and Ballycastle Beach.
- Acidification and sediment loading of rivers

Peat Stability.

- Walkover surveys and geological mapping and peat probing took place in the summer months July and August 2021 and May 2022 and geotechnical assessment in Aug 2022 dryest periods of the year. Does not account for seasonal sensitivity or extreme situations.
- Trial pits were not completed for each turbine.
- Irish Peatland Conservation Council noted concern at location of a number of turbines 2,7,11,15,16,20,21,22 in zones “moderately high” chance of a landslide event. November 22 peat slippage occurred near T5.
- Peatslide at Glenora in 2022 Underlying impermeable bedrock meta dolerite. 1952 slippage head of Keerglen river. Once deforestation of 116ha begins waterflow will be enormous. Flooding on the Keerglen Ballinglen and Glencullin Bellanaminnaun Rivers all of which flow to Bunatrahir Bay occurs and regularly coincides with tree logging.
- Note the application uses Scottish guidelines for assessing peat slippage which date from 2017 and it is noted that there have been a number of recent slippages on sites in Scotland Shetland and Viking windfarm. Peat is a volatile

material made worse by heavy rainfall and gradient which in Glenora much is >10^{o} slopes.

Other

- Health Impact Assessment required. EIAR neglects many elements of health and wellbeing. Physical and mental impact. Research quoted is outdated. Impact on vulnerable members of the community, autism, epilepsy, anxiety. Social and environmental circumstances in the context of an industrial scale windfarm need further research
- Noise pollution and shadow flicker
- Risk assessment incomplete and ratings as assigned at Table 16.9 are questionable.
- Fire Hazard. North of St Cyrus Scotland November 2023, Norfolk 23 Arklow 2022, Newcastle, Shetland Islands 2023
- Question the long term economic benefit to the local area. Overstated promise of local jobs.
- One of the stated landowners Gerard/Gerry Tighe does not fully own the parcel of land folio No 62976F as it is part of an ongoing litigation as a matrimonial asset in Alberta Canada as referenced in documentation appended. (Michelle McGrath submission)
- Cumulative impact of numerous windfarms.
- Uncontrolled developer led piecemeal approach.
- Grid connection is not included therefore application premature. Project splitting. Consent gap between environmental assessment and development authorisation.
- Community Benefit Fund. Query level of benefit. At least 70% of the Community Benefit Fund should be directed towards local projects in Ballycastle Belderrig parish area, a pro rata amount to Kilfian parish areas.

- A 10 year permission will leave residents in uncertainty. Operational lifespan of 35 years. Protracted disruption to residents.
- Land use conflicts. Conflict with forestry, one off housing, farming, animal welfare and livestock concerns.
- Peat storage on site constitutes landfilling of waste in contravention of the Waste Management Act 1996. ACP should satisfy itself that all waste disposal regulations are correctly applied to disposal and storage of excavated peat and the correct licensing is obtained to meet environmental regulations.
- Given failure to comply with SEA Directive 2001/42/RC the Irish Wind Energy Guidelines 2006 are unlawful and cannot be used to justify the decision making process. Ruling C24/19 refers.
- Outdated policy basis WEDG 2006
- Energy policy review and rethink required. Noting the ineffectiveness of wind energy subsidisation Irish Academy of Engineers question and urge a rethink of energy strategy.
- NIS relies on best practice controls and monitoring rather than demonstrating certainty under worst case conditions, including extreme rainfall events and climate change.
- Given history of refusal a grant of permission would represent an unjustified departure from precedent.
- Peat extraction should be treated as quarrying activity rather than normal construction and classified as waste. Stockpiling and deposition to excavation voids would constitute landfilling without authorisation under the Waste Management Act. All peat movements should be in line with established waste management protocols and current legislation; Waste Management (Facility Permit and Registration) Regulations 2007.
- Céide coastal walk part 8 granted, and supported by Fáilte Ireland, Sport Ireland, NPWS and Mayo County Council as well as local TDs and Councillors. Applicant's response to observations by MKO is questioned in terms of quality and credibility of information. Coastal walk does not follow the

route of R314 but follows physical coastline and cliff edge as a coastal amenity. Question level of scrutiny and assessment given inaccuracy. LVIA and particularly zone of theoretical visibility presented cannot be relied upon. Applicant's conclusion that the visual effects on the propsoed coastal walk will not be significant is not supported by robust baseline, lacks credibility and is not accepted as a sound planning or environmental conclusion.

6.0 Applicant's Response to submissions.

6.1 The applicant's response to the observer's submissions addresses issues thematically and is summarised as follows:

- Regarding **principle of development and planning policy** - specifically the Mayo Renewable Energy Strategy (RES) 2011-2020 and in relation to the proposed location of 15 turbines in areas which are unclassified under the RES these areas have been deemed suitable not just as a result of their proximity to favourable Tier 1 and Tier 2 areas but also as a result of them being in the "remaining viable area" following implementation of a comprehensive environmental and ecological constraints analysis. These areas have very similar landscape characteristics including land cover and topography to those areas located in Tier 1 and Tier 2 areas. With regard to the area classified for renewable energy it is submitted that although there appears to be large areas of the county classified as suitable for wind energy development, RES which was published in 2011, and not all areas classified as suitable for wind energy development will be viable following detailed project level constraints analysis. Since the adoption of the RES there has been a significant increase in demand for electricity nationally, Cap 25 and Renewable Energy Directive 2018/2021 therefore land classifications are based on outdated data/targets and it is therefore submitted that every site viable for wind energy development must be considered in order to meet growing electricity demand, renewable energy targets and carbon budgets.

- Sieve mapping carried out by Mayo County Council when formulating the RES did not take account of certain project level constraints across the county which have been considered in the planning application. Constraints mapping process is outlined in Section 3.3 of the Planning Report submitted with the planning application.
- North Mayo area has a significant number of wind turbines however these are located in a landscape that offers high wind speeds which can assimilate wind turbines offering ideal locations for developments of that nature.
- Note that Mayo County Council Chief Executive's report considers the location to be acceptable and did not identify any issues relating to the principle of siting turbines in the unclassified areas.
- Regarding **planning process** the locations for 10 no site notices were chosen in accordance with Article 19(1) of the Planning and Development Regulations 2001. Site notices were located at the two main entrances to the site and also at points where upgrades to existing tracks and roads were proposed. Site notices were erected at a height of approximately 1.2m on A3 laminated sheets with durable backboard.
- Regarding alleged planning power imbalance competent experts were engaged to ensure that the design of the project and associated documentation is in accordance with rigorous standards and legislation and accurately identifies potential impacts of the proposed development. Extensive community engagement was undertaken since September 2020 as outlined in the community engagement report to facilitate public participation in the planning process. There has been sufficient consultation with relevant stakeholders in Mayo County Council.
- Regarding **cumulative impact** assessment this is detailed in section 2.8 of the EIAR and within each relevant chapter of the EIAR.
- Regarding potential to hinder any **future residential development** in the area it is not the applicant's intention to do so. County Rural Housing policy is not directly relevant to or impacted by the proposal.
- Regarding the level of detail within the application it was prepared and lodged entirely in accordance with the Act and Regulations and contents are suitably

comprehensive and sufficient to allow the Board to complete necessary assessments and evaluations. EIAR complies with EIA directive. AA screening report and NIS submitted to assist the competent authority with its appropriate assessment process.

- Regarding **Community Gain** proposal this is presented in Chapter 4 Section 4.5 and Appendix 2.2 of the EIAR. In the instance that the project is not successful in a RESS auction, a commitment is given to deliver €2per mw/h for the first 15 years, in line with Government Policy under RESS. In both instances there will be an extensive community consultation process to understand the needs of the community.
- Regarding alleged **contested ownership** of lands subject to legal proceedings in Alberta Canada, it is noted that family law proceedings in Canada were initiated but since lapsed. The landowner disputes absolutely that the option property as defined in the option agreement could legally be the subject of those proceedings and notes that the lands are registered in the sole name of Gerry Tighe.
- Regarding site selection and reasonable **alternatives** this is addressed in Chapter 3. A detailed screening process through GIS spatial software using a number of criteria and stages including land area, proximity to national grid network, planning policy, grid infrastructure, wind speeds, environmental designations and population density.
- Economic and employment opportunities will be far more positive in a rural area.
- Regarding alternative turbine height these were considered in Section 3.4.1 of Chapter 3 of the EIAR. Proposed 180m tip height is in keeping with modern turbine technologies. In order to achieve the same export capacity of the proposed development (up to 198MW) with smaller turbines, with a smaller power output would require a layout with up to four times as many turbines. Smaller turbines would be excessive with greater visual impact and would not make the most efficient use of the wind resource at the site.
- Regarding the 10 year permission and project timeline and concerns that this will give rise to uncertainty for the community, as set out at Section 4.8 it is estimated that the construction of the proposed development will take approximately 18-24 months. Securing connection to the national grid and tendering process will take

some further time. Local community will be kept informed of timelines via the project website.

- **Peat stability** is addressed in Geotechnical and Peat Stability Response to submissions document Appendix 2.

- **Shadow flicker** is addressed in Chapter 5 of the EIAR. No dwellings are located within 1km of any proposed turbines. Modelling applied to all dwellings within 10 rotor diameters of the proposed turbines (1620m) and threshold of 30 hours per year or 30 minutes per day applied to these properties. The outcome demonstrates that there is only one residence within the modelled area and it will not experience any shadow flicker effects from the proposed development.
- Regarding **fire hazard** turbine safety is considered in Chapter 5. Based on the material used to manufacture turbine blades, the lightening protection conduits, the constant off site monitoring of turbines and routine operational maintenance of all components it is considered that there is no significant risk of fire occurring at the proposed development that would result in significant environmental effects.
- Regarding impact on **biodiversity** chapter 6 of the EIAR assesses the likely significant effects both alone and cumulatively on biodiversity flora and fauna and sets out mitigation measures proposed to avoid reduce or offset any potential significant effects. Multidisciplinary walkover surveys and detailed botanical surveys informed assessment and habitat mapping. In general given the highly modified nature of the site dominated by commercial coniferous forestry, limited suitable habitat occurs on site for protected faunal species. One badger sett was recorded within the EIAR study area boundary however was inactive. Fox and otter also recorded. Bat and aquatic invertebrate assessments were undertaken. No evidence of populations of these species were found to be significant at more than a local level. No signs of additional protected fauna were recorded within the study area.
- Regarding European sites Appropriate Assessment (AA) screening report and Natura Impact Statement (NIS) completed. No significant effects anticipated on nationally designated sites once mitigation measures are implemented. No significant effects on surface water quality, groundwater quality or the hydrological

and hydrogeological regime were identified during construction operation or decommissioning. Significant residual impacts on biodiversity are not anticipated.

- **Ornithology.** Regarding **hen harrier** the assessment is premised on the findings of ornithological surveys conducted over four year period from summer 2019 to winter 2022/2023. Seven vantage point (VP) survey locations are fully described in Section 2.4.1 of the EIAR. 92% of the proposed turbine layout plus 500m radius buffer around turbines were encompassed within the VP viewsheds. Robust picture of bird activity in the area is provided. VP survey hours are double those specified within SNH (2017) guidelines. Hen harrier were recorded on a total of 8 occasions over the four year bird survey during summer and winter season. In April 2019 hen harrier was observed on one occasion but not recorded again throughout any of the subsequent VP surveys of 2019, 2020, 2021 and 2022. Remaining sightings were winter season sightings recorded across the four consecutive winter survey seasons. Hen harrier winter roosts were not identified within or in the vicinity of the site. Level of hen harrier activity was low. Biodiversity management and enhancement plan BMEP has been prepared which aims to restore approximately 41 ha of peatland habitat through conifer plantation removal and drain blocking. In terms of direct habitat loss on hen harrier during all phases of development Section 4.2.1 of the EIAR outlines that overall significance of effect of slight. While construction activity may result in some disturbance of winter foraging hen harrier, the potential for disturbance is low. Overall significance of effect is not significant. In terms of operational phase displacement (indirect habitat loss) on hen harrier, section 4.3.1 of the EIAR has determined an overall significance of effect of slight.

- No breeding hen harrier activity was recorded within the bird survey area and breeding hen harrier are not known from County Mayo. In terms of hen harrier flight activity and potential collision risk a total of 519 seconds of hen harrier flight time occurred within the flight activity survey area in the rotor sweep zone during the 1,724 hours of VP surveys carried out between 2019-2023. This equates to hen harrier activity within the rotor sweep zone for only 0.008% of the four year bird survey period. For hen harrier the predicted collision risk is less than 1 bird over the 15 year lifetime of the development. Overall significance of effect is not significant. No significant cumulative effects on hen harrier will occur.

- Regarding **whooper swan** no historic or recent records for whooper swan within the hectad encompassing the site. Whooper swans recorded on 4 occasions during VP surveys over the four year survey period with sightings in winter 2021/2022 and winter 2022.23. These comprised records of three small groups 6-8 birds recorded on the same date in mid-October 2021 and another small group December 2022. These were the only sightings of whooper swan within or in the vicinity of the site over the survey period. No sightings in winter 2019/20 or winter 2020/21. No regular migratory route or regular commuting route between feeding and roosting sites was identified including Lough Conn and other lakes within or in the vicinity of the site. Section 4.3.3 of the EIAR did not identify any barrier effects to whooper swan either on migration or involved in local movements such as between breeding and roosting areas as a result of the proposed development.
- In terms of collision risk a total of 1,470 seconds of whooper swan flight time occurred within the flight activity survey area in the rotor sweep zone during the 1,724 hours of VP surveys 2018-2023. This equates to whooper swan activity within the rotor sweep zone for 0.02% of the four year survey period. The predicted collision risk is 1.91 birds over the 35 year lifetime of the development. Overall significance of effect is not significant.
- **Grey heron** infrequently recorded. 7 grey heron flight paths recorded over the four year period three within a 500m buffer. Overall activity was low. Commercial conifer plantation a habitat not typically suitable for grey heron and no regular commuting routes between feeding and roosting sites were identified for grey heron including to Lough Conn and other lakes in the vicinity or surrounding area. In terms of potential collision risk a total of 143 seconds of grey heron flight time occurred within the flight activity survey area in the rotor sweep zone during the 1,724 hours of VP surveys carried out between 2019 and 2023. This accounts for grey heron activity within the rotor sweep zone for 0.002% of the four year bird survey period. The predicted collision risk is 0.5 birds over the 35 year lifetime of the development.
- Findings of study for **Red Grouse** noted a total of 6 flight paths recorded during the VP survey period. These sightings were recorded in summer 2020, summer 2022 and winter 2022/23. None of these sightings occurred within a 500m radius buffer of proposed turbines. Commercial conifer plantation habitat not typically suitable for red

grouse. No habitat loss effects were predicted. Red grouse was not recorded within the potential collision risk height. No predicted collision effects

- **Snipe** recorded in both summer and winter. A total of 50 flight paths recorded over the four year survey period. Snipe was recorded in flight within proximity of proposed turbines locations. A total of 2,483 seconds of snipe flight time within rotor sweep zone during 1,724 hours of survey. This equates to snipe activity within the rotor swept zone for 0.04% of the four year survey period. Predicted collision risk is 7.29 birds over the 35 year lifetime. Overall significance of effect is slight in the context of the national population**.**
- Regarding areas of land to the south, southwest and southeast not covered by bird surveys these comprise overwhelmingly commercial conifer plantation which does not constitute environmentally sensitive habitat in its own right although it does comprise potentially suitable habitat for some bird species which can utilise the conifer plantation as outlined in Section 4.2.1 of the EIAR.
- Inagh Bog NHA (002391) is designated for peatlands and adjoins the western boundary. NPWS site synopsis noted that a number of Irish red data book species have been recorded from the site. These include Golden Plover which are confirmed breeding within the site, red grouse, Irish hare, common frog and common lizard (NPWS 2004). The vast majority of the Inagh Bog NHA area encompassed within the 500m survey area from the development site boundary was surveyed as part of breeding season walkovers surveys undertaken in 2019, 2020, 2021 and 2022 as outlined in Table 14, Section 2.9.4.1 and shown in Appendix 2 of the EIAR. Neither red grouse nor golden plover were recorded within this area in 2019 and 2020 surveys however both were recorded during 2021 and 2022 and evidence of breeding was recorded. Inagh Bog area within the 500m survey area buffer was also encompassed within VP1, VP2 and VO6 which would have contributed to the capture of data on target species including red grouse and golden plover however no flight activity was recorded in this area.
- Ummerantarry Bog NHA (001570) also designated for peatlands adjoins parts of the southern boundary of the proposed development site. NPWS site synopsis notes that Breeding Golden Plover occur on the site. The Ummeranatarry Bog NHA area encompassed within the 500m survey area buffer from the site boundary was largely

encompassed within VP4 which contributed to the capture of data on red grouse and golden plover. It is fully acknowledged in Section 4.2.2. and 4.3.1 of the EIAR that the bog habitats surrounding much of the site and which are encompassed within both the Inagh Bog NHA and Ummeranatarry Bog NHA are suitable to support breeding red grouse and breeding golden plover.

- Assessment of potential disturbance impacts on red grouse and golden plover undertaken in Section 4.2.2. of the EIAR. In relation to potential construction related disturbance an overall "adverse significant effect" of short term duration on breeding red grouse and breeding golden plover within a distance of up to 500m from the construction area was determined. Mitigation measures are specifically prescribed in Sections 5.2 of the EIAR aimed at reducing disturbance effects. These comprise pre construction surveys to be carried out in all suitable breeding habitat within a distance of 500m from where works will take place and as required the implementation of mitigation during the breeding season (March-August) to reduce the significance of this potential effect on breeding red grouse and golden plover.
- In terms of the assessment of potential displacement impacts on red grouse and golden plover in Section 4.3.1 of the EIAR the overall operational related displacement not significant. Presence of the wind farm has been determined to be a likely neutral or even positive effect of moderate significance in the long term. In relation to operational related displacement of golden plover overall significance of effect of slight has been determined. Section 4.3.2 has not identified any barrier effects to the movement of bird species either on migration or involved in local movements such as between feeding and roosts sites. In relation to collision risk Section 4,3,3 of the EIAR has determined an overall significance of effect of moderate. Mitigation measures aim to reduce potential for adverse effects.
- Regarding lands to the east not covered for health and safety reasons this area comprises open peatland habitat which does not comprise suitable breeding habitat for woodcock a woodland breeding species. Targeted surveys for woodcock were undertaken as part of the nocturnal breeding surveys (Appendix 2 of the EIAR)
- Nocturnal breeding surveys were undertaken within the site on several dates in summer 2019,2021 and 2022. Survey methodology fully outlined in Section 2.4.2.1.3 of the EIAR within the optimum window for breeding woodcock.

Woodcock were not recorded during the surveys for all nocturnal species. While woodcock was recorded during non-targeted surveys within the site all sightings comprise winter season records only. There were no breeding season records of woodcock. In relation to the loss of forestry habitat overall significance of effect of slight has been determined. With regard to potential disturbance in relation to wintering woodcock overall significance not significant. With regard to potential breeding woodcock construction was considered to have potential for disturbance with overall significance of effect of significant. Taking a precautionary approach mitigation measures are prescribed in section 5.2 of the EIAR to reduce potential adverse effects on breeding woodcock.

- Regarding **water quality and flood risk**, flash flooding along the Keerglen and Ballinglen Rivers reflects the climatic conditions and physical attributes of respective river sub catchments. The flash flooding derives partly from areas that are away from and outside the wind farm site. Specifically the windfarm site occupies less than 10% of the combined catchment areas of the Keerglen and Ballinglen Rivers. Approximately 25% of the sub catchment of the Keerglen River (upstream of its confluence with the Ballinglen River). The drainage management approach is aimed at maintaining existing drainage conditions and addressing flood risk. The proposed development will not interfere with existing greenfield runoff conditions. Within the windfarm site existing and new interceptor drains will be integrated with existing drains established as part of forestry operations. Intercepted water will be led and discharged in a controlled manner at numerous locations via buffered outfalls at greenfield runoff rates. Buffered outfalls from setting ponds will promote percolation of discharge waters across vegetation. Discharges from buffered outfalls and settling ponds will be at least 50m away from watercourses. Where 50m buffer is not possible silt fences will be sued to protected watercourses.
- Flood risk is recognised in the EIAR and flood risk mitigation is embodied in the drainage design and proposed development will not exacerbate flash flooding which occurs along the Keerglen and Ballinglen River.
- Standpipes /piezometers were installed in peat to monitor water levels for one full year between June 2020 and May 2021 capturing one complete wet winter season.

Associated water level data reflects the full range of hydrological conditions in the bog.

- Regarding potential impact on wells, as set out at Section 9.3.9 of the EIAR the nearest dwellings and farms are hydraulically side gradient of the windfarm site. There are no dwellings downgradient therefore no risk of effect to private wells.
- Regarding peat drainage the site is already extensively drained by existing forestry operations and the bog condition is degraded. The proposed drainage network is integrated with existing forestry drainage and is designed to limit and minimise potential drainage effects by running drains perpendicular and at angles to slopes. Measures are also proposed to maintain current greenfield runoff rates across the wind farm site. Intercepted runoff in drains and swales will be discharged diffusely via settling ponds with level spreaders across vegetated ground to mimic greenfield runoff. This helps maintain existing hydrological conditions including water retention.
- Mitigation measures will control and limit pollution events at all stages of the proposed development.
- Existing forestry drainage has not resulted in elevated nutrient concentrations downstream of the windfarm site. The proposed development is also not expected to generate nutrient load to the extent that it will cause eutrophication of the Ballinglen River. Eutrophication risk downstream is influenced by the total of activity and features within the river catchment including septic tanks and urban wastewater discharges near Ballycastle. The proposed development is specifically designed to limit peat excavation and to mitigate against disruption to existing hydrological conditions. Proven mitigation measures are proposed to limit and manage sediment mobilisation and transport.
- Regarding the loss of carbon sequestering potential of the peat bog, the habitat within the site of the proposed wind farm is predominantly commercial forestry and not pristine blanket bog. Remnants of blanket bog are still found in degraded form on sloping ground along watercourses and road margins. A small area (1.3ha) of degraded bog habitat will be lost in the footprint of the proposed development. However it is proposed to enhance the existing peatland habitat in the northwest of the site (approximately 40hectares) through drain blocking and the removal of

encroaching conifers as set out in Biodiversity Management Plan Appendix 6.6 of the EIAR.

- The proposed development will have an export capacity of approximately 198MW and therefore will help contribute towards the achievement of national and international emission reduction targets. Section 11.5.2.1.2 of the EIAR details carbon offset calculations.
- Regarding **Archaeological Heritage** direct and indirect visual effect on the Céide Fields is comprehensively addressed in The EIAR and notably the Department of Housing Local Government and Heritage concurred with the proposed mitigation measures. Ballyglass Megalithic court tomb and house is included in Sections 13.3.3.11 and 13.3.4.1 where it is discussed in relation to the grid connection route and turbine delivery route.
- Assessment of potential effects of **traffic** movements during construction operation and decommissioning phases included in Chater 15. The assessment concluded that with the implementation of appropriate traffic management measures the residual impact on the road network and existing users over the 18-24 month construction phase will be imperceptible to slight. Traffic management measures during construction phase, pre and post construction condition survey, safety ,measures. Route assessment undertaken regarding the proposed delivery route.
- Regarding potential telecommunications interference operators contacted did not identify concerns regarding interference.
- Regarding TII submission any temporary accommodation works within/along the national road network along the proposed turbine delivery route will be subject to a road safety audit where appropriate and will comply with the relevant TII publications. TII also highlight that any damage caused to the surface of the national road network due to the turning of abnormally sixed loads shall be rectified in accordance with TII pavement standards. Pre and post condition survey and all surfaces and boundaries will be reinstated as agreed with local authority engineers. No abnormal weight loads will be associated with the proposed development. The intended grid connection does not interact with the national road network.

- There are no known greenway proposals within the vicinity of the proposed development, however, should any such proposals emerge the use of that use infrastructure corridors pertaining to the proposed development consultation shall be undertaken with Mayo County Council.
- Regarding submission from an Taisce, it is submitted that the proposed development has been subject to a comprehensive site suitability assessment. Detailed assessment of factors within the EIAR. A water framework directive assessment was submitted as Appendix 9-4 of the EIAR. The WFD compliance assessment determined that with the proposed mitigation measures including drainage management the proposed development will not result in the deterioration of water body status under the WFD.
- Regarding submission from Fáilte Ireland a robust consideration of tourism assets is included in Chapter 5 and chapter 14 of the EIAR. Recreation and amenity plan is not intended as mitigation for the impact of the proposed development on tourism assets during the construction phase. The tourism asset upon which the construction could have a direct impact is on the Western Way walking trail, part of which traverses the site. It is not proposed to close the trail within the site during the construction phase. A short term negative impact on users of the western way is noted however signage, warning and health and safety measures will be in place and all health and safety procedures will be adhered to. Residual effect on the western way during construction will not be significant. Recreation and amenity facilities are an integral component of the proposed development as set out in Appendix 4-6 of the EIAR. Proposed development is predicted to have at least a moderate positive impact on tourism in the local area during its operational phase.
- In response to submission of Department of Housing Local Government and Heritage, regarding drainage impacts on Inagh Bog NHA the potential hydrological effects (including drainage impacts) on Inagh Bog NHA are described in multiple sections throughout Chapter 9 (Hydrology and Hydrogeology). Section 9.4.3.2 states that in a worst case scenario, which assumes that the hydraulic influence of planned, new drains at T2, T3 and T4 will extend 100m into the NHA, 3ha (equivalent to approximately 0.5% of the NHA) could be affected by the lowering of water levels in the peat, caused by drainage associated with the proposed development. The

potential effect is characterised as indirect negative not significant long term and unlikely. To mitigate for this effect development footprints have been reduced to minimum and current drainage conditions maintained to the maximum possible extent. Maintaining shallow drains as proposed also reduces the scope for and likelihood of drainage effect. With the implementation of this mitigation by design likely significant hydrological or hydrogeological effects on the Inagh Bog NHA will not occur.

- In chapter 6 (biodiversity) the potential direct and indirect hydrological effects (including drainage impacts) on nationally designated sites were considered in multiple sections of the chapter. While the description of the potential effect was not characterised in the same level of detail as in Chapter 9, the outcome of no significant effect on Inagh Bog NHA remains consistent across both chapters. The conclusion of no significant effect on Inagh Bog NHA in Section 6.7.5 of chapter 6 was reached because of the assessment completed in Section 9.4.3.2 of Chapter 9.
- Chapter 6.7.5 states that “the construction and operational phase of the proposed development might also result in the deterioration of water quality in the downstream connected Inagh Bog NHA”. This statement was made in error as there is no downstream connectivity between the site of the proposed development and Inagh Bog pNHA. The NHA is as stated in Chapter 9 Section 9.4.3.2 “mostly side gradient and only marginally upslope” of the site.
- No detailed botanical surveys were carried out on the Inagh Bog NHA. Ecological surveys were only carried out on habitat which may be directly impacted by the proposed development in line with best practice. As concluded in chapter 9 Section 9.4.3.2 of the EIAR likely significant hydrological or hydrogeological effects on the Inagh Bog NHA will not occur.
- The relative sensitivity of Inagh Bog NHA was considered within Chapter 6 of the EIAR. Inagh Bog NHA was identified as a key ecological receptor in section 6.6.5 and assigned a geographical national importance. No part of the bog was considered to be less sensitive in comparison to another and the entire bog was determined to be a habitat of national importance, Any potential effect on Inagh Bog NHA will be avoided following the implementation of mitigation as described in Chapter 9.

- The conclusion of no significant effect on Inagh Bog NHA within the EIAR demonstrates the construction, operation and decommissioning phases of the proposed development will not contravene the policies NEP 1, NEP 9, and NEP 10 or Objective NEO 8 within the Mayo County Development Plan 2022-2028. The project includes for the restoration of approximately 40ha of peatland habitat in the northern section of the site through drain blocking measures and the removal of encroaching conifers. The potential interactions between effects on biodiversity and hydrology were also considered in Chapter 17 section 17.2.2 of the EIAR.
- Regarding collision mortality impacts, DAU raised concern that the methodology (Percival 2003) has not been accurately used to determine the significance of the potential mortality caused by collisions with the proposed turbines. It is noted that while Percival 2003 is referenced in the EIAR, this is in the context of determining sensitivity of bird species selected. However the impact assessment methodology used in the EIAR largely follows CIEEM (2019) and EPA 2022.

- Regarding issues raised by the Department relating to the precise area or bird population against which the magnitude of impact should be judged and the differentiation between the wintering and breeding populations of Golden Plover re potential collision mortality it is noted that the most robust and reliable population estimates for water bird species are for the national totals of each species. These estimates are derived from the mean of the peak count of a species at all sites regularly counted within the I-Webs programme over a 5 year period. From these the 1% thresholds are calculated which are used to monitor trends nationally and at specific sites. Population threshold estimates below the criteria of International and/or national importance, namely regional county or local are not calculated by the I-Webs programme. Count data for sites below national threshold of importance are merely listed as ‘other notable sites’ or ‘other sites covered;. For Golden Plover a regularly occurring population of 807 would be required for classification as National Importance (For Republic of Ireland).
- Crowe (2005) notes that Golden Plover are among the most widespread of the wader species wintering in Ireland. Golden Plover occur principally at two regular I-WeBS core sites in north County Mayo Kilalla Bay and the Mullet Peninsula. The species occurs sparsely in winter throughout the blanket bogs. During VP surveys

over four winters Golden Plover were recorded on 54 occasions with highest numbers in each winter ranging between 80 and 200 birds. The origin of the birds recorded at the Glenora site is not known and apart from regular population in Killala Bay no other 'local' site was located during any of the baseline surveys, including the wider hinterland survey. With the species being recorded on a relatively infrequent basis during the four winters of baseline surveys, i.e. average of 13.5 times per winter and no records at all in some months and with no known regular site within at least a 5km distance of Glenora, it is reasonable to assume that there is no regular population in the area. While the Killala Bay/Moy Estuary SPA supports a regular population of Golden Plover this is at a distance of 10.3km from the Glenora Site and birds would not be expected to commute from Killala to Glenora for feeding or roosting purposes.

- The birds which occurred at the Glenora site may well be from a dispersed population that winters on the extensive blanket bogs in north County Mayo. As an estimate of the site or range of such a population is not available from I-Webs or any other source, it was considered that assessing the magnitude of the predicted collision risk impact in the context of the published national population estimate was the most scientifically sound method.
- Regarding differentiation between wintering and breeding golden plover the authors of the EIAR were aware of the presence of both populations at the site (Section3.4.9) While the collision risk model considered flightlines of golden plover for the period September to April (Table 3 Appendix 15) it is confirmed that the records included for month of April were late wintering or migratory birds on the basis of the flock sizes (Section 4.3.3 of EIAR and Appendix 4)
- The relevant records are as follows:

  45 birds on 15 April 2019

  23 birds on 21 April 2021

  26 birds on 4 April 2022

  62 birds on 7 April 2022

  32 birds on 14 April 2022

In April breeding Golden Plover would already be in pairs and holding territory on bog habitats. At this time of year breeding birds do not flock and typically make only short local flights. Hence given the size of the flocks, it is reasonable to assume that these birds were on passage and not part of the local breeding population. Hence it was concluded that the risk of collision only affects the wintering population of Golden plover at the site and not the local breeding population.

- Regarding analysis of habitat suitability and potential density of species, prior to the commencement of baseline bird surveys a desk review and a reconnaissance walkover survey of the site which included a review of habitats present was carried out by the project ornithologist to inform the bird survey scope and approach taken for the distribution and abundance surveys of the study area. Core survey area comprised the development site and buffer zone of 500m of adjoining habitats. Range of surveys included walkover surveys of the adjoining bog areas and hinterland surveys of a wider area up to 5km. These surveys were designed to evaluate the potential of the habitats present to support bird populations of conservation importance. It is noted that the area within the redline boundary of the proposed development is almost entirely conifer plantation which is not suitable habitat for species such as golden plover or red grouse.
- From the various baseline surveys it was considered that a thorough understanding of the bird species using the site and surroundings both in summer and in winter was achieved. The impact and mitigation sections therefore focussed on important species such as red grouse, golden plover, snipe, merlin and kestrel. As these species are largely associated with open peatland habitats it is considered reasonable to assume that their populations extend continuously (if sparsely) over the extensive boglands to the west of the Glenora site. The impact section of the EIAR provides a detailed evaluation of effects on all species of conservation importance during the construction, operation and decommissioning phases. Significance of identified effects follows standard EPA(2022) guidance (Table 3.4 Description of Effects.) Appropriate mitigation is provided to ensure that the identified impacts are avoided or at least minimised. It is also noted that detailed monitoring programmes will be implemented during pre-construction, construction and post construction phases of the project.

- Regarding cumulative or in combination effects as there is a distance of circa 8km between Glenora and Oweninny Phase 3. As breeding golden plover from the population associated with the blanket bog which adjoins the site were not recorded flying within the air space swept by rotor blades of the wind turbines it can be concluded that the Glenora project will not cause mortality to the local breeding population and hence will not contribute to a cumulative effect when considered with other wind energy projects.
- Archaeology conditions outlined in the DAU submission are acceptable to the applicant.
- Regarding submission from Department of Defence requirements with regard to potential effects on aviation will be adhered to.
- Regarding submission by Mayo County Council it is noted that overarching support for the proposed development is evident. Assessment of potential adverse visual impacts on visual amenity along designated scenic routes and views along the wild Atlantic way is addressed in Section 1.1.3 of the LVIA response to submission document Appendix 3. Effects of aviation lighting on potential visual amenity and the local population lighting scheme to be agreed with the IAA will seek to reduce / eliminate nighttime visual effects in relation to residential visual amenity. Mitigation will be implemented in agreement with IAA an DoD to ensure no significant effects from aviation lighting from people or the environment.
- Regarding wastewater treatment sealed storage tanks with wastewater tankering offsite by a permitted waste collector to wastewater treatment plants proposed as is accepted industry best practice.
- Regarding grid connection alternatives were studied by the developer. The output of the windfarm is such that it needs to connect to a 110kV substation and there are two existing 110kV substations located within 25km namely Tawnaghmore 110kV substation and Bellacorrick 110kV substation. Grid connection to Tawnaghmore was considered the favoured option based on environmental considerations. A shorter more direct grid connection route to either Tawghnamore or Bellacorrick substation would require multiple landowner agreements and extensive lengths of new access

tracks which would significantly increase the footprint and therefore increase adverse environmental effects.

- **Peat Stability** - CSL technical note outlines that a robust assessment (in accordance with best practice) of the likelihood of peat failure found that the proposed development has a low risk of peat failure. Historical peat failures within the site and the wider area were noted. Causal factor or trigger of failure at Conaghra in an open peatland upslope of forestry is not recorded by the GSI and it is difficult to draw conclusions on causal factors or if there are similarities between the site and proposed development site. From a hydrological / geotechnical risk perspective the avoidance of concave/convex slopes on headwaters in a peatland environment has been taken into account in the peat stability risk assessment. These areas have been avoided as part of the design phase of the proposed development through the implementation of a 50m watercourse buffer. Peat failures have in the past been noted close to a convex or concave break in slope (such as at Meenbog). Convexities are often associated with thinning of peat such that thicker peat upslope applies stresses to thinner 'retaining peat downslope. Conversely, buckling and tearing of peat may trigger failure at concavities. The use of founded road construction avoids placing any additional loading onto the peat which reduces the risk of failures occurring at such locations.
- The proposed installation of interceptor drains upslope of the turbine locations will capture surface water flow and divert it away from the turbine hardstand locations. In addition, turbines and crane hardstands will be founded on competent ground below any peat or soft clay, and as such focussed waterflow is not considered to be a significant risk to the stability of these infrastructure elements . Peat slippage is discussed in Section 3.3.1 of Appendix 8-1 of the EIAR. While site visits were undertaken in drier months the peat stability assessment assumes a groundwater level at ground surface for the stability assessment which assumes that the peat is fully saturated which is considered to be a 'worst case' when analysing peat stability. Reference to Meenbog /Dawn of Hope(Boleybrack) failures considered in the peat stability assessment. Lessons incorporated into the design and construction methodology. The November 2022 failure occurred around 400m from T5 on a steeper slope (14 degree slope) than at proposed turbine location (4 degrees) and

as such there is not considered to be a corelation between the presence of this failure and risk of failure.

- Regarding GSI landslide susceptibility mapping this is a guideline resource and not a definitive assessment of landslide susceptibility. Risk assessment based on actual site conditions found low risk of peat instability. The peat stability assessment was undertaken following the principles in peat landslide hazard and risk assessments best practice guide for proposed electricity generation developments (Scottish Executive 2nd edition 2017) which is considered to be current best practice guidance. Proposed mitigation measures will be implemented in full and sufficient care will be taken during construction to ensure peat slippages are not caused by the construction of the development. Contributors to chapter 8 of the EIAR the peat and spoil management plan and geotechnical and peat stability assessment report have been involved with in excess of 100 onshore windfarm developments across Ireland and the UK at various stages of development from preliminary feasibility stage through planning and from scheme development at tender design and detailed design stage through the construction and operational stages. Contributors have also been involved in assessing and investigating several peat failures such as Derrybrien, Ballincollig Hill and Meenbog)
- Detailed assessment of peat stability has been undertaken and monitoring requirements have been included in the Peat and Spoil management plan and these will be implemented during construction stage.

  Keerglen failure (1954/55) occurred on open bogland outside of Coillte lands and failed in southeasterly direction towards a tributary of the Keerglen River. As this area is open, intact bogland it is not considered representative of the conditions (well established forestry with extensive drainage) within the proposed development site. No correlation could be drawn between the presence of this failure and the likelihood of failure within the development site. November 2022 failure is discussed in peat stability assessment report Section 3.3.1 of Appendix 8-1. Several failures in the wider area have occurred on open bogland in areas where there typically would be little to no drainage of the bogland, unlike the proposed development site where a network of forestry drains are present which provide drainage across the site which lead to a lowering of the groundwater table and an increase in the strength of the in-

situ peat, lowering the likelihood of peat failure. The proposed development includes a drainage network that will complement the existing forestry drainage and limit runoff following intense rainfall events (Chapter 4, Chapter 9 and Appendix 4-4 of the EIAR.)

LVIA response to submissions. Regarding impact on sensitive receptors Céide fields was included as a receptor in the landscape and visual baseline set out in Chapter 14 of the EIAR. The Céide fields were screened out from further assessment as a result of the lack of visibility of the proposed turbines from within the Céide Fields visitor centre itself, the publicly accessible area of the Céide fields. As a precautionary measure photowire F was taken from the Céide fields from where public access is permitted illustrating the topographical screening present. No visibility arises as the turbines are located behind the brow of the hill within the historic site.

The wider extent of the Céide fields and the extent of the site's archaeological potential is comprehensively addressed in chapter 13. No direct effect however it is acknowledged that further walls could potentially be uncovered during construction activities associated with the proposed development. No such remains were uncovered during archaeological monitoring of site investigation trial pit within the site. Mitigation measures will ensure that any potential impact is not significant.

From a visual perspective the eastern section of the zone of archaeological potential for the Céide fields has only partial theoretical visibility. Visual impact assessment was conducted from publicly accessible locations. VP1 is within this zone of archaeological potential along the R314. Considering the topographical and vegetative screening present within the landscape, where theoretical visibility exists within the eastern section of the zone of archaeological potential views will be similar to VP1 where the turbines will be substantially screened and perceived as appropriately scaled turbines in the background of the view. Overall from a tourism perspective, the most sensitive locations within the Céide fields are the publicly accessible areas including the visitor centre and nearby OSI viewpoint. No visibility will occur from these viewpoints and no significant effects arise.

The centre point for Céide fields is located beyond 5km from the nearest proposed turbine while the zone of archaeological potential measures 3km to the nearest

proposed turbine. Based on designations within the RES for County Mayo it is evident that windfarm development and consequently views of turbines are clearly envisioned in this area.

Downpatrick Head, viewpoint is deemed to be 'very high' sensitivity. A residual visual effect of moderate was deemed to arise in relation to this viewpoint, VP3. Visibility of the turbines in itself does not necessarily give rise to significant visual effects. In relation to 360º panoramic vista, the proposed turbines do not obstruct or intrude upon key scenic sensitivities of this landscape such as the sea cliffs, sea stacks and immediate seascape setting of Downpatrick head itself. The field of view comprising the proposed development includes approximately 19º (5.2%) of the expansive panoramic vista (360º) available from this location and elsewhere on Downpatrick Head. While the proposed development introduces turbines that are partially visible from Downpatrick Head located approximately 11 km away the coastal character of the landscape, the most sensitive part of the landscape containing the most iconic and sensitive views including the Dun Briste Sea Stack (directed in the opposite direction) remains undisturbed. VP3 of the photomontage booklet – turbines are only partially visible beyond a distant ridgeline without impacting the key sensitivities of the landscape (seascape views and the Dun Briste Sea Stack).

In relation to visibility towards Downpatrick head from within the surrounding landscape, the R314 is the main transport route which allows for publicly accessible panoramic vistas of the surrounding landscape including Downpatrick Head and the Dun Briste Sea Stack. The wild Atlantic way and the REDV1 scenic route are all located along this regional road. The extent of visibility of Downpatrick Head from the regional road as shown in Figure 1-4 shows that the largest extent of visibility is directly southwest of Downpatrick Head, particularly along the sections of the road where there is no theoretical visibility of the proposed turbines. In areas where theoretical visibility does occur Downpatrick head is primarily not visible along that section of road. The R314 has no overlapping sightlines between Downpatrick Head and the proposed development. As the proposed development is situated perpendicular to the direction of travel the Development cannot be viewed simultaneously with Downpatrick Head. The proposed turbines will not impact on Downpatrick Head's value as a tourism asset.

Regarding the proposed Céide to Downpatrick Head coastal walk this walk located further than 5km from the nearest proposed turbine, has limited theoretical visibility along the majority of its course with full theoretical visibility only located on a small section of the route on approach to Downpatrick Head and partial theoretical visibility along the central and a small part of the western section of this route. A “not significant” visual effect overall on the proposed coastal walk arises. Regarding impact on tourism in the construction phase short term slight negative impact over 18-24 month duration. Consequently both the western way and Srallagagh Loop may experience slight negative impacts during this period.

Impact on the Wild Atlantic Way (beyond 5km from the nearest turbine) is assessed in Section 14.7.3.3.3. Theoretical visibility is mostly limited to a portion of the Wild Atlantic Way to the west of the LVIA Study Area represented by Viewpoint 2 where the development was deemed to have a slight impact and to a portion of the Wild Atlantic Way to the northeast of the site close to Downpatrick Head represented by viewpoint 3 and deemed to have a moderate impact. Visibility within the study areas is significantly limited. Where visibility does occur the turbines will be seen as small features in the background of the view screened by other elements in the landscape. VP2. In relation to concerns that the proposed turbines are out of character in a neolithic landscape it is noted that in the do nothing scenario other windfarms are visible from the wild Atlantic way. The Glenora wind turbines occupy a small horizontal extent and appear as minor elements in the background of view and do not significantly alter the overall scenic views from the Wild Atlantic Way.

Regarding potential for intrusion on the landscape from along the scenic routes located along the Wild Atlantic Way this is comprehensively assessed in Chapter 14 of the EIAR. Through the examination of designated scenic routes and views including SRDV2 and SR5, it has been determined that the proposed turbines have limited visual impact, with careful consideration given to preserving the character and integrity of the landscape. Overall scenic quality of the Wild Atlantic Way remains largely unaffected by the proposed development.

Landscape policy areas are included as landscape receptors and are comprehensively assessed. While the sensitivity matrix indicates that all LPAs are sensitive to wind farm development there is a contradiction within the plan in that the

wind energy strategy designated areas as priority preferred and open to consideration in landscape policy areas marked as having high potential to create adverse impact. Site selection and design adheres to the policies of the Mayo County Development Plan and ensures that adverse visual impacts are avoided or mitigated wherever possible in the context of protecting scenic upland vistas and linear sections of primary ridgelines.

LPA 1 has large areas of no theoretical visibility and will not be visible from the majority of the LPA. Regarding location of 15 turbines within areas outside areas where wind farms developments are open for consideration these are all proposed within 700m of the Tier 2 Open to Consideration or Tier 1 preferred designation. Local Planning policy clearly envisions a certain level of wind energy development in these areas despite the sensitivities assigned in the LPA sensitivity matrix. Vulnerable landscape features including ridgelines and water corridors are comprehensively addressed. The Cloughmoyle ridgeline east of the proposed development while the Maumakeogh Mountain ridgeline lies adjacent to the development to the north. Significant landscape effects on these features will not arise based on the generally remote nature of the development meaning that there is limited access to areas from where there will be substantial visibility. Strategic siting of the turbines at elevations lower than 230m AOD mitigates impact on adjacent ridgelines and creates substantial topographical screening from river banks. The proposed turbines are located on the lower regions of the slopes of the hills and mountains surrounding them and not on the vulnerable ridgelines directly.

Regarding third party concerns raised regarding positioning of photomontage 9 and that it should be relocated further towards Ballycastle it is noted that the settlement of Ballycastle is comprehensively assessed and discussed in full in Section 14.7.3.3.3. Photowire B (Plate 14-22 of the LVIA) chapter taken from within Ballycastle indicates that there will be primarily no visibility from within the village. Additionally, VP4 was captured 1.7km from the village and is discussed in Appendix 14-3 of the EIAR where the residual effect is deemed to be slight.

Turbine height follows the design guidance in relation to height for mountain Moorland Landscape. Cumulative effects are addressed and comprehensively assessed in extensive detail throughout chapter 14 of the EIAR. VP8 (showing

Oweninny 2, permitted ABO Sheskin windfarm, proposed Sheskin south wind farm and proposed Kilsallagh windfarm) While the proposed turbines appear as minor elements amidst the landscape their presence contributes to the visual clutter when viewed alongside existing and permitted turbines. No significant cumulative effects arise from the proposed development particularly when compared to more prominent developments.

7.0 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.

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.

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 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. The original 12 sectoral Plans prepared in 2019 and a new sectoral Plan for tourism are to be updated/prepared by end of Q3 2025. The following Electricity and Gas Sectoral Plan is relevant to the subject proposal.

7.2.5 Electricity and Gas Sectoral Plan 2019

The aim of the Plan is to address the risks posed by climate change to the electricity and gas networks. The plan focuses on identifying vulnerabilities such as extreme weather and changing temperature patterns and how they could affect the electricity and gas networks. Specific measures to minimise the potential negative effects of climate change are outlined including the strengthening of the grid and ensuring reliable gas supply. The Plan also seeks to exploit opportunities and the potential benefits arising from climate change adaptation such as increased energy efficiency and the development of new renewable energy sources.

7.2.6 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 Northern and Western Regional Area is an additional 959MW, for solar PV or 12% of the National share in 2030 and an additional 1,389MW onshore wind 35% of the national share in 2030. This is the minimum required 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 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.

7.2.7 National Biodiversity Plan NBAP 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.

7.2.8 Wind Energy Development Guidelines, June 2006

The Guidelines advise that a reasonable balance must be achieved between meeting Government Policy on renewable energy and the proper planning and sustainable development of an area and it provides advice on wind energy development in terms of the development plan and development management processes. Guidance is given on matters such as noise, shadow flicker, natural heritage, archaeology, architectural heritage, ground conditions, aircraft safety, and

windtake. Chapter 6 provides guidance on siting and design of wind energy development in the landscape. This includes advice on spatial extent and scale, cumulative effect, layout, and height of turbines.

7.2.9 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.

7.2.10 Spatial Planning and National Roads - Guidelines for Planning Authorities 2012 These section 28 guidelines set out the planning policy considerations relating to development affecting national roads.

7.2.11 Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (EPA 2022)

7.2.12 Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, Department of Housing, Planning, Community and Local Government (2018)

7.2.13 Guidelines for Landscape and Visual Impact Assessment (3rd Edition) Landscape Institute and Institute of Environmental Management & Assessment 2013 (IEMA)

7.2.14 Guidelines for Ecological Impact Assessment 2018 Chartered Institute of Ecology and Environmental Management (ICEEM)

7.2.15 Guidelines for Assessment of Ecological Impacts of National Road Schemes (NRA, 2009)

7.2.16 Scottish Natural Heritage (SNH) Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation 2019

7.3 Regional Policy

7.3.1 Regional Spatial & Economic Strategy (RSES) for the North West Region, 2020

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. 8.6.2. The RSES acknowledges that the region has a pivotal role in delivering a successful transition to Ireland's proposed low carbon economy. Section of the RSES entitled 'Renewable Energy and Low Carbon Future' includes policies supportive of renewable energy developments including Regional Policy Objectives (RPO) 4.16, 4.17 and 4.18 which seeks to coordinate the identification of potential renewable energy sites of scale, 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.

7.4 The Mayo County Development Plan (CDP) 2022-2028

Volume 1 comprises the Written Statement, Volume 2 - Development Management Standards. Volume 3 - Book of Maps. Volume 4 - supporting documentation including the Landscape Appraisal for Mayo and the Mayo Renewable Energy Strategy (RES). Chapter 4 of Volume 1 deals with Economic Development, Chapter 7 Infrastructure, Chapter 10 deals with Natural Environment and Chapter 11 deals with Climate Action and Renewable Energy.

Relevant economic development policies and objectives include EDO 54 and EDO 69 which support renewable energy resources and initiatives that facilitate a low carbon transition. INP 21 and INO 39 support the provision of electricity infrastructure and delivery of electricity transmission network requirements of renewable energy projects.

Natural environment policies and objectives set out in the CDP include:

NEP 1 - support the protection, conservation and enhancement of the natural heritage and biodiversity of County Mayo.

NEO 6 - protect surface waters, aquatic and wetland habitats and freshwater and water dependent species.

NEO 8 - maintain, protect and where possible enhance the natural heritage and biodiversity of bogs, fens and turloughs, where appropriate.

NEP 9 – protect and restore peatlands, where appropriate.

NEP 10 - ensure that peatland areas are conserved for their ecological, climate regulation, archaeological, cultural and educational significance.

Climate Action policies include

CAP 1 to support climate adaption and mitigation.

CAP 4 to support the development of renewable energy sources,

CAP 6 to support the transition to a competitive low carbon climate resilient and environmentally sustainable economy and

CAP 9 to support and facilitate the development and exploitation of all appropriate renewable energy sources where such development does not have negative impact on the surrounding environment (including water quality), landscape, biodiversity or local amenities.

In terms of Landscape Policy Areas the site is within Policy Area 3 – Uplands, Moors, Heath or Bog (Map 10.1). The landscape Sensitivity Matrix (Figure 10.1) states that windfarms, in Policy Area 3, have “high potential to create adverse impacts on the existing landscape character. Having regard to the intrinsic physical and visual characteristics of the landscape area, it is unlikely that such impacts can be reduced to a widely acceptable level.”

Within Chapter 10 Natural Environment Policies include NEO 27 - ensure development proposals are consistent with the Landscape Appraisal of County Mayo and the associated Landscape Sensitivity Matrix. NEP 21, NEO 37, NEO 42 and NEO 43 all relate to protection of waters, including protection, enhancement and restoration of waters, and consideration of the Water Framework Directive.

Section 6.4.2.1 deals with national roads. Policy MTP 23 seeks to protect the national road network in compliance with the 'Spatial Planning and National Roads - Guidelines for planning authorities' (2012). Policy MTP 24 seeks to avoid the creation of additional direct access points from new development adjoining national roads or the generation of additional traffic from existing direct accesses to national roads to which speed limits greater than 60 km/h apply. MTO 22 applies a less restrictive approach to non-residential access to National Roads may be applied to development considered to be of National or Strategic Importance, however, exceptions are required to be identified for incorporation into the Development Plan.

Section 11.7.6 deals with Wind Energy. It is stated that MCC recognises the importance of onshore and offshore wind energy as a renewable energy source and its role in meeting Ireland's national target. The Council will endeavour to continue to facilitate wind energy projects that accord with the Mayo RES, the Landscape Appraisal of County Mayo and relevant Section 28 ministerial guidelines. Relevant renewable energy policies and objectives set out in the CDP include the following:

• REP 1 – support facilitation and exploitation of renewable energy sources which does not have a negative impact on the surrounding environment.

• REP 3 – support the sustainable development and renewal of energy infrastructure.

• REP 4 – ensure community consultation by developers of large-scale renewable energy projects.

• REP 5 – support energy efficiency and renewable energy system optimisation,

• REP 7 – promote the harnessing of wind energy in Mayo.

• REO 3 – encourage and facilitate energy production.

• REO 6 – ensure compliance with the Mayo County Council Renewable Energy Strategy 2011-2022 (or as updated).

• REO 8 – encourage the development of wind energy, having regard to the Landscape Appraisal of County Mayo, Wind Energy Development Guidelines and Mayo RES (or revisions).

• REO 23 – support achievement of the min. renewable energy target of 600MW for County Mayo over the plan and ensure consistency with any regional strategy.

Chapter 10 deals with the natural environment. Objective NEO 27 states it is an objective to ensure consistency with the Landscape Appraisal of County Mayo.

Volume 2 Development Management Standards requires all planning applications for wind energy turbines be assessed against the Wind Energy Guidelines.

Renewable Energy Strategy (RES) for County Mayo (Volume 4 of the CDP)

The aim of the RES is to develop the plan led approach to the location of renewable energy development. The RES incorporates maps identifying areas as suitable for particular energy development. Map 1 'Wind Energy' classifies potential areas for onshore wind energy development, among 4 classifications:

Priority Areas, Areas which have secured planning permission and where on shore windfarms can be developed immediately.

Tier 1 – Preferred (Large Wind Farms) Greatest potential for large wind farms

Tier 1 – Preferred (Cluster of Turbines) Suitable for small clusters of wind turbines (Up to 3-5 depending on site conditions and visual amenity),

Tier 2 – Open for Consideration. Areas which may be considered for wind farms or small clusters of wind turbines but where the visual impact on sensitive or vulnerable landscapes, listed highly scenic routes, scenic routes, scenic viewing points and scenic routes will be the principal consideration.

Any proposals for on-shore wind farm developments will be determined in accordance with the Wind Energy Development Guidelines (DoEHLG) 2006 or any subsequent guidelines and the requirements set out in Section 6.5

The site incorporates 'Preferred Tier 1 and Tier 2 lands with unclassified lands in the northern and eastern boundary extent of the site.

Relevant objectives of the renewable energy strategy include:

• 1.1: Assist in achieving national targets for reducing GHGs associated with energy production.

• 1.2: Encourage renewable energy production;

• 2.1: Ensure compliance with legislation relating to protection of the environment.

• 2.2: Follow a sustainable plan led approach to renewable energy development, to preferred locations as set out in section 6.4 and complying with standards in section 6.5.

• 2.4: Ensure that renewable energy developments do not impinge on designated visual amenity areas, rights of way, public routes, scenic routes and views, architectural heritage and Architectural Conservation Areas, archaeological heritage and vulnerable or sensitive landscapes.

• 4.1: Ensure the advantages presented by renewable energy development outweigh the disadvantages for the majority of the community and for the wider environment.

• 4.3: Renewable energy development proposals are required to incorporate the concept of community benefit.

Landscape Appraisal of County Mayo (Volume 4 of the CDP)

The site incorporates two Landscape Character Units LCU E and LCU F.

LCU E is described as the mountainous spine of northern Mayo oriented in a crescent from the northern coast before diverging west toward Achill, and east toward Lough Conn, ending at this point with Nephin Beg. This mountain range is a focal point for northern Mayo and shares boundaries with 7 other landscape character units, which indicates its physical extent and landscape dividing role. It can be characterised as a barren montaine, moorland with steep flowing slopes. The land cover primarily comprises bog/moor type grasses with significant areas of coniferous and mixed, commercial forests with exposed rock at the highest points. This area contains a high proportion of the Counties primary and secondary ridgelines, which dominate surrounding vistas for considerable distances in all directions.

LCU F: North Mayo Inland Bog Basin which is described as a large bog area of 300sq km surrounded to the north, west and south by mountains giving it the appearance of a lowland basin. Smooth terrain allows vistas over long distance. As a result, development can have a disproportionate visual impact in such terrain, due to an inherent inability to be absorbed, physically or visually.

Section 3 of the appraisal deals with areas designated as 'vulnerable' and includes the coastline, the banks of rivers, shorelines of all lakes, the skyline of upland areas, all headlands and promontories.

Policy 3.1(b) relates to Areas Designated as Vulnerable – "…development in the environs of these vulnerable areas must be shown not to impinge in any significant way upon its character, integrity or uniformity when viewed from the surroundings. Particular attention should be given to the preservation of the character and distinctiveness of these areas as viewed from scenic routes and the environs of archaeological and historic sites."

Peat Bogs and watercourses are among the 'main areas' designated as 'sensitive'. Policy 3.2(b) relating to areas designated as sensitive include the requirement that applications for development in these areas must demonstrate an awareness of these inherent limitations by having a very high standard of site selection, siting layout, selection of materials and finishes.

In relation to landscape sensitivity it is noted at 3.2 (d) Slopes >10% Contiguous areas with an area greater than 50ha and a slope of 10% (1 in 10) or greater are mapped and provide an indication of elevated areas that are likely to be more conspicuous than the surrounding countryside. Such areas are also likely to form the context for larger vulnerable features such as ridge lines. Actual sensitivity will be highly variable – principally on account of the local height, density and proximity of mature vegetation and trees. Therefore while such areas may have a general potential for vulnerability and sensitivity, they will also consistently contain areas with the same potential to absorb development as landscapes that are classified as 'normal'. Localised areas of steep topography also occur throughout the countryside at a smaller scale than this mapping will reveal – particularly along water courses

and at the coast. This may create significant local prominence that will require project-by-project evaluation for Development Control purposes.

Drawing on field observation and mapping character units with similar visual landscape elements were grouped according to 4 categories identified specifically for County Mayo. The application site is indicated to be in Policy Area 3 relating to uplands, moors, heath or bogs. The following policies are relevant:

• 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 16: Preserve from development any areas that have not already been subject to development, which have retained a dominantly undisturbed upland/moorland character. The landscape appraisal includes:

• Development Impact Potential Index: windfarms are given a high development impact potential.

• Development Impact – Landscape Sensitivity Matrix: Policy Area 3 – windfarms: high potential to create adverse impacts on the existing landscape character.

8.0 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 Mayo 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 and to avoid unnecessary repetition under each of the sections.

8.2 Planning Assessment

8.2.1 Having inspected the site, examined the application details and all documentation on file and having regard to relevant national guidance and local planning policies I note that the main issues raised in the submissions and the matters pertinent in determining the current application relate to planning policy, landscape and visual impact, archaeology, cultural heritage and tourism impact, traffic and transport impact on material assets, health and wellbeing and impact on biodiversity. These matters are fully addressed in the relevant planning environmental and appropriate assessment sections of this report. In terms of the focussed Planning Assessment the key issues to be addressed relate to the Principle of Development and policy context and Legal and Procedural Issues. The question of conditions which might apply also needs to be considered.

8.2.2 The Principle of Development

8.2.2.1 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.

8.2.2.2 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.

8.2.2.3 It is clear that the proposed 22 turbine windfarm with potential installed capacity of c.132-198 MW complies with the overarching 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.

8.2.2.4 At the local level Mayo County Development Plan encourages and supports the principle of development of wind energy and highlights the need to reduce reliance on fossil fuels and to reduce greenhouse gas emissions. It is noted that Mayo

County Council in its submission acknowledges that the principle of development is supported by development plan policy.

8.2.2.5 I note that some third party submissions question the principle of windfarm development in the context particularly of the designations within the County Development Plan Renewable Energy Strategy RES where the only 3 of the proposed turbines are located within areas classified as Tier 1 “Preferred” (Large Wind Farms) and a further 4 are within areas designated as Tier 2 “Open for consideration”. The remaining 15 are within the unclassified area. The third party submissions assert that it is inappropriate to disregard the RES to facilitate the applicant’s ambitions. The case is also made by the observers, that the development is premature in light of the fact that the RES adopted in 2011 (and currently under review) is arguably outdated in light of the altered context of wind energy development in terms particularly of turbine scale and technology. 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.

8.2.2.6 A very useful presentation in Figure 6 of Planning Report of the Site Layout with RES land designation overlay, and Table 5 - Distances of Turbines from Mayo RES classified areas is copied in Appendix 2 to the Inspector’s report (Page 4). The applicant in submissions on this issue notes proximity to Tier 1 and 2 areas and stresses that as strategically zoned lands it is vital that these areas are developed for wind energy to their full potential to meet demand to achieve renewable energy targets. Not all tier 1 and 2 areas will be feasible for wind energy due to various project specific constraints and favourable consideration should therefore be given to the entire site as all areas share similar landcover and landscape characteristics. It is outlined that the comprehensive environmental and ecological constraints analysis carried out at project level qualitatively surpasses the sieve mapping carried out by Mayo County Council when formulating the RES. The applicant also notes that

regard should be had to the increased demand and policy imperative for renewable energy in the intervening period.

8.2.2.7 I note that Mayo County Council in Chief Executive report indicated that they considered the principle of development to be acceptable. Having considered the policy context and all submissions on the issue, I consider that the applicant has set out a compelling case and a reasonable justification for the proposed development in terms of the siting of turbines on unclassified lands nevertheless proximate to Tier 1 and Tier 2 areas. I note that it is stated within the RES that "*The areas identified in this document and on the Maps accompanying this strategy are considered the most appropriate for renewable energy developments. Other areas are likely to have planning and environmental constraints which would make them less suitable for renewable energy developments. In compliance with the Habitats Directive and the fact that there are alternative sites available for renewable energy development in the County, no renewable energy development will be considered on Natura 2000 sites……*

Any proposals for on-shore wind farm developments will be determined in accordance with the Wind Energy Development Guidelines (DoEHLG) 2006 or any subsequent guidelines and the requirements set out in Section 6.5"

At 6.5 Environmental Considerations and SEA Mitigation Measures it is stated:

"Notwithstanding the potential areas identified in this strategy all proposed renewable developments will be assessed on the principles of proper planning and sustainable development, ensuring minimal adverse environmental impact, including flooding, and taking full account of the presence and requirement to protect all Natura 2000 sites and (proposed) Natural Heritage Sites. Projects will be subject to Habitats Directive Assessment where considered appropriate."

I consider based on the foregoing that whist the classifications within the RES identify potential areas for on shore wind energy development the strategy does not preclude consideration for such development outside of these areas on their planning merit. There is no specific policy or objective restricting the provision of wind turbines in unclassified areas. I have considered the justification as outlined and detailed by the applicant and I consider that based on the proximity to the preferred and open for consideration areas I am inclined to concur that the principle of development is acceptable. I do not consider therefore that the propsoed development represents a departure from a fundamental provision of the development plan or that it would seriously prejudice or breach an objective of the plan and therefore material contravention does not arise. A number of observers reference a history of refusal for windfarm development in the area. This is detailed in the planning history above 206517. While the previous decision is noted, both the national and local policy context has evolved significantly in the interim such that climate change and renewable energy are now central tenets of national, regional and local policy noting in particular the Climate Action and Low Carbon Development Act 2015, as amended. In terms of the principle of the proposal when considered in terms of the planning history, I do not consider that the previous decisions establish a precedent which dictates that permission cannot be considered in principle. With regard to assertions that the treatment and prioritisation of wind energy proposals over off rural housing development is inherently unjust, regard must be had to the policy context for same, renewable energy targets and wider societal benefit.

8.2.2.8 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 wind farm, with a projected maximum output of up to 198 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 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 and in accordance with the overall goal of reducing reliance on fossil fuels and promoting and developing more sustainable forms of renewable energy. 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 also note that there is a clear precedent for wind energy development in this locality. Overall, I consider that the proposed windfarm is in compliance with the strategic objectives of the national and regional policy on renewable energy. The proposed development will deliver a significant increase in renewable energy production and an associated reduction in CO2 emissions, thereby helping to address climate change at a local level. The proposal is therefore acceptable in principle and in accordance with the proper planning and sustainable development subject to the assessment of the detailed matters addressed hereunder.

8.2.2.9 Common themes raised in third party and prescribed body submissions arise from concerns regarding the visual impact of the proposed development on the landscape on visual residential and rural amenity and on heritage and tourism assets particularly the Céide Fields, The Wild Atlantic Way, and Downpatrick Head. Particular note is made of the scale and height of the proposed development and the cumulative impact of windfarms in north Mayo. Mayo County Council in its submission requests the Commission to conduct a detailed assessment of potential adverse visual impact on designated scenic routes and views along the Wild Atlantic Way, Downpatrick Head. Concerns are raised regarding the cumulative visual impact and including impact of red flashing warning lights on the environment and human population reiterating concerns with regard to the coalescence of windfarms from sensitive views.

8.2.2.10 Chapter 14 of the EIAR addresses the landscape and visual impact while chapter 13 addresses archaeology and cultural heritage and are addressed within the Environmental Impact Assessment below with regard to the likely significant direct

and indirect effects on the landscape and visual amenity as well as policies and relevant guidance. Given the nature of the development the focus is on the proposed turbines as the essential aspects of the proposal from a landscape and visual perspective. In terms of the design process it is noted that the layout proposed adheres to the guidance for siting of windfarms in mountain moorland landscape as set out in DoELG Guidelines 2006. It is noted that the use of existing forestry tracks where possible is favourable in terms of reducing the visual effects arising. It is outlined in terms of mitigation by design that the constraints mapping process established buffer zones around relevant constraints. The various constraints maps relating to the site included the following

- Residential dwellings plus a minimum 720m buffer(4 x tip height)
- Designated site plus 100m buffer
- Rivers and streams plus 50m buffer
- Recorded archaeological sites and monuments/protected structures plus 50m buffer
- Geotechnical construction buffer zones
- Western way walking route plus 180m buffer
- Visual impact exclusion zone (elevation above 240m OD)

8.2.2.11 It is submitted within the application that the layout of the 22 turbines optimally utilises the wind resource and potential power generation capacity of the site while adhering to the necessary setback constraints. It maintains a maximum turbine base elevation of 250m OD to minimise landscape and visual impacts on the northwest ridgeline. In terms of visual impact it is asserted that there is immaterial, if not, little difference between the areas designated as open for consideration and the unclassified areas within the proposed development site. Throughout the iterative design process various ZTVs were generated to evaluate different turbine layouts and the assessment of the site's landscape value concluded that it falls within the 'low' category. This is considered in detail within the landscape and visual assessment of the EIAR. With regard to the sensitivity of the wider landscape in terms of landscape and cultural heritage and recreation and tourism assets this is

acknowledged within the EIAR. Regarding the adequacy of information in terms of the submitted photomontages and discussion, I consider that the EIAR provides a representative and comprehensive view of landscape visual effect, cultural and tourism effects. Based on the analysis undertaken which is considered in detail in the EIA below it has been demonstrated that the proposed windfarm will not detract from the setting and context of the sensitive heritage sites including the Céide Fields, Downpatrick Head, the wild Atlantic way and designated sites. The cumulative impact of the proposed development in combination with other permitted and proposed developments has been taken into consideration. It is my considered view that while the proposed development will constitute a significant intervention in the landscape resulting in impacts from a number of receptors and viewpoints, the landscape has the capacity to absorb the development.

8.2.3 Legal and Procedural Issues

8.2.3.1 I note that the site is located within the Gaeltacht (Béal Deirg Mór / Beldergmore DED). Accordingly the applicant was requested to provide bilingual site notices and documents *as Gaeilge* (EIAR Non-technical summary, Appropriate Assessment Screening Report and Natura Impact Statement). The applicant submitted the requested documents on 25th November 2025 including revised bilingual public notices. Ten further public submissions were received and all submissions have been read and considered in the assessment. (I note that the Commission's Order will issue in English and as Gaeilge in accordance with established practice and the former An Bord Pleanála Language Scheme).

8.2.3.2 A number of the third parties raise issues of a legal and procedural nature including

- Allegations of Inadequate Public Consultation and Power Imbalance.
- Contested Ownership with respect to land folio no 62976F
- Prematurity pending adoption of guidelines for utility scale wind energy installations and full SEA assessment of utility scale installations

- Project splitting
- Access to information – Failure to comply with the Aarhus Convention.

8.2.3.3 Regarding public consultation a number of third parties contend that no meaningful consultation took place with the local community and that consultation was limited by the Covid pandemic thereby restricting the local community from participation in the process. Concerns that engagement with local authority was focussed within the Westport Belmullet Municipal District and not the Ballina Municipal District and that it was not truly participative. 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.

8.2.3.4 In their response on the adequacy of public consultation, the applicant noted that extensive community engagement was undertaken since September 2020 as outlined in the Glenora Wind Farm Community Report. With regard to the local authority it is asserted that extensive consultation was carried out with the relevant stakeholders within Mayo County Council. Dedicated contact details and project website provide for ongoing communications with the public. I note that whilst a summary of key issues raised during the course of consultations, specifically in response to scoping document circulated in March 2021 to relevant authorities and non-governmental organisations are provided at Table 2.6, details of issues raised in submissions from the public are not provided and I note that this omission

supports third party criticisms of unsatisfactory feedback and communication flow. Notwithstanding the limitations and 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 and is acceptable in this regard.

8.2.3.5 As regards the perceived power imbalance in terms of the contrast of resources available to the community to those of the applicant and the ability of the community to assess and decipher complex issues, I acknowledge the difficulties posed by the scale and complex nature of the development and the perception of potential bias. However I note that the application and EIAR is prepared by competent experts to ensure completeness. I note also that the non-technical summary provided within the EIAR (Volume 1) provides an accessible outline of the proposed development and its implications. I also consider that the depth and detail of submissions received demonstrates the observers' awareness and comprehension of the pertinent issues arising in respect of the development. I am satisfied that the Board has sufficient information with regard to the local community perspective to enable a balanced decision in respect of the proposed development.

8.2.3.6 The question of sufficient legal interest arises in terms of the ownership claims raised in the submission of Michelle McGrath which asserts that land folio No 62976F within the application site is part of an ongoing litigation as a matrimonial asset in Alberta Canada. Letter of consent is therefore disputed. In response the applicant has acknowledged that the referenced family law proceedings were initiated but have since lapsed. It is outlined that the landowner disputes the contention that the property could legally be subject to these proceedings thereby claiming ownership and sufficient legal entitlement. I acknowledge the dispute and the associated information provided. I consider that it is not a matter for the Board to adjudicate on such matters. I note that all matters raised are essentially civil matters between the 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”.

8.2.3.7 Regarding the contention that the development is premature pending the adoption of guidelines for utility scale wind energy installations and full SEA assessment of utility scale installations, I note that there is a comprehensive range of guidance and policy objectives at national regional and local level generally in relation to windfarm development and therefore I do not agree that there is a vacuum in policy or guidelines which would preclude the Commission from determining the application in accordance with the proper planning and sustainable development of the area.

8.2.3.8 Regarding the allegations of project splitting, it is contended that this arises in the context of multiple individual windfarm applications in the locality and also the separate consent process for grid connection and the consent gap between environmental assessment and development authorisation. I note that the origin or definition and undesirable outcome of project splitting relates to the splitting of large scale developments into smaller applications in order to create subthreshold Environmental Impact Assessment (EIA) development proposals thereby circumventing the requirement to carry out EIA. In terms of assessment of the current context, I note that the applicant in the current case and also those involved in concurrent windfarm applications have completed comprehensive EIARs and therefore there has been no attempt to circumvent the EIA process. The EIAR and information available to the Commission enables a thorough cumulative impact assessment of the propsoed development in combination with existing permitted and proposed projects. I am satisfied that the information available enables the Commission to carry out a full comprehensive and robust assessment of cumulative impact.

8.2.3.9 Regarding access to information and alleged breaches of the Aarhus convention some observers are critical of the Commission in terms of the non-availability of information on the Board’s website in the early stages of the application and the

perceived short timelines provided for the third parties to respond to complex issues. Some parties also note difficulties in accessing historical files and the inconvenience in terms of attending the local authority's or Commission's offices to view the information. I acknowledge the complexities and time and other pressures arising and I note that digital transformation has latterly revolutionised access to information and documentation thereby emphasising the inconvenience of former systems. However in any event I am satisfied that the Commission and Mayo County Council complied with statutory requirements under the Planning and Development Act 2000 as amended in terms of access to documentation.

8.2.4 Conditions

8.2.4.1 In response to the application the Planning Authority and prescribed bodies and third parties recommended certain conditions to be attached in the event of permission. These recommendations have been taken on board for inclusion in the recommended conditions.

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

Table C 1: Consideration of Conditions		
		Included / Excluded & reasoning
Mayo County Council		
Roads and Road Infrastructure	Road structural capacity survey and repair Bridge Structural survey. Extent and Detail of road construction to be agreed. Strengthening of access roads along L5189 and L51892 Construction haul routes to be agreed. L5189 and L51892 not to be used. Reinstatement or roadside boundaries. Details to be agreed having regard to location along Wild Atlantic Way. Wheel wash, Road surface water drainage to be maintained. No surface water to discharge to public road.	Included in schedule of conditions Addressed by condition 13 CEMP Condition 14 Conditions 7, 14.

	Traffic Management Plan Abnormal Loads Permits. Public road closure notices Most efficient feasible and shortest grid connection to be agreed. Undergrounding of powerlines Community Liaison Officer Complaints procedure. Contingency plan for breakdown during component delivery Before and after survey of all diversion routes and rectification of damage. Refundable cash deposit to cover costs to rectify damage to road network.	Condition 13 Excluded outside the planning code Not applicable Condition 6 Condition 20 CEMP Conditions 13 14 Condition 13 Condition 22
Archaeology	All recommendations of EIAR to be implemented. Pre development testing and monitoring. Buffer zones. Agreement with National Monuments Service. Consultation with Manager of Céide fields visitor centre regarding up to date location of Céide Fields pre-bog walls complex Archaeological monitoring of tree felling and off road grid connection route and geotechnical trial holes. Degree extent and frequency of monitoring to be determined by National Monuments Service. Buffer zone around corn kiln (ITM E502754 N834154) and complex of derelict and ruinous buildings (ITM E505889 N833391) Should archaeological material be uncovered. Works to be stopped and advice by National Monuments Service regarding mitigating action. Planning Authority and National Monuments Service to be furnished with report of monitoring.	Included in Schedule of conditions Condition 15
General Construction practice	Hours of construction Reinstatement programme for decommissioning Protocol for telecommunication impact. Cables to be underground	CEMP Condition 14 Condition 5 Condition 10 Condition 6
Environmental	Costs to Mayo County Council for environmental monitoring to be reimbursed by developer. Environmental Monitoring Committee EMC Adherence to IFI guidelines best practice.	Not included- outside scope.

	CEMP measures in respect of Noise level limits, Dust level limits In the event of siltation to watercourse – works to cease and additional drainage measures. Reporting to IFI. Water quality monitoring to be agreed with IFI. Daily surface water monitoring during construction. Emergency Response procedures Measures to prevent spread of invasive species. Use of poor tensile strength rock e.g. shale for road construction not permitted Silt mitigation and surface water control measures to be in place prior to groundworks commencing. Waste Management Silt mitigation and surface water control ELV 25mg/l suspended solids to watercourses. Details of continuous monitoring to be agreed 6 months prior to commencement of development. Monitoring equipment operational at least three months prior to commencement of development. Monitoring results and interpretation submitted monthly in hardcopy and electronic format. Environmental scientist/engineer for period of earthworks construction. Liaison with Mayo County Council. Noise level mitigation during construction, Dust levels not to exceed 350mg/m2 (TA Luft Air Quality Standard) per day averaged over 30 days when measured at site boundaries. Activities likely to exceed to be notified. Tank and drum storage volumes. Oil abatement kits. Waste management No stream diversions culvert installations or replacements without prior consultation and agreement with IFI. Clear span structures where possible. Construction outside of breeding season. No recommencement during bird nesting season after significant periods of inactivity. Annual monitoring programme for bird activity.	Mitigation and monitoring as per EIAR. Mitigation measures as set out in EIAR Condition 2 Condition 7, 14 Condition 14. Condition 19 Condition 13, 7 Condition 7 Condition 14 CEMP- Condition 14 EIAR Mitigation Condition 2 Condition 7 Condition 7 Conditions 17, 18

	Ecological supervision of conservation plan for rehabilitation. Forestry adviser to determine potential for replanting with native species.	EIAR NIS Mitigation Conditions 2 and 3
Financial	Bond for reinstatement demolition and removal Contribution in accordance with development contribution scheme/ €10,000 per megawatt of electricity. Annual contribution €10,000 per megawatt Community benefit.	Included in Schedule of conditions Condition 24 Condition 25
Department of Housing Local Government and Heritage.		
Archaeology	Mitigation measures in relation to archaeology cultural heritage Pre development testing. Impact Assessment report for written agreement in advance of site preparation/ groundworks. Archaeologist to advise on mitigation for decommissioning. Report of monitoring and investigative works and post excavation specialist analysis.	Condition 15.
Transport Infrastructure Ireland TII.		
	Works to national road network to comply with TII publications and subject to road safety audit. Permits, agreement as appropriate. Rectification of damage.	Condition 13
Department of Defence		
Aviation	Turbine illumination Obstacle lighting	Condition 12

9.0 Environmental Impact Assessment

9.1 Statutory Provisions

9.1.1 Schedule 5, Part 2, Class 3, Energy Industry (j), Planning and Development Regulations, 2001 (as amended) requires EIA for 'Installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output greater than 5 megawatts'. The subject development comprises a wind farm of 22 no. turbines and an output of 132MW to 198MW and therefore exceeds both thresholds referred to in Class 3(i) and is therefore subject to mandatory EIA.

9.1.2 The proposal also includes elements requiring EIA as set out in Schedule 5 of Part 2,

" 2. Extractive Industry (b) "Extraction of stone, gravel, sand or clay, where the area of extraction would be greater than 5 hectares."

The proposal includes three no borrow pits for the purpose of aggregate material extending to approximately 9.29ha thereby exceeding the 5 hectares threshold.

"10 Infrastructure Projects (dd) All private roads which would exceed 2000m in length".

The proposed development includes for 10.5 km of new internal tracks.

In addition, the proposed development has also been determined by the Board 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 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

b. 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.

Article 94 of the Planning and Development Regulations, 2001 and associated Schedule 6 set out requirements on the contents of an EIAR.

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 the Commission's decision, should the Commission 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 MKO Planning and Environment Consultants, it is set out in grouped format in 3 volumes as follows

Volume 1 Non-technical summary and Main Report

Volume 2 Photomontage Booklet

Volume 3a Appendices 2-1 to 6-6

Volume 3b Appendices 7-1 to 15-2

Further information was submitted in response to the third party submissions.

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 and are summarised in Chapter 18 of the EIAR. Where proposed, monitoring arrangements are also outlined. Chapter 16 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.

I am satisfied that the information provided in the EIAR and supplementary submissions in response to third party observations and to the Board's further information request 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 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 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 am also satisfied that the information contained in the EIAR 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.

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 4 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 development which require further clarification are not substantial and can be addressed by condition. I am satisfied therefore that sufficient information has been presented to enable an assessment of likely significant environmental effects to be carried out.

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 technical assessment of this EIA below. I am satisfied that the likely significant effects of the development on the environment have been described.
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 summary in Chapter 18 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.
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 technologies, alternative turbine layouts and development design and alternative cable routes and haul routes. 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 and to the environmental impact assessment carried out below, I am satisfied that there are no significant impediments to the assessment of environmental effects, by virtue of difficulties encountered or areas of uncertainty.
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 Chapter 16 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 the 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 1-3 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.

9.3.2 Issues Raised in Respect of EIA

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

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

9.3.3 Consideration of Alternatives

9.3.3.1 Article 5(1)(d) of the 2014 EIA Directive requires: that an EIAR contain (d) 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, alternative locations, alternative renewable electricity technologies, alternative turbine numbers and turbine models, alternative turbine numbers and model, alternative turbine layout and design, alternative road layout, alternative location of ancillary structures (construction compound, electricity substation grid connection, borrow pit), alternative delivery routes, and alternative mitigation measures.

9.3.3.2 In a 'do-nothing' scenario, the site would continue to be managed for commercial forestry. It is noted that the surrounding commercial forestry operations can and will continue in conjunction with the proposed use. In this 'do-nothing' scenario the opportunity to capture a significant part of Mayo'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 and the development of proposed amenity access would also be lost. Table 3-1 provides a comparison of environmental effects in the 'do nothing' alternative scenario.

9.3.3.3 Regarding alternative locations 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 within Coillte's stewardship (c441,000 ha) to accommodate wind energy development. Screening process is

described in detail comprising three phases, initial screening, grid constraints and screening. The identification of a site relevant to the project and its specific characteristics examined and a technical review was completed based on planning policy context, proximity of existing grid infrastructure, designated sites, average wind speeds, and population density. Following site specific assessment Glenora was selected as a site with its close proximity to existing 110kV substation and electricity infrastructure, established access road infrastructure, absence of overlap with environmental designations, low population density and relatively low potential for environmental effects.

9.3.3.4 Regarding alternative renewable energy technologies, solar energy was considered however it was outlined that this would require a significantly larger development footprint, increased tree felling due to capacity factors and give rise to potential for higher environmental effect on hydrology and hydrogeology, traffic and transport during construction phase and biodiversity and birds. A comparison of the potential environmental effects is set out in table 3-2 of the EIAR.

9.3.3.5 Regarding alternative turbine numbers and models and project 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 biodiversity, hydrology, traffic and transportation would also arise. (Table 3.3)

9.3.3.6 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 14 turbines is set out against the proposed 22 turbine layout in Table 3.4.

9.3.3.7 In relation to road layout the proposed layout seeks to maximise the use of the existing road network whereby an entirely new road layout was not favourable given the significant environmental effects occurring. Alternative locations for construction compounds electricity substation, grid connection, borrow pit are detailed. Regarding the alternative location for construction compounds, the use of five temporary construction compounds was deemed preferable for a number of reasons regarding efficiency of construction practices and shorter traffic movements. The use of construction phase on-site borrow pits as opposed to offsite quarries was deemed to be preferable particularly with regard to potential traffic, noise and dust emissions. Alternative grid connection considered two options of existing 110kV substations within 25km at Tawnghnamore 110kv substation and Bellacorrick 110kV substation. Connection option A (underground connection to Tawnghnamore substation was chosen on the basis of a number of environmental considerations.

9.3.3.8 As regards turbine delivery route options, two alternatives are set out and depicted on Figure 3-7. Cognisance was taken of the haul routes used for other wind farm developments in the local area in addition to the general preference to minimise the requirements for significant accommodation or widening works along the public road network and other environmental effects. Turbine delivery option A from Galway Harbour via Lough Atalia Road, R339 and R336 Regional Road and N6/N83, from there along N6 and M6 to M6/M17 intersection then north on M17 and N18 to the junction with N5. Then west on N5 and north on N58 to Foxford and N26 to Ballina, West on N59 to Bangor Erris merging onto R313 and shortly turning north on L1204 local road that connects to the R314. Then northeast on R314 turning south onto unnamed local road before reaching Ballycastle and connecting to the site entrance track road to the west. Total delivery route length 235km. The alternative option B from Killybegs Harbour via R263 Regional Road, and N63 to Donegal town, the N15 to Sligo, the N4 and N15 to Tobercurry, the R294 to Ballina and N59 to Bangor Erris merging onto R313 and running north onto L1204 connecting to R314 turning south onto unnamed local road before reaching Ballycastle and connecting to the site entrance track road to the west. Total length of delivery route B 250km. Option A

was selected as the preferred route on basis that it comprises predominantly motorway, national primary and secondary routes avoiding long sections of narrower regional routes and incorporating less potential pinch points.

9.3.3.9 Regarding alternative mitigation it is outlined that mitigation by avoidance (buffer zones / separation distances) is the key aspect of the design process. Avoidance of most ecologically sensitive areas of the site limits potential for environmental effects. Where loss of habitat occurs mitigation by project enhancement will be carried out.

9.3.3.10 I note that some of the third party observers query the consideration of alternative sites questioning whether a site closer to sources of energy demand would be more appropriate. A further submission contends that smaller turbines would be more appropriate and some third parties question the viability of wind energy citing alternative energy sources. The applicant outlined that site selection which followed a detailed screening process was reasonably confined to sites within Coillte's stewardship. 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 seeking 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.

9.3.4 Vulnerability to risks of major accidents and/or disasters

9.3.4.1 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 chapter 16 of the EIAR and in Chapter 8 and Geotechnical and Peat Stability Assessment Report included as Appendix 8-1 with regard to peat stability. Sources of pollution on site during construction operational and decommissioning phases are limited.

9.3.4.2 Risk of flooding is addressed in Chapter 9 and is deemed to be low. Risk of fire is limited. Spacing of the turbines and distance of turbines from any properties limits the potential for impact on human health. Six risks identified during the construction phase are identified including severe weather, flooding, peat stability, traffic incidents, contamination and industrial accident – fire gas explosion. Operational risks considered include contamination- discharge of fuel, chemical solvents, sewage/wastewater, industrial accident / fire/ gas explosion, collapse /damage of structures, traffic incident and loss of critical infrastructure. Decommissioning phase risks are similar to construction phase including severe weather, flooding, traffic incidents, contamination and industrial accident – fire/gas explosion and loss of critical infrastructure.

9.3.4.3 The potential risk of severe weather during construction will result in minor consequence. The risk of peat instability during construction is minimised through careful design and by adherence to best practice construction control measures. The risk is deemed very unlikely and will have limited consequences representing a low risk scenario. The risk of contamination during construction, operation and decommissioning is unlikely having regard to mitigation measures as set out in the CEMP. The risk of industrial accident / fire / explosion is unlikely and would have limited consequences.

9.3.4.4 The scenario with the highest risk score in terms of the occurrence of major accident and/or disaster was identified as contamination of the proposed development site and risk of industrial accident fire /gas explosion during construction operation and

decommissioning phases. The design and construction in accordance with best practice measures will mitigate against the risk. Emergency response procedure will be adopted as set out in the CEMP. Ongoing review of mitigation and monitoring during construction, operation and decommissioning phases by way of auditing and site inspection. Procedures to be adopted in the event of an emergency relating to the health and safety or environmental protection are set out within the CEMP at Appendix 4.3 of the EIAR. No significant residual effects are anticipated.

9.3.4.5 No potential for significant in combination or cumulative mitigation effects associated with the potential for impact by major accidents and or disasters is identified. I consider that there are unlikely to be any significant effects deriving from major accidents and or disasters. The examination analysis of risk is further addressed at 9.16 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.

9.5.1.1 Issues raised in respect of population and human health centre around question 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 (in particular peat slippage) 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 and potential impact on mental health and wellbeing.

9.5.1.2 Mayo County Council raise concern in relation to the cumulative effect of obstacle warning lights on the local population. The Department of Defence 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. The matter of road safety is addressed under the relevant material assets section of the report below.

9.5.2 Examination of the EIAR.

9.5.2.1 Context.

Chapter 5 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) and other relevant government and industry guidelines. The vulnerability of the project to the risk of accidents and/or disasters is dealt with separately in chapter 16. 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 three District Electoral Divisions within which the proposed development is located extending to 150.3km2 with a total population of 844 as per 2022 census. Population density in the study area decreased during the 2016-2022 period (-4.2%) while the percentage change for County Mayo and the state increased during this period (+5.7% and +8.1% respectively). A significant separation distance from residential dwellings has been achieved in project design with the closest dwelling being approximately 1,179m from the nearest turbine (T.4).

Age structure shows the highest population occurring within the 45-65 and 65+ age categories reflecting the remote setting and predominance of agriculture as employment and likelihood of younger populations moving to larger towns and cities for employment and third level opportunities. In terms of land use patterns the location of the site within existing commercial forestry with wind energy, private turbary, low density residential, discontinuous urban fabric and agriculture.

In terms of amenities and community facilities, Ballycastle being the closest village and through which the grid connection route runs contains a number of amenities and community facilities including community hall, museum, GAA club and Ballycastle Beach.

Tourism attractions include the Western Way (long distance walking trail in Mayo and Galway) which traverses the site, the Wild Atlantic Way, Downpatrick Head, Céide Fields, Ballycastle Beach and Enniscrone Beach.

9.5.2.3 Potential Effects

The 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) 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: Wind farm could create approximately 80-100 jobs during construction phase (18-24 months). Limited workforce in area, workers likely to travel from surrounds. Short term positive effect on the local economy 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 clear felling of forestry. Some impacts on communities and roads along delivery route. Some short-term disturbance to electricity network in the area. Human health: 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. Tourism and Amenity. Temporary impact on section of the Western Way. Risk of health and safety hazards for construction workers and the public including increased traffic, transport of heavy or bulky materials, noise and dust Short-term increase in emissions to air, including vehicular and fugitive dust, but not significant and imperceptible impacts at dwellings (removed). Short term slight effects on air quality with rolling programme during construction of cable route. Potential for short term construction noise (from plant, equipment, site activities). No adverse effects from vibration (rock breaking), as site is removed from sensitive receptors. Potential for effects on human health from contamination of surface water (movement of soil, introduction of contaminants), changes to surface water flow patterns and groundwater levels, and movement of contaminated soils. Risk of landslides or slope instability.
Operation	Population, demographic change, employment and economic effects: Operation phase likely to create approximately 2-3 jobs. Contribution to achieving national renewable energy targets. Development contributions will provide funds to Mayo County Council. CBF will provide investment into the local community.

	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 as commercial forestry. Footprint of the proposed development will occupy a small portion of total study area . Grid route will be underground and no long-term adverse impact. Imperceptible long term impact on property values. Tourism and Amenity: Recreation and amenity plan provision for walking trails cycle paths. Human health: Net positive impact on air quality long term (displacement of fossil fuel). Potential for adverse effects on human health and safety including falling ice, accidents, fire (low risk). Operational wind farm noise levels will meet the derived day time and nighttime noise limits at all residential properties. No potential for effects on human health from electromagnetic radiation from turbines or underground electricity cables (EMFs significantly below ICNIRP guidelines). Closest dwelling is 1.179m from T4. Shadow flicker: No property experiencing shadow flicker. Noise 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.
Cumulative	Potential for cumulative effects with other existing and permitted wind farms, in particular traffic effects employment and economic activity during construction. During operation, the scale of wind farm development in the wider area will contribute to some wider cumulative landscape and visual impacts due to their close proximity to each other. Not considered to be a significant impact on population or human health. Positive cumulative effects reducing CO2 emissions, with moderate effects on climate change mitigation. No significant cumulative impacts on land use. No potential for cumulative shadow flicker. Tourism and Amenity. Wind farms an existing feature in the surrounding landscape will assist in the assimilation. Recreation and amenity proposals can augment proposals in the wider area.

9.5.2.4 Mitigation

The EIAR notes the main designed mitigation measures to offset effects on sensitive receptors relate to layout and setback with nearest occupied dwelling to turbine distance of 1,179m. Extensive consideration in design and layout to mitigate visual impact. Specific measures during construction and operation include construction in accordance with all relevant health and safety legislation, hazard and risk identification and mitigation. Project supervisor oversight. Signage to ensure that amenity access effects are mitigated. Other measures relating to noise mitigation, dust suppression and traffic management. The measures outlined are typically standard good practice construction operational practices.

9.5.2.5 Residual Effects

With the implementation of mitigation EIR predicts that there will be temporary negative but not significant residual impact on the Western Way. 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.

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

I have examined, analysed and evaluated Chapter 5 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 good 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 notable setback from residential properties 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 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 €7 million (dependent on generation capacity) over the lifetime of the project which it is intended will be administered by a working group representing both close neighbours to the project and nearby communities. The application also indicates that the potential for community investment opportunity is also being explored to embed the design within the community. The provision of Recreation and Amenity Plan which proposes to open the windfarm site to the public through accessible walking trails and cycle paths connecting to the Western Way provides for improved recreation within the local area.

Regarding turbine lighting, the proposed development will clearly require obstacle lighting for aviation safety purposes. The applicant has committed to further exploration of appropriate mitigation to be agreed in consultation with the Irish Aviation Authority and Department of Defence. The various options include reduced intensity, shielding/directional intensity, obstacle zone agreement, reduced lighting and aircraft detection systems. It is my view that given the separation distance to sensitive receptors I do not consider that visual effects of obstacle lighting will be significant 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 climate benefit of the development.

Regarding effects on property value I note the evidence presented by the applicant at Section 5.7 with research findings and literature (at international level) which support 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 consider that there is no evidence that the proposed development will have a 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 consider that given the location of the proposed development, which is substantially isolated from settlement, I am satisfied that there is no likely 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 reference to the less understood impacts on mental health and wellbeing. 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. Regarding shadow flicker there is one occupied residential dwelling within a distance of 10 rotor diameters 1620m. Shadow flicker model indicates that this dwelling will not experience shadow flicker. I am satisfied having regard to my conclusions under the relevant environmental factors below 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 level of screening in the area the proposed

development will not have a significant effect on visual amenity from nearby residential properties.

Mitigation measures typically comprise standard good practice and or operational practices, which if implemented will largely offset predicted negative effects.

With regard to cumulative effects I note that Keerglen and Tirawley windfarm proposals were not addressed within the submitted EIAR. I note that due to its proximity (600m south) the greatest potential for cumulative effect arises with regard to the Keerglen proposal. For instance in terms of traffic and construction disturbance during the construction period were both proposals to be developed concurrently. I am satisfied however that with co-ordination and implementation of CEMP and best practice construction methods such effects will be effectively mitigated. I note that within the EIAR submitted in relation to the Keerglen application it is noted that an overlap of construction phase of Glenora and Keerglen would be avoided to prevent cumulative impact. With regard to cumulative visual effects the increased presence of wind energy infrastructure within the landscape is acknowledged and this is further discussed with regard to landscape below at 9.13.

9.5.3 Conclusion.

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

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, particularly for residents with open views. These 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 and provision of enhanced recreational amenity facilities.

9.6 Biodiversity.

9.6.1 Issues Raised.

Concerns raised in third party submissions in relation to the potential effects on Natura 2000 sites. The adequacy of surveys carried out is questioned having regard to modification of the site and the non survey of certain areas to the east of the site due to access issues. The potential for impact on the plant Marsh Saxifrage (*Saxifraga hirculus*) is raised in relation to ecological connections with Glenamoy Bog Complex SAC.

The Planning Authority asserted that the Commission should satisfy itself that the NIS adequately addresses the likely impact on Natura 2000 sites.

The NPWS raises the question of impact on peatland habitats particularly questioning the impact of drainage on Inagh Bog NHA.

9.6.2 Examination of the EIAR

9.6.2.1 Context

Chapter 6 of the EIAR deals with biodiversity. A Natura Impact Statement also accompanies the application with respect to the implications of the proposed development for Natura 2000 sites and this is addressed in the Appropriate Assessment section below. 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 walkover surveys (including within the optimum period for vegetation surveys/habitat mapping.)

- Dedicated habitat and vegetation composition surveys. Habitats considered to be of ecological significance and in particular having the potential to correspond to those listed in Annex 1 of the Habitats Directive were identified and classified as Key environmental receptors.
- Terrestrial Fauna Surveys (Badger, Otter and bats)
- Marsh Fritillary Surveys
- Aquatic Surveys
- Invasive species survey.

Methodology followed a precautionary screening approach with regard to the identification of Key Ecological Receptors (KERs) based on geographic level of importance on international, national, county or local (higher value) or local (lower value) importance. (Methodology outlined at section 6.4.4.2). Any ecological receptors determined to be of National or International, County or Local (higher value) importance following criteria set out in NRA 2009 document "Guidelines for Assessment of Ecological Impacts of National Roads Schemes" are considered to be KERs for the purposes of ecological impact assessment if there is a pathway for effects thereon. Definition of significant effect is an effect that either supports or undermines biodiversity conservation objectives for 'good ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. designated site) or broad (national/local conservation policy) or more wide ranging (enhancement of biodiversity). Effects can be considered at a wide range of scales from international to local. In terms of limitations it is outlined that the habitats and species on the site were readily identifiable and comprehensive assessments were made during the field visits. No significant limitations in the scope, scale or context of the assessment have been identified.

9.6.2.2 Baseline.

A variety of protected floral and faunal species are known to occur within the study area including bats, otter, badger, pine marten and marsh saxifrage. Desktop study found that mammal species recorded within the relevant hectad G03 have

widespread range and distribution in Ireland. Habitats Directive Annex I habitats Northern Atlantic wet heaths with erica tetralix [4010] and blanket bog [7130] were mapped within and bordering the EIAR site boundary while European dry heaths [4030] and alpine and boreal heaths [4060] were recorded in proximity to the EIAR site boundary. While a small fragment of Article 17 mapped wet heath is located along a proposed alternative road to T22 this area is now planted with mature conifers and no longer qualifies as Annex I.

A total of 14 habitats (Fossit 2000) were recorded within the development site (Table 6.11 and Figure 6.5) Peatland habitats have also been categorised to plant communities from the National Survey of Upland Habitats (Perrin et al 2014) and the Irish Vegetation Classification. The majority of the site is dominated by plantation forestry including clear fells comprising mainly of lodgepole pine and sitka spruce planted on blanket bog. Remnants of this habitat are still found on the site in various forms of degradation. Waterbodies within the site including drainage ditches and small streams are classified as upland eroding rivers provide hydrological connectivitiy with the following downstream designated sites.

- Bellacorrick Bog Complex SAC [001922[
- Killala Bay/Moy Estuary SAC [000458]
- Killala Bay/Moy Estuary SPA [004036]

These are considered in detail within the NIS.

No botanical species listed under the Flora (protection) order 1999 as amended 2015 and 2022, listed in the Habitats Directive or listed in the Irish Red Data books were recorded within the EIAR boundary. Invasive species survey recorded Rhododendron in the vicinity of T12 and between T8 and T11. Dedicated faunal walkover surveys were designed to detect the presence or likely presence of a range of protected species including bats, otter and badger.

Table 6.12 sets out all environmental receptors and rational for identification of Key Ecological Receptors KERs which include:

- Natural heritage sites in the zone of influence of the development i.e., Ummentarry Bog NHA [001570], Inagh Bog NHA [002391], Bellacorrick Bog Complex pNHA [001922] and Killala Bay/Moy Estuary pNHA [000458].
- European designated sites. Bellacorrick Bog Complex SAC [001922], Killala Bay/Moy Estuary SAC [000458]. Killala Bay Moy Estuary SPA [004036].
- Eroding upland rivers. Altderg River and tributaries. Keerglen River and Tributaries.
- Dystrophic lakes including Altderg Lough
- Aquatic and Fisheries Species including salmonid trout, lamprey species, white clawed crayfish, European Eel and other aquatic species.
- Upland Blanket Bog /Wet Heath.
- Hedgerow
- Badger, Otter, Bats.
- Invasive Species.

9.6.2.3 Potential Effects.

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

Table B1 Summary of Potential Effects Biodiversity.

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do-nothing	Existing land uses managed commercial forestry would continue. Dryer areas of peatland habitats scrub may develop and in time this may undergo succession to small areas of woodland. General biodiversity on the site would remain similar to current state.

Construction	Loss of areas of habitats of local importance and not KERs. (116ha conifer plantation. 1.3ha degraded heath/blanket bog mosaic, 1.3km hedgerow). Rivers and Streams, Open Waterbodies and sensitive aquatic faunal species. Footprint designed to avoid large waterbodies and watercourses. No instream works therefore no barrier to aquatic species. Potential for runoff of silt, nutrients and other pollutants. Watercourse crossings represent potential indirect effect on aquatic receptors in the form of habitat degradation through pollution. Peatlands and associated habitats. Two borrow pits located on peatland habitats resulting in loss of 1.3ha of degraded peatland. Loss of wet heath blanket bog habitat of county importance. Increased drainage potential impact on Inagh Bog NHA. Hedgerow habitat 1.3km reversible impact on habitat of local importance higher value No significant effect with regard to the potential spread of invasive alien plant species. **Fauna.** No significant effect on non KER faunal biodiversity due to extensive area of habitat remaining undisturbed throughout the site and avoidance of significant areas of faunal habitat. Badger. Potential for small scale loss of foraging habitat to facilitate the construction footprint and potential disturbance and displacement during construction and decommissioning. One badger sett recorded however inactive. Disturbance is classified as short term significant and negative. No potential for significant loss of habitat. Otter. Potential indirect effects from disturbance due to construction of watercourse crossings and indirect effects on otter habitat arising from water pollution. Potential disturbance will be short term slight negative effect. Bats – No potential for significant bat roosts to be disturbed by increased human presence or noise. Short term imperceptible negative effects on local bat population in the form of habitat loss disturbance or direct mortality.
Operation	Potential enhancement of surrounding areas through habitat rehabilitation management as described in Biodiversity Management and Enhancement Plan (BMEP). Potential for effects on rivers and stream, open waterbodies and sensitive aquatic faunal species arising from increased run off from hardstanding, giving rise to erosion and deterioration

	of water quality. Potential runoff of pollutants associated with vehicular usage. Impact on water quality a permanent negative effect. Magnitude is slight given distance of over 50m from any watercourse. Closest turbine to an EPA mapped watercourse is No 13, 70m. Significant effects not anticipated. BMEP will ensure that any peatland habitat lost will be replaced within the site. Drain blocking and removal of encroaching conifers from existing lowland blanket bog will result in the establishment of habitats of higher value for local faunal species. No potential for significant negative effects on non-volant terrestrial fauna including badger and otter. Bats. Collision risk, barotrauma. Site level collision risk for high collision risk bat species (leisler's bat, common pipistrelle, soprano pipistrelle) was typically low to medium with potential for long term effect. Magnitude of effect is moderate on basis that no significant roosts were identified in the immediate vicinity of the turbines and the median level of activity is considered moderate (on a precautionary basis).
Decommissioning	Similar to construction but on a lesser scale.
Cumulative	No significant residual habitat loss, disturbance, deterioration of water quality predicted with regard to other plans and projects. No significant effects in relation to disturbance displacement or mortality of faunal species identified. 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 6-6) is also included. Biodiversity mitigation measures include :

- Detailed drainage maintenance plan (Section 4.7.6 of the EIAR)

- CEMP Appendix 4.3 of the EIAR.
- Consultation with IFI in advance of watercourse crossing works and adherence to IFI and UK guidelines on the protection of fisheries during construction works.
- BMEP to provide for restoration of approximately 40ha of peatland habitat in the northern section of the site (580m north of T7) through drain blocking and removal of encroaching conifers and removal and ongoing treatment of rhododendron from various locations across the site. Success of measures to be evaluated through detailed monitoring and reporting programme.
- Loss of hedgerow to be mitigated by reinstatement of 1.3km to be cleared to facilitate temporary road widening works with native hedgerow species.
- Pre construction badger survey at location of identified sett by qualified ecologist. Monitoring for 2 weeks prior to construction. Exclusion measures in line with NRA2005 guidelines. No works in within 50m of active setts nor blasting/pile driving within150m within breeding season. Exclusion zone fencing and signage.
- Otter. Detailed drainage maintenance plan 4.7 of EIAR. Specific water quality mitigation measures (Chapter 9) and CEMP (Appendix 4.4). Pre commencement confirmatory otter survey. Derogation licence if otter holt is identified. No works within 150m of holt. No wheeled or tracked vehicles within 20m of active clearance will not take place within 15m except under licence.
- Opening up of large areas of former closed canopy commercial forestry and creation of forestry edge habitat will have positive impact on bats creating more commuting and foraging opportunities. Appendix 6.2 bat report. Noise restrictions, lighting restrictions, buffering, blade feathering. Operational monitoring.
- Invasive species best practice measures including good site hygiene to prevent introduction of invasive alien plant species, screening of soil topsoil.

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. The location of the site within a large plantation of coniferous forestry of varying ages has been assessed as of low ecological value. The implementation of the Biodiversity Management and Enhancement Plan BMEP resulting in the restoration of 40 hectares of peatland habitat through drain blocking and conifer removal will significantly increase the abundance and quality of peatland habitat and provide a connection with the Glenamoy Bog Complex SAC.

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

I have examined, analysed, and evaluated Chapter 6 of the EIAR, all of the associated documentation (notably the Botanical Survey, Bat Report, Aquatic Baseline Report and Biodiversity Management and Enhancement Plan BMEP) and submissions on file in respect of effects on biodiversity. I am satisfied that the applicant has demonstrated a good understanding of the baseline environment and the likely environmental effects of the development.

The proposed development is situated within a large plantation coniferous forestry of varying ages that has been assessed as being of low ecological value with limited suitable habitat for protected faunal species. Key ecological receptors comprise, natural heritage sites, European designated sites, eroding upland rivers, Altderg River and tributaries, Keerglen River and Tributaries, dystrophic lakes including Altderg Lough, aquatic and fisheries species including salmonid trout, lamprey species, white clawed crayfish, European eel and other aquatic species. Upland blanket bog /wet heath, hedgerow, badger, otter, and bats. The main significant direct and indirect effects comprise:

- Loss of 1.3 ha of highly degraded peatland habitat, loss of 1.3km hedgerow. The loss of 116ha of conifer plantation is not significant at any scale.

- The potential for increased loading and pollution of waterbodies with adverse effects on downstream water quality dependant habitats and species (construction and operation)
- Potential for significant direct and indirect effects on protected flora and mobile species during construction.
- Risk of collision by bat species during operation.

No significant effect on wider (non KER) faunal biodiversity is envisaged due to the extensive area of habitat remaining undisturbed throughout the site and avoidance of significant areas of faunal habitat. With regard to badger small scale loss of foraging habitat and potential short term disturbance and displacement. Mitigation measures are incorporated to ensure that such impacts are not significant. Indirect disturbance effects to otter is not significant.

Following a precautionary approach it has been identified that the construction phase of the development could result in deterioration of peatland habitats in Inagh Bog NHA through increased drainage. (Interceptor drains at T2 T3 and T4). As identified in Chapter 9 of the EIAR a worst case scenario sets out that approximately 3ha (0.5% of the area of the NHA) could be affected. The NPWS submission raised concerns that this effect is not fully characterised in Chapter 6, that botanical or habitat surveys were not carried out in the areas which may be affected and therefore the sensitivity of these areas not characterised in terms of their conservation value. The NPWS notes that the site synopsis for Inagh Bog NHA states that the highest quality blanket bog habitat is located in the southeast corner of the NHA. The applicant in submissions on this potential impact notes that the potential effect is characterised as indirect negative not significant long term and unlikely. Mitigation for this effect includes minimisation of development footprints and maintenance of current drainage conditions to the maximum possible extent. Maintaining shallow drains as proposed also reduces the scope for a likelihood of drainage effect. On this basis it is asserted that likely significant hydrological or hydrogeological effects on Inagh Bog NHA will not occur. As regards the sensitivity

of Inagh Bog NHA the entire bog was determined to be a habitat of national importance and considered as a KER. Detailed botanical surveys were not carried out on Inagh Bog NHA as ecological surveys were only carried out on habitat which may be directly impacted in line with best practice. With regard to indirect water quality impacts it is noted that as clarified in response to submissions reference to potential for deterioration of water quality in Inagh Bog NHA was made in error as there is no downstream connection between the site and Inagh Bog which is mostly side gradient and only marginally upslope. The site is currently extensively drained by existing forestry drainage operations and the proposal seeks to minimise drainage effects and maintain current runoff rates. I consider that based on the information provided by the applicant has demonstrated that hydrological effects on Inagh Bog NHA are characterised and appropriately mitigated.

With regard to potential impact on plant species Marsh Saxifrage (*Saxifraga hirculus*) it is noted that third parties raised concerns regarding potential impacts in reference to ecological connections with Glenamoy Complex SAC. I refer to the specialist report of the Inspectorate Ecologist (Appendix 3) which clarifies that this plant species has a very limited distribution in Ireland restricted to 20 populations in a small area of North Mayo and Sligo. It grows only in mineral rich flushes in lowland and upland blanket bog complexes dominated by small to medium sized sedges and mosses, which often corresponds to the Annex I habitat 7149 Transition mires. It is noted that it would not normally be associated with growing on riverbanks, and waterborne pollution via streams and rivers is not an identified risk factor for this species. There is a population of the plant at Aghoo within the blanket bog as described within the conservation objectives for the Glenamoy Bog Complex SAC. This area of the SAC is a discrete unit separated from the main part of the SAC. The Inspectorate Ecologist notes that the applicant has shown that there is no meaningful hydrological connection with this area of Glenamoy Bog Complex SAC or with this branch of the Ballinglen River system. Likely significant effects on Glenamoy Bog Complex SAC has been excluded in view of the conservation objectives of all qualifying interests including Marsh Saxifrage as no meaningful pathways of impact

have been identified. The Inspectorate Ecologist indicated her satisfaction that no risk to this Marsh Saxifrage will arise from the proposed development.

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 enhanced habitat due to implementation of BMEP will 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.

Having regard to the application of standard best practice mitigation measures, as set out in the EIAR, and the site specific and species specific measures outlined above I consider that the proposed development will not give rise to significant effects on biodiversity. Proposals are included for replacement hedgerow planting and for the restoration of approximately 40hectares of peatland habitat in the northern section of the site. The development also provides for ongoing monitoring of the efficacy of mitigation measures. I consider based on the detail provided that it has been demonstrated that such measures will provide a positive local effect on biodiversity.

With regard to cumulative effects, I am satisfied that there will be no potential for significant cumulative effects on biodiversity, given the absence of significant effects likely to arise from the proposed development and the potential for positive effects.

9.6.3 Conclusion

I have had regard to the various submissions received in respect of the application raising concerns in respect to biodiversity, I consider that the information provided in

the planning application documents is sufficient to allow the impacts of the proposed development to be assessed. I am satisfied that the impacts identified on biodiversity would largely be avoided, managed or mitigated by the measures forming part of the proposed scheme. I am, therefore, satisfied that the proposed development would not have any direct, indirect or cumulative significant effects on the biodiversity of the site or the area surrounding the site.

9.7 Ornithology

9.7.1 Issues Raised.

9.7.1.1 Third party submissions raise concerns regarding impact of the development on a number of species, including hen harrier, golden plover, red grouse, grey heron, snipe and whooper swan. The adequacy of bird survey completed is also questioned given modification of site and proposal since first survey and access difficulties with respect to certain parts of the site.

9.7.1.2 The submission from the NPWS raises concerns in relation to the methodology of the collision mortality impact assessment and outlines specific concerns with regard to kestrel and golden plover. The population reference level against which the degree of impact should be judged is questioned with reference to the criteria detailed in Percival (2003)[1] The accuracy of characterisation of impact on golden plover is queried noting its red listed status and the fact that North West Mayo is one of the national strongholds for the breeding population where the collision mortality risk does not differentiate between wintering and breeding populations. In combination effects with other existing and permitted windfarms are raised as a concern.

9.7.2 Examination, of the EIAR.

9.7.2.1 **Context**

[1] Birds and wind farms in Ireland: a review of potential issues and impact assessment (Percival, S.M., 2003)

Chapter 7 of the EIAR deals with ornithology and is referenced within the text as a non technical summary, relying for more indepth analysis on the more detailed Bird Impact Assessment Report by MWP Engineering and Environmental Consultants which is included as Appendix 7-1 of the EIAR.

The Bird Impact Assessment report describes the ornithology of the proposed site based on desktop study including published literature and ornithological surveys completed consecutively at the site over the four year period from April 2019 to March 2023 inclusive.

The assessment of effects on ornithology has regard to European and National legislation and guidance documents in respect of the EIA and Scottish and national guidance documents for assessing effects of on shore wind energy developments on birds. The methodology includes desk study, consultation with relevant statutory and non statutory bodies, identification of target species and field surveys. A reconnaissance survey was undertaken by the project ornithologist prior to commencement of bird surveys to review the habitats of the site and the general landscape character of the study area in the context of its potential ornithological importance. The combination of reconnaissance survey and desk-top study were used to identify target bird species considered likely to occur within the zone of influence.

Field surveys comprised two main elements: vantage point (VP) watches and distribution and abundance surveys. VP surveys were carried out on a monthly basis for winter and breeding period over the 4 year period April 2019-March 2023 inclusive. Seven VP locations were selected to maximise site coverage. Viewshed analysis was undertaken for each VP location to determine visual coverage of the survey area. Distribution and abundance surveys comprised

- Breeding Season (April-September) Transect and point count surveys, walkover surveys, nocturnal surveys and hinterland surveys.

- Winter season Transect and point count surveys, walkover surveys and hinterland surveys.

In terms of limitations and difficulties encountered, the scheduling and resourcing of bird surveys during the end of 2019/20 winter season and start of 2020 breeding season survey periods were significantly constrained due to Covid 19 restrictions with regard to work and travel. No field surveys were completed at the site in April 2020. When fieldwork resumed in May 2020 VP surveys were prioritised over other breeding season surveys given time constraints imposed on the completion of fieldwork by restrictions and based on the heavily afforested nature of the site. VP surveys were undertaken twice in May 2020 to account for VP surveys missed in April. There were no impacts on VP surveys for the remainder of the 2020 season, however the prioritisation of VP surveys in May had knock on effects on the completion of other 2020 breeding season surveys. Due to these limitations a precautionary approach has been taken with regard to data collected during the 2020 breeding season in line with CIEEM Guidance 2020. The 2021 and 2022 breeding seasons were unaffected with regard to Covid 19 restrictions.

Changes to the proposed site boundary during the course of the project development is also considered. Large areas encompassed within the southern section of the site boundary were added at a later stage in the project and after bird surveys had ceased. The percentage of the site not covered by the 7 no viewsheds is 8% arising from change in site boundary and extent of forestry cover. The additional area added along the former southern boundary is largely encompassed within VP1, VP2 VP3 VP4 VP5 and VP7 hence it is contended that the extent of VP viewshed coverage is sufficient to have allowed for the capture of adequate flight data with regard to the impact assessment and collision risk assessment.

With regard to breeding season distribution and abundance surveys it is noted that the lakes and permanent ponds located within the southern sections of the site including Altderg Lough are situated within the additional areas of land and the

limitation in coverage may mean that breeding birds may have been under recorded in these areas. In term of temporal and spatial limitations of the breeding season distribution and abundance surveys, in particular the breeding walkover surveys undertaken within the 500m survey area buffer a precautionary approach has been taken with regard to results for wader and wildfowl species. Similarly with regard to breeding raptors a precautionary approach is taken. With regard to Nocturnal breeding surveys due to temporal and spatial limitations with regard to nocturnal surveys undertaken and the associated potential for breeding woodcock to have been under recorded, a precautionary approach has been taken with regard to breeding woodcock results.

9.7.2.2 Baseline

There are six SPA sites within 20km. Effects on European sites are fully considered in the Appropriate Assessment (AA) section of this report. Three SAC sites of ornithological importance are located within 20km. Two Natural Heritage Areas adjoin the site Inagh Bog NHA with breeding populations of golden plover and red grouse and Ummerantarry Bog NHA with breeding populations of golden plover and baseline surveys confirming red grouse also present. There are three Ramsar sites within 20km Knockmoyle/Sheskin 3.5km south west, Owenboy located approximately 13.6km to the south and Killala Bay/Moy Estuary 13.3km to the east. Three important bird and biodiversity areas IBAs within 20km of the windfarm site boundary Killala Bay located 10.6km to the east, Owenduff River Catchment and Nephin Beg located 13.4km to the southwest and Broadhaven Blacksod and Tullaghan Bays and parts of the Mullet Peninsula 13.6km to the northwest. The site is not located within or near any I-Webs site the nearest Killala bay approximately 10.3km to the east.

As regards the Birdwatch Ireland Bird Sensitivity Tool the southernmost section of the site lies partially within a zone of medium sensitivity for golden plover and red grouse and a zone of low sensitivity for red grouse. Additionally there is a minor

overlap between the southeastern and northwestern corners of the site with other zones of low sensitivity for red grouse.

A list of target species was identified based on desk top study and is set out at Table 21. As set out in SNH Guidance 2017, target species typically comprise those species which are afforded a higher level of legislative protection and restricted to those likely to be affected by wind farms. The target species recorded during ornithological surveys conducted between April 2019 and March 2023 inclusive include Merlin, Hen Harrier, Kestrel, Sparrowhawk, Buzzard, Peregrine Falcon, Woodcock, Red Grouse, Golden Plover, Whooper Swan, Great Northern Diver and Snipe. Tabulated summaries of target species VP survey observations including flight information are provided in Appendix 4 and VP flight line mapping in Appendix 5. Table 34 presents the rationale for either inclusion or exclusion of target species as Important Ecological Features and sensitivity is set out as in Percival 2003. As per Table 34 two very high sensitivity species are selected namely Merlin and Golden Plover (Annex I Birds Directive). One high sensitivity species Hen Harrier (Annex I), Four medium sensitivity species (Kestrel, Woodcock, Red Grouse and Snipe (Red List) and three low sensitivity Peregrine Buzzard and Sparrowhawk (Green List).

9.7.2.3 Potential Effects.

Likely significant effects of the proposed development as predicted in the EIAR, in advance of mitigation measures are summarised in Table O1 below.

Table O1 – Summary of potential Effects Ornithology.

Project Phase	Potential Direct, Indirect and Cumulative Effects
Do nothing	Existing land uses would continue. Mature stands would be clear felled and replanted. Diversity of birds would remain similar to present. Population of some bird species would be expected to increase where substantial areas are clear felled and replanted until closed canopy state. Birds of prey such as hen harrier and kestrel could be expected to forage over young trees.

Construction	**Direct Habitat Loss** 117.3ha (of which 116ha conifer plantation) and 1.3km hedgerow. No bird species dependent on non native conifer plantation habitat for breeding and/or wintering requirements. **Conifer plantation** is widespread habitat in local area and throughout North County Mayo. The following bird species which can utilise conifer plantation: **Merlin** – may nest in conifer trees at edge of plantation adjoining open bog and hunt over clear fell and open canopy forest. 2 records over VP surveys and one incidental record merlin not considered to breed within the site. **Hen harrier** - May forage over clear fell and open canopy forest along forest edges. 7 winter records within 500m. No evidence of a winter roost within a 2km distance, Only one record in breeding season. Breeding within at least 500m of the proposed windfarm development not considered likely. **Kestrel -** May nest in conifer trees and hunt over open canopy forest and clear fell and along forest edge and tracks. Recorded regularly during summer and winter. Juveniles in August and September indicate breeding took place locally. **Sparrowhawk -** Breeds and hunts in woodland including conifer plantation. Recorded regularly within the wind farm development areas during baseline surveys with breeding confirmed July 2022. **Buzzard -** May nest in mature conifer trees and hunt over open canopy and clear fell and along forest edge and tracks, Recorded regularly during summer and winter. Evidence of breeding within the proposed development area in 2022. **Woodcock -** Occurs along woodland edges and forest tracks. Recorded within the windfarm area during winter only. Only sparrowhawk, buzzard and kestrel were considered to have bred within the conifer plantation in at least one of the survey years. All the listed species would be expected to continue to utilise the remaining areas of plantation (Approx 1,040 ha) within the proposed site after the windfarm is constructed. Regarding **loss of peatland habitat** (1.1ha) Both areas degraded bog and heath with the southernmost site covered in conifer trees. Other than meadow pipits these relative small areas of peatland habitat would not be expected to support any breeding species of conservation importance. Removal of 1.3km of **hedgerow** along the local road in Ballyglass. Hedging of low stature and dominated by gorse, willow, hawthorn and brambles. Limited in potential for breeding birds though it is likely to support species such as

	wren, robin, dunnock and blue tit, Hedge would also provide some feeding potential for some passerine species. Significance of effect on birds due to loss of habitat to facilitate the development is an adverse effect of slight significance and long term duration. **Disturbance** 18-25 month construction period. **Hen harrier**. No breeding activity recorded in the study area. Wintering hen harriers recorded on seven occasions. No evidence of winter roosts. Hen harrier medium sensitivity to disturbance. Potential for disturbance is low as recoded hen harrier were only hunting in the area and not associated with any apparent winter roost. Effect on wintering hen harrier rated as not significant. **Sparrowhawk**. Breeding took place in 2022. Potential for disturbance effect on breeding birds within a distance of up to 200m from construction area. Adverse significant effect of short term duration. Unlikely to have effect outside the breeding season therefore potential effect rated as not significant. **Buzzard -** Breeding in 2022. Likely disturbance effect up to distance up to 200m from construction area – rated adverse significant effect of short term duration. Unlikely effects outside breeding season therefore not significant. **Peregrine** - No known breeding territories within at least 2km distance. At most an occasional visitor. Potential disturbance effect is rated as not significant. **Merlin -** No evidence of breeding within the study area. Three records on bog to southeast of redline boundary but within 500m buffer. Local breeding a possibility. Adverse significant effect of short term duration. Unlikely effects on passing birds in winter not significant. **Kestrel -** Recorded regularly with breeding expected within the site 2022. Construction works in areas that could support a tree nesting pair and areas suitable for hunting. Adverse significant effect of short term duration. Unlikely to have significant effect outside of breeding season– not significant. **Red Grouse -** Bog habitat suitable for supporting red grouse recorded on several VP point watches and regularly on walkover surveys in winter and summer. Based on the construction works within a distance of 500m for 10 turbines, potential disturbance effect on breeding red grouse rated as adverse significant effect of short term duration.

	Golden plover. Breeding behaviour recorded both during VP point and walkover surveys. Based on the construction works within a distance of 500m for 10 turbines, potential disturbance effect on breeding red grouse rated as adverse significant effect of short term duration. Not significant potential effect in winter or during migration seasons. **Snipe** - Displaying bird over clearfell in eastern section June 2019 and breeding behaviour recorded each summer season. Snipe recorded regularly associated with bogs during migration and winter periods. Numbers in winter were typically single birds but numbers up to 50 birds in October indicated local migration. Construction will have adverse significant effect of short term duration. Unlikely to have effect outside of the breeding season – rated not significant. **Woodcock** - Regularly recorded within the site mainly within northern sector during winter periods. No observations of breeding birds however breeding possible. Unlikely to have significant disturbance effect on wintering birds. Adverse significant effect of short term duration on breeding birds.
Operation	**Displacement** **Hen harrier** Effect rated as adverse effect of slight significance **Sparrowhawk** – Not significant **Buzzard**. Slight and short term to medium term in duration **Merlin** – Not significant **Kestrel** Slight significance of long term duration **Red Grouse** Not significant, Neutral or positive effect of moderate significant in the long term **Golden Plover** Significance of potential displacement effect during breeding season is rated light adverse effect. Not significant in either or during migration seasons. **Snipe**. Slight adverse effect during breeding season, Not significant during winter. **Barrier Effect.** Proposed development would not cause barrier effect to the movement of bird species either on migration or involved in local movements. No identified migration / commuting route. Proposal 5km from nearest operational/permitted windfarm. **Collision risk** (estimated over 35 year lifetime of the windfarm) **Hen Harrier Merline and Peregrine**. – Predicted collision risk is less than 1 bird - not significant.

	Whooper swan -1.91 birds – not significant in terms of national population **Sparrowhawk** 3.36 birds - not significant in terms of national population. **Snipe** - 7.29 birds. Negligible in terms of national breeding population. May however be underestimated. Significance is rated as long term slight adverse. **Buzzard** - 12.26 birds. Long term slight adverse effect **Kestrel -** 77.02 birds. Long term moderate adverse effect. **Golden Plover -** 367 birds. Long term adverse effect of moderate significance. Long term maintenance works not expected to have any impacts on local bird populations. Based on hinterland surveys the operation of the wind farm does not have potential to have significant effects on bird species associated with the surrounding hinterland area.
Decommissioning	Potential for disturbance and displacement to sensitive breeding species including red grouse, kestrel golden plover and snipe. Similar significance to construction period but shorter duration.
Cumulative Effects	Risk of collision to wintering and or migrating golden plover (rated as long term adverse effect of moderate significance) may contribute to a cumulative effect when considered with risk to this species associated with other wind farms in the area. Collision risk modelling was not carried out for Oweninny Phase 1 and Phase 2. For Phase 3 the estimated figure for collision risk is 5.29 collisions per year. Golden plover were not recorded within the risk zone around turbines at proposed Sheskin south. No significant cumulative effect when considered in combination with other projects. The proposed development will enhance an area of degraded peatland habitat though BMEP. Location is >650m from the turbines and bird species likely to use the restored bog such as kestrel and golden plover will not be at increased risk of collision.

9.7.2.4 Mitigation

The EIAR proposes mitigation measures to offset potential effects on avian receptors. These include mitigation by design and mitigation by way of management of development phases. With regard to the former the proposed development has been designed to avoid open bog habitats within the site and specifically areas of unplanted blanket bog in the north west and north east sectors of the site.

Construction mitigation measures in respect of breeding sparrowhawk, buzzard, merlin, kestrel, red grouse, golden plover, snipe and woodcock are designed such that should any of these species be recorded within relevant distances of works areas a buffer zone will be established around expected nest location and works will be restricted within that zone until it can be demonstrated by an ornithologist that the species has completed the breeding cycle within the identified area. Measures to apply from March to August inclusive. With regard to passerine species, clearance of trees and ground vegetation will occur outside the bird breeding season to minimise possibility of disturbance and destruction to occupied bird nests. Survey to be completed by qualified ecologist with ornithological experience up to 10 days before any clearance.

Mitigation during operation will include control of vegetation at turbine locations and post construction monitoring. For mitigation during decommissioning the measures applied during construction will be applied. Monitoring will include construction phase monitoring of sensitive breeding birds on site. Post construction monitoring will include flight activity surveys, distribution and abundance surveys within the site, distribution and abundance surveys on bog and collision searches.

9.7.2.5 Residual Impacts

The EIAR states that with mitigation measures comprising construction phase mitigation to minimise disturbance to breeding birds as well as measures to minimise

risk of collision to species such as kestrel during the operational phase, the significance of the predicted effects will range from imperceptible to moderate significance. Effect on birds from loss of habitat is rated as slight significance. The loss of 1.1ha of peatland habitat will be offset by measures outlined within the BMEP which providing for the restoration of approximately 40ha of peatland habitat through conifer removal and drain blocking resulting in a positive effect for birds. Subject to mitigation as outlined potential for disturbance to breeding during the construction phase to red grouse, merlin, golden plover and snipe is reduced to no significant residual effect.

Avoidance during the operational phase due to presence of turbines may have slight adverse effect to breeding buzzard, golden plover and snipe however it is noted that some evidence shows that populations of species such as golden plover may become habituated to operational windfarms.

With regard to collision risk in the operational phase a slight adverse affect of long term duration is predicted for snipe and buzzard while for kestrel and golden plover the significance is rated as moderate adverse effect of long term duration. Mitigation will be implemented to discourage kestrel from hunting close to turbines and the significance of effect can be reduced to slight.

Baseline surveys did not identify any regular migration routes or local movements of wetland bird species through the site. The proposed development is not expected to have any residual effect on migrating species or bird populations associated with sites in the hinterland. No residual effects are predicted on special conservation interests of Special Protection Areas. The breeding golden plover associated with Inagh Bog NHA could be displaced from suitable breeding habitat within a distance of 200m from turbines during the operational phase this is rated as slight adverse effect. With time some habituation is likely.

9.7.2.6 Assessment Direct and Indirect Effects Ornithology.

I have examined, analysed and evaluated Chapter 7 of the EIAR and the Bird Impact Assessment Report Appendix 7-1 of the EIAR and its Appendices including Collision Risk Assessment. I am satisfied that the applicant has provided sufficient ornithological survey data to enable assessment of likely effects on the environment. I note that the report of the Inspectorate Ecologist, appendix 3 outlines that following review of methodologies, survey effort, results and accompanying figures presented in the Bird Impact Assessment Report BIAR, she was satisfied that a comprehensive bird surveys were undertaken to inform the ornithological impact assessment for the EIA and also inform the approach taken in screening for AA and the NIS. The Inspectorate Ecologist also noted satisfaction that the bird surveyors involved hold relevant competence, experience and expertise to carry out the surveys. It is noted that ornithological surveys, undertaken in line with current best practice and using standard methodologies, were conducted over a four year period Summer 2019 to Winter 2022/2023 with VP survey locations covering 92% of the turbine layout plus 500m radius buffer. VP surveys covered 500m survey areas of adjoining Inagh Bog NHA and Ummerrantarry Bog NHA with regard to the assessment of golden plover and red grouse. Mitigation measures are prescribed to reduce disturbance effects to include pre construction surveys in suitable breeding habitat within 500m distance of works.

The proposed development is situated largely on conifer plantation in a wider area with substantial similar habitat available. Conifer plantation is not itself environmentally sensitive habitat though it is suitable habitat for certain bird species. Likely significant effects of the development arise from loss of habitat (for foraging, roosting and to a lesser extent breeding), disturbance during construction and operation and collision risk. I am satisfied that given the nature of habitat loss and presence of similar habitat in the wider area and with adherence to best practice and site specific mitigation measures as set out, the significance of effect due to habitat loss is slight. Furthermore, measures are included within the BMEP for the restoration of approximately 40ha of peatland habitat through conifer removal and drain blocking which will result in a positive effect for birds.

With regard to collision risk, I note that collision risk for hen harrier, merlin and peregrine is not significant. For whooper swan it is not significant in terms of the national population and for sparrowhawk not significant in terms of the national population and favourable conservation status of the species. With regard to snipe and buzzard a long term slight adverse effect is predicted and for kestrel a long term moderate adverse effect. Mitigation measures are proposed to include control of vegetation at turbine locations. Collision risk for golden plover is rated as long term adverse effect of moderate significance due to the high conservation importance of this species and the recent significant long term decline in the wintering population.

I note the concerns raised by the NPWS with regard to the characterisation and collision risk and cumulative effect on wintering /migrating golden plover when considered in tandem with other wind farms in the area. With regard to methodology for assessment of collision impact as per Percival 2003, a threshold level of a 1% increase in annual mortality as a consequence of collision risk is used to determine whether the impact is non negligible. The Department raises the concern that the application of the methodology is inaccurate and that use of the national population as a reference for analysis within the EIAR is flawed noting the need to analyse habitat suitability, and the potential density of species in such habitats in the wider area of the application in order to determine the baseline population from which to assess the magnitude of any impacts. With specific reference to Golden Plover the Department notes the need to analyse habitat suitability to determine baseline from which to assess magnitude of impact and also to differentiate between wintering and breeding populations. It is submitted that a small loss of birds per year during the breeding season contextualised in the appropriate biogeographic area, may be more significant than a greater loss of birds during the wintering season and could result in significant adverse effects to a breeding population in the uplands of North West Mayo that is already in decline.

The applicant in response notes that while Percival (2003) is referenced within the EIAR and incorporated within the methodology in terms of determining sensitivity, however the assessment methodology largely follows CIEEM (2019) and EPA (2022). It is noted that the most robust and notable population estimates for analysis

of water bird population are national totals derived from I-WeBS programme. For Golden Plover a regularly occurring population of 807 would be required for classification as National Importance. Two regular I-WeBS core sites in North County Mayo, Killala Bay and the Mullet peninsula. To estimate county population for golden plover I-WeBS sites were consulted related to period 2016/17-2020/21. An estimated total mean wintering population of 1,719 individuals was identified. Based on this figure a regularly occurring population of 17 individuals (1% of County estimate) would be of county importance. The applicant cautions that I-WeBS counts which focus on wetland sites only might underestimate numbers. During the VP surveys over four winters Golden Plover were recorded on 54 occasions, with highest numbers in each winter ranging between 80 and 200 birds. It is contended that given the relatively infrequent recording of the species during the four winters (average 13.5 times per winter and no records in some months) and with no known regular site within at least 5km there is no regular population in the area. It is contended that the birds occurring at the site may be from a dispersed population that winters on the extensive blanket bogs in north County Mayo. Regarding the differentiation between wintering and breeding Golden Plover it was concluded based on VP survey records that collision risk affects the wintering population of golden plover and not the local breeding population.

I note the report of the Inspectorate Ecologist, appended as Appendix 3 which engages in detail with the criticism of the NPWS regarding the methodology adopted to identify population reference level for golden plover. It is noted that the Percival methodology (2003) acknowledges the challenges involved and recommends that an area wider than the windfarm needs to be considered with a suggested zone of 5km. The populations of each important species at the windfarm within this zone (up to 5km) should be estimated using the best available data on bird densities and habitat availability. I note the Ecologist's conclusion that based on the extent of the area considered in the survey and assessment of impacts which includes collision impact (restricted to windfarm area +500m) and wider disturbance and displacement impacts and consideration of habitats outside of the windfarm site this has been largely achieved. However it is noted that there is a level of disconnect as local to

national / international conservation evaluations are not carried through to section 4.3.3. where outputs from the collision risk model are examined against the national population figures only.

The Inspectorate Ecologist refers to NatureScot Guidance 2025[2] which recommends that where full information is not available consideration should be given to what reasonable judgements can be made on available information, taking a precautionary approach where levels of uncertainty are high. Primary concern is impacts on national population levels. Regional populations may be of particular importance to a species conservation status at a national or international population because:

- They are core or stronghold areas and the overall viability of the population is dependent on the maintenance of such areas; or
- They are edge of range populations which may (over time) be important in maintaining range as well as providing the potential for expansion or range shift under climate change.

The importance of Northwest Mayo for Golden Plover is a relevant consideration in this case. To achieve a consolidation of the information provided in the Bird Impact Assessment Report the Inspectorate Ecologist has set out a useful summary table (Table 1) for the key species included in the collision risk model. Some species considered in the collision risk model are not included in the summary as they occurred in such low numbers that negligible risk was predicted. It is noted that a **moderate adverse effect** for golden plover and kestrel is predicted (pre application of mitigation measures).

The Inspectorate Ecologist further considers the potential significance of impact for these two species at county level for golden plover and local level for kestrel.

[2] Guidance note – Assessing the significance of impacts on bird populations from onshore windfarms that do not affect protected areas Nature Scot 2025

County Level was used for Golden Plover based on IWeBS estimates provided in the bird impact assessment report and an extrapolation of a local kestrel population based on published 1km^2 densities for Ireland (Cowe et al 2014) and included a calculation of potential increase in background mortality based on available data to illustrate the Percival assessment criteria for both species. It is noted that an increase in background mortality of 1% is negligible in terms of magnitude of impact on a population with a scale ranging from 1-5% low magnitude to >20% high magnitude.

The estimates generated in the Inspectorate Ecologist's assessment correspond generally with the level of impact predicted by the applicant and as concluded by the Inspectorate Ecologist the Commission should have confidence in the impact predictions provided in the EIAR. As with all models the caveat that collision risk modelling presents an estimate and the predicted collision rate should only be considered indicative of the potential magnitude of the collision risk.

The only species where the residual impacts may be underestimated is for kestrel. As outlined in Table 1 the Inspectorate Ecologist analysis shows that based on the collision risk model estimates an increase in background mortality for kestrel of up to 24% could arise for the local population (in a 5km^2 area) which equates to a moderate adverse effect in terms of Percival significance, representing a potentially significant impact. Mitigation measures propsoed include a scrub management to reduce the attractivieness of foraging habitat in proximity to turbine. The inspectorate Ecologist notes that given the red list status of the kestrel species and the unconfirmed effectiveness of this management measure in an Irish context, a precaution ary approach should be adopted and a higher level of impact magnitude adopted. Moderate adverse effect (long term) at local level and likely to contribute to existing decline on population (in line with current trends). The Inspectorate ecologist recommends that the results from the operational monitoring of bird mortality should be used to verify collision risk model and feed back into adaptive management of the mitigation measure propsoed.

With regard to golden plover it is noted that based on the evidence provided only wintering populations of golden plover are at risk of collision and collision risk for breeding birds was excluded. Impact to breeding golden plover is focussed on disturbance and displacement based on records of a breeding pair within Inagh Bog NHA within 500m of turbine location. Mitigation measures are prescribed to reduce impacts from adverse significant effect of short term duration to non-significant levels during the construction phase. A long term slight adverse effect over the operational life of the windfarm is predicted for a breeding pair associated with Inagh Bog NHA is nesting within 200m of turbines along the western boundary of the windfarm.

In relation to in-combination effects I note the Inspectorate Ecologist's conclusions that collision risk is only related to the dispersed wintering population and will not increase the predicted impact magnitude beyond moderate adverse. In relation to Keerglen windfarm the cumulative loss of peatland habitat which supports bird populations is considered to be the main cumulative impact. The Collision Risk Model for Keerglen showed a lower potential collision rate for golden plover (1.93 birds per year or 57.89 birds over the lifetime of the project). The additional potential loss would not alter ethe predicted magnitude of impact beyond moderate adverse effect for this species for Glenora if permitted. The operational effects of the combined windfarms Glenora and Keerglen could result in displacement of pairs of breeding golden plover from suitable breeding habitat within Inagh and Ummerantarry Bog NHA sites where such habitat occurs within 200m of turbines. Potential impacts on kestrel from collision risk are estimated as less than 1 bird per year and would not add cumulatively to alter the magnitude of impact for Glenora winrdarm. The Inspectorate Ecologist concludes that the cumulative effect is greater than the predicted slight adverse for each windfarm and a moderate adverse effect could arise.

The Inspectorate Ecologist concludes that the EIAR provides accurate characterisation of potential impacts on bird species including golden plover and

where uncertainty arises in terms of scale of impact a precautionary approach has been taken in impact prediction. A residual impact of long term moderate adverse impact (due to collision risk) is the highest level of impact predicted for wintering golden plover which will have the effect of adding to existing pressures to the species in the area. Mitigation measures have been designed to reduce impacts on breeding golden plover and kestrel to non-significant levels. Taking a precautionary view the potential impact to the local kestrel may be underestimated and a long term moderate adverse impact (due to collision risk) may occur and it is noted that the efficacy of propsoed mitigation in an Irish context is not evidenced.

There is potential for cumulative effects of a magnitude of long term moderate adverse on breeding golden plover if displacement from suitable breeding habitat occurs for breeding pairs associated with Inagh Bog and Ummerantarry Bog NHA from the combined operation of Glenora and Keerglen windfarms.

In terms of cumulative effect, I note that documentation submitted in respect of concurrent application for Keerglen Windfarm currently under appeal to the commission PL16.500344 conforms with the applicant's submissions in the current case. The information provided in that case concluded based on VP survey information carried out over two winters that records of small flocks of golden plover in late August 2020 were birds on migration rather than breeding birds and that based on the separation distance to Kilalla Bay /Moy Estuary SPA these birds were not likely commuters for feeding / roosting.

I am satisfied that it has been shown that comprehensive bird surveys have been undertaken to inform the ornithological impact assessment and that sufficient evidence has been provided to support the applicant's conclusions in respect of ornithological impact.

9.7.3 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 Inspectorate Ecologist (Appendix 3), 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. It is considered that these impacts 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, Water, Air and Climate.

9.8.1 Issues Raised.

Elected members and third party submissions raised concerns in respect of peat stability and peat storage and refer to consultation submission from Inland Fisheries Ireland IFI and Irish Peatland Conservation Council IPPC (Table 8.1) with regard to landslides and noting the record of historic peat slide events in the area and location of turbines 2,7,11, 15, 18, 20, 21 and 22 in zones graded as ‘Moderately high’ chance of landslide event on GSI Landslide Events Map. Submissions note recent peat failure Behy/ Conaghra. Criticism is levelled in relation to the timing of site walkovers during summer / dryest months. Observer also raise questions regarding removal of peat and peat storage and stockpiling and waste regulation.

9.8.2 Examination, analysis and evaluation.

9.8.2.1 Context.

Chapter 8 of the EIAR assesses the likely effects of the proposed development on land, soil and geology and is supported by Appendix 8-1 Geotechnical and peat Stability Assessment report (Fehily Timoney and Company December 2023)

The assessment methodology is detailed involving desk study, scoping and consultation, baseline monitoring and site investigation including detailed walkover surveys, geological mapping and peat probing and trial pit investigations. These investigations enabled the development of a geological conceptual model of the site. The geotechnical and peat stability assessment report is included as Appendix 8-1 of the EIAR. Additional clarification was provided during the course of the application specifically in response to the submissions which is set out as a Geotechnical Peat Stability Response (Appendix 2) to Response to Observations Submitted document.

No limitations are highlighted within the EIAR in terms of the scope, scale or context of the assessment of land and soil.

9.8.2.2 Baseline

The Quaternary Geology underlying the site predominantly comprises blanket peat with areas of till derived from Devonian and Carboniferous sandstones and areas of bedrock outcrop or subcrop present in the centre of the site. (Figure 8.1) In terms of bedrock geology the site is predominantly underlain by the Downpatrick formation, the Munnaun Sandstone formation and the Glencullin River Formation. Also in the northwest of the site a limited area of the Kanfinalte formation, the Lugnelettin Black schist member, the Glenagh River Limestone member and the Glencalry Schist Member. (Fig 8.2) Three faults are mapped by the GSI as running through the site in a general northeast to southwest direction. An unconformity is shown on GSI mapping along the northern boundary of the Kanifinalya Formation with the Minnaun Formation.

There are no quarries recorded within 10km and no karst features were identified within 5km of the proposed development. No geological heritage sites are noted within 5km. The Brookill Delta, a sand and gravel pit on the crest of a ridge near Ballycastle is located approximately 5km north east of the site boundary. There are no known areas of soil contamination on the site.

The landslide susceptibility of the proposed site (Fig 8.5) was classified by GSI (2023) as ranging from low to high landslide susceptibility. There are no recorded historical peat failures within the site. The nearest recorded failure occurred during the 1950s in open peatland at Keerglen circa 1km to the southeast and an additional three or four failures have been recorded approximately 3km to the southeast. At Cluddaun over 100 years ago and Shannettra in 2000. A further five landslides have been recorded approximately 2.5km to the east are associated with an area of shallow bedrock on the northern flanks of Benmore. A small peat failure was recorded on site during November 2022 in an area of forestry on the eastern side of the site and was likely triggered by heavy rainfall. Peat depths ranged from 1 – 1.5m with slope angles of 10 to 14 degrees within the failure areas. The failure comprised of an estimated 3,750m^3 of material. No material entered any watercourses or damaged any existing infrastructure within the site.

Site investigation included a total of 622 peat depth probes across the site. Peat depths recorded across the site varied from 0.1m to 4.6m with an average of 1.8m. Approximately 99 percent of peat depth probes recorded depths of less than 3m. Deeper peat areas were generally avoided where possible when optimising windfarm site layout. Peat depts recorded at turbine locations varied from 0.5m to 3.3m with an average depth of 1.9m. Peat depths at proposed access roads are typically less than 2m with localised depths of up to 4.4m to the west of T13. Slope angles at turbine locations range from 2 to 12 degrees. Based on the findings from walkover survey the proposed development was considered to be at low risk of peat failure.

Ground investigations carried out by Irish Drilling Limited in October 2021 included 13 no trial pits to depth of 4.5m bgl at various locations including borrow pit locations and selected proposed turbine locations and along proposed access tracks. Peat was recorded in all trial pits where peat deposits were found to generally overlie cohesive glacial deposits, typically described as firm grey sandy gravelly silt. Shallow groundwater seepage at moderate ingress was noted below peat deposits in seven of the trial pits. Peat Stability Assessment was carried out at turbine locations, roads, substation compound. To assess the factor of safety for a peat slide an undrained (short term stability) and drained (long term stability) analysis has been undertaken to determine the stability of the peat slopes on site. The findings of the peat stability show that the site has an acceptable margin of safety (low to negligible).

9.8.2.3 Potential effects.

Likely significant effects of the proposed development as predicted in the EIAR in advance of any mitigation measures 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	Commercial forestry operations would continue Surface water drainage carried out in areas of existing access road and coniferous plantations will continue to function and may be extended in the case of plantation.
Construction	**Peat subsoil excavation and bedrock excavation**. Permanent removal of peat, subsoil, and bedrock at excavation locations. Volumes of peat and bedrock to be removed Table 8-10 and Table 8-11. Estimated total peat and spoils volume (860,000m3) borrow pit rock resource (805,000m2). Peat and subsoil relocated within the site. Negative slight/moderate direct, likely permanent impact on peat subsoil and bedrock due to relocation within the site. Contamination of soil by leakages and spillages. Negative direct slight short term unlikely impact on peat subsoil and bedrock. Erosion of exposed subsoils and peat during tree felling and construction works – Negative slight direct short term high probability effect on peat and subsoils by erosion from wind action. Peat instability and failure. Negative significant direct low probability permanent effect on peat and subsoils. Low risk. Turbine delivery route accommodation works. Excavation of peat subsoil negative, significant direct low probability permanent effect on peat and subsoils.
Operational Phase	Risk of accidental leaks/spills from maintenance of turbines (vehicles, plant, transformers). Indirect effects with use of small amounts of granular fill to maintain access tracks, sourced from local quarries. Small scale intermittent.
Decommissioning	Similar to those during construction phase but of reduced magnitude.
Cumulative	Construction - Due to localised nature of works there is no potential for significant cumulative effects in combination on soils and land and geology. Potential for cumulative effect imperceptible. Operation - No potential for cumulative effects. Decommissioning, Minimal disturbance. No potential for cumulative effects.

9.8.2.4 Mitigation.

The EIAR proposes mitigation measures to offset potential effects on land, soil and geology for all phases of the development. Design mitigation measures sought to optimise site layout in relation to the placement of turbines, 50m watercourse buffers, and associated infrastructure in areas of shallower peat and maximising use of the existing road network to reduce excavation and borrow pit volumes. Mitigation measures include standard good practices during construction, for example, in respect of soil handling, soil storage, site drainage systems to limit runoff impacts, as set out in the proposed CEMP. Control measures with regard to peat stability in accordance with risk assessment (Peat Stability Risk Register Appendix B). The use of founded road construction to avoid placing of additional loading onto peat. Floating road construction will be undertaken in limited areas within the proposed development in locations where the slope angle is less than 3 degrees where sidelong ground is not present. Construction method statements will be implemented. Mitigation during operational phase includes use of aggregates from authorised local quarries. Storage of oil fuels in concrete bund with of holding 110% capacity.

9.8.2.5 Residual Effects

With the implementation of proposed mitigation measures, no significant residual effects on land, land use, soils or geology are predicted. This is largely due to the placement of turbines and associated infrastructure within shallower peat, maximum use of the existing road network, drainage system to ensure continuity of site hydrology proven, effective mitigation measures to mitigate the risk of soil contamination and proposed decommissioning plan. Peat stability risk assessment (Appendix 8.1) at each infrastructure location identifies specific mitigation /control measures to reduce the potential of peat failure.

9.8.2.6 The Assessment: Direct and Indirect Effects / Conclusion

I have examined, analysed and evaluated chapter 8 of the EIAR and associated appendices. I am satisfied that the applicant has provided sufficient survey data to enable assessment of likely effects on the environment.

Construction of the development will require the removal of peat soil and rock for turbine foundations, hardstanding emplacement and access road construction. Total peat and spoil volume 860,000m3, Borrow Pit Rock Resource 805,000m3. Excavation of bedrock from the three propsoed on site borrow pits will provide the material for access road, turbine bases and hardstanding construction. It is propsoed that borrow pits will be reinstated with peat and spoil excavated as part of the construction phase with remaining peat and soil used for reinstatement and landscaping works around the site. The propsoed development will be constructed in phases with each phase comprising 5-7 turbines and associated hardstands and access roads. This will allow the excavation of borrow pits and backfilling in stages. Construction details for roads and proposed peat and spoil placement reinstatement areas to be developed are set out within the Peat and Spoil Management Plan. A series of mitigation measures include design, optimisation of layout, phasing, drainage, measures to avoid compaction. Recognised control measures are set out to manage all risks.

With regard to peat stability it is noted that there have been historical peat failures in the wider area and including within the proposed development site. The applicant has carried out a detailed assessment by competent experts which concluded that the development is at low risk of peat failure. The peat stability assessment report is based on the Scottish Executive document Peat Landslide Hazard and Risk Assessments: Best Practice for Propsoed Electricity Generation Developments, 2017.

With regard to the November 2022 failure which occurred circa 400m from T5 it is noted that this was on a 14 degree slope where turbine location is 4 degrees. It is asserted that the slope at the failure location is not representative of the site as a whole. The peat stability assessment assumed a worst case scenario i.e. saturated peat and had regard to combination of risk factors including shear strength, slope angle, peat depth, evidence of sub peat water flow, surface water flow, evidence of previous slips, bog pools, mechanically cut peat, quaking, types of vegetation, slope characteristics presence of deep peat. It was also informed by results of groundwater monitoring which was undertaken for a 12 month period. In total 10 factors were used to assess peat stability. Based on the peat stability assessment and with the

full implementation of mitigation measures as outlined, it is outlined that there is a low risk of peat failure at the site.

In relation to causal factors for peat failure elsewhere it is noted that in reference to Meenbog / Dawn of Hope (Bolebrack) both failures were considered when undertaking the peat stability assessment and lessons learned from these have been incorporated into the design and construction methodologies for the proposed development. The trigger at the Dawn of Hope was an intense rainfall event and concentration of runoff from forestry drainage to an area of saturated, deep (3-5m) relatively weak peat. It is acknowledged that such intense rainfall events cannot be avoided however the impact of these naturally occurring events will be mitigated by ensuring that all existing forestry drainage is maintained during construction stage to avoid blockages and water build up, especially in deeper peat areas. Discharge of water from settlement ponds will be through controlled diffuse release onto peat. The failure of Meeenbog occurred on a section of floating road being constructed on convex break in slope downslope from a large area of deep (c3m) low strength peat. The use of floating roads is not propsoed near breaks in slope at the propsoed development.

I am satisfied that the potential for the propsoed development to generate peat landslide risk has been assessed in accordance with recognised best practice guidance specifically Peat Landslide Hazard and Risk Assessments: Best Practice Guide (Scottish Government 2017). I consider that the applicant has provided a robust assessment to establish that the proposed works will not give rise to peat instability or slippage subject to stringent implementation of the EIAR mitigation measures which include detailed mitigation / control measures for each infrastructural element of the development, measures in the peat and spoil management plan and the implementation of construction method statements to ensure adherence to best practice regarding peat stability.

I consider that the information provided in the EIAR and application is sufficient to allow the propsoed development to be fully assessed. Subject to detailed and full implementation of proposed mitigation measures, I am satisfied that it has been demonstrated that the impact on land, soils and geology would be avoided, managed or mitigated by the measures outlined in the EIAR. I am satisfied that the subject

development will not give rise to significant direct, indirect or cumulative effects on lands, soils or geology of the site.

9.9 Water

9.9.1 Issues Raised.

The planning authority emphasises the need for site preparation and construction works to adhere to best practice including IFI Guidelines "Requirements for the protection of Fisheries Habitats during construction and development works at River Sites" and water quality monitoring locations and parameters to be agreed within IFI with daily surface water monitoring during the construction period and silt mitigation and surface water control measures to be in place prior to commencement of ground works. On site effluent treatment system should be considered as an alternative to road tankering effluent during the construction period.

Third parties express concerns in relation to potential impact of development on water quality, pollution risk, flood risk and impact on wells. History of flash flooding in Keerglen Ballykinlettragh and Ballinglen with local villages being cut off and Currower in Ballycastle also noted to be particularly susceptible to high flooding. Eutrophication of Ballinglen River and Ballycastle beach also raised and concerns noted regarding acidification and sediment loading of rivers.

9.9.2 Examination, analysis and evaluation

9.9.2.1 Context.

Chapter 9 of the EIAR deals with hydrology and hydrogeology. The assessment is based on desk study, baseline monitoring and site investigations. Data from past site investigations was also used to prepare the description of baseline conditions. Associated appendices include Appendix 9.1 Flood Risk Assessment Report, Appendix 9.2 Drainage Design Calculations and Appendix 9.3 Water Framework Directive Assessment Report.

Limitations in terms of assessment of water are not highlighted. I am satisfied that there are no significant limitations in terms of the scope, scale or context of assessment.

9.9.2.2 Baseline

At a regional scale the windfarm site occupies headwater sub catchments of the Owenmore and Ballinglen Rivers. The Owenmore River drains to Tullaghan Bay approximately 27km straight line distance to the southwest of the site. The Ballinglen River drains to Bunatrahir Bay approximately 8km straight line distance to the northeast of the site. The Owenmore river catchment encompasses a total area of approximately 300km2 and the Ballinglen River catchment encompasses a total area of approximately 44km2.

The grid connection route from the wind farm site follows existing roads that pass through subcatchments of the Glencullin, Ballinglen and Cloonaghmore Rivers. The Glencullin River discharges to Bunatrahir Bay while the Cloonaghmore and Moyne Rivers discharges to Killala Bay.

The headwaters of the Owenmore and Ballinglen Rivers within the site are:

The Altderg River, which incorporates the drainages of the Glenora River from the east and Fiddaunfrankagh Stream to the north, The Altderg river flows south and merges with Inagh River to become the Oweninny River which continues south to become the Owenmore River after its merger with Sheskin River.

The Keerglen River, which flows east to Ballinglen River. The Keerglen River is fed by several small, unnamed streams which flow south from within the eastern part of Glenora Forest.

The headwaters of the Glencullin River which includes the Sralagagh river, also originate within Glenora Forest but are outside the windfarm site. All of the named headwater streams in Glenora Forest originate as a series of bog seeps and springs at higher elevation.

The site is drained as part of ongoing forestry management with drainage ditches leading greenfield runoff to the local watercourses. Within forestry plantations furrows between rows and plantations and fire breaks serve to direct greenfield runoff to drains watercourses directly and to bog areas in topographic depressions on lower ground. In the southwestern corner of Glenora forest there are quaking bog

areas and the Altderg Lough which occupy subtle topographic depressions. These features are a natural part of the blanket bog system and have their own small runoff catchments mainly from the west. No infrastructure is proposed in the sub catchments of these features.

Potential river water bodies that could be affected by the proposed development are listed in Table 9.6 . With regard to the Owenmore River catchment the sections of river that are particularly relevant are the headwaters which originate in Glenora Forest and which extend to the Oweninny and Keerglen Rivers. Potential groundwater bodies that could be affected are: Bangor (code IE_WE_G_0052), Belmullet (Code IE_WE_G_0057), Bellacorrick-Killala (code IE_WE_G_0041). Groundwater vulnerability within the site is mapped by the GSI as ‘Extreme’ to ‘Low’

There are no records of historical flooding or recurring flood incidents within the windfarm site. The nearest recorded flooding on a river that is hydrologically linked with the windfarm site is on the Owenmore River between Bellacorrick and Bangor Erris more than 20km downstream. With the exception of roads and road crossings on lower ground all infrastructure within the windfarm site is located outside and above the OPW modelled 1000 and 100 year return period flood levels therefore within flood zone C low risk. Regarding grid connection route it is above the OPW modelled 1000 and 100year return period flood levels.

There are no surface water or groundwater abstractions used for public water supply within or downslope /downgradient of the windfarm site. The nearest source of public water supply is at Belderrig c6km to the northwest outside subcatchments linked with the proposed development. With regard to private water supplies, the nearest dwellings and or farms that may abstract groundwater from private wells are located in the townland of Gurrankill to the east of the windfarm site. The townland of Gurrankill is side gradient of groundwater flow directions within the windfarm site and private wells are therefore not at risk of potential pollution from the proposed development.

In relation to WFD Water Body status: The Keerglen_-010river water body has been assigned a WFD ‘High ecological status objective by the EPA. The Keerglen river did not meet its WFD High status objective in the period 2016-2021. The waterbody is

classified as ‘moderate; ecological status due to ‘moderate biological conditions’ specifically ‘moderate fish status or potential.’ The downstream Ballinglen_010 and Ballinglen_020 river water bodies also did not meet their WFD good status objectives. EPA cites unsatisfactory fish and invertebrate status respectively. Ballinglen_01- EPA 2021 notes a decline in both salmon and trout number, and the river body is also flagged as having a water quality issue with chromium. Both river bodies are “areas for action”. The Moyne_-010 river waterbody is of moderate status which is based on modelling noting that EPA has assigned low confidence to this case and there is no monitoring data available for the Moyne river. All other waterbodies linked with the development meet or exceed their WFD ecological status objective.

With regard to the WFD risk assessment only the Ballinglen river water bodies are classified as at risk of failing to achieve WFD objectives in year 2027[3]. With regard to the three groundwater bodies that underlie the proposed development these were all at ‘good’ status in the period 2016-2021[4] and classified as not at risk of failing to achieve good status objectives in year 2027.

Designated sites with potential hydrological or hydrogeological connection to the proposed development via surface water or groundwater pathways i.e. within the zone of influence are addressed Table 9-13. Those identified as requiring further assessment are Bellacorrick Bog Complex SAC, Kilalla Bay Moy Estuary SAC, Killala Bay Moy Estuary SPA, Inagh Bog NHA, Bellacorrick Bog Complex pNHA, Killala Bay Moy Estuary pNHA.

Based on the baseline characterisation the principal sensitive environmental receptors are identified as surface watercourses (streams) draining to the Altderg and Keerglen rivers and these rivers. The watercourses that are crossed by the grid connection route are also potential receptors. None of these watercourses are designated salmonid rivers, nutrient sensitive water bodies or within a freshwater pearl mussel catchment. They are also not used for drinking water supply and are not upstream of a designated drinking water protected area. The Keerglen River and its tributaries within the site are designated WFD High Status’ objective water bodies

[3] Status – remains ‘at risk’ for 2019-2024
[4] Status – remains ‘good status’ for period 2019-2024

and are Quality Class A water bodies(with biotic index Q4, Q5). The importance and sensitivity of this receptor surface water environment is considered to be ‘very high’. The Altderg River and its tributaries within the site are not designated WFD ‘High’ status objective water bodies, however the Altderg river adjoins to peatland NHAs and includes Quality Class A water bodies (with Biotic Index Q4 Q5). The Western way and Altderg river sub catchment are an important amenity and therefore the importance and sensitivity of the related watercourse is considered to be ‘very high’.

For the grid connection route related watercourses incorporate important amenity sites, including the Western Way and Quality Class A water bodies (with biotic Index Q4, Q5) As such the related watercourses are also assigned a “Very High” significance and importance as a receptor surface water environment.

Groundwater provides minor baseflow to streams and is a minor water balance component overall however as it is part of the environmental supporting conditions of the peat within the site the groundwater receiving environment is considered to be ‘medium’ in terms of importance as hydrogeological attribute.

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	Current land use patterns likely to continue. Forestry likely to be felled and replanted. Land drainage in the area of the site likely to continue/may be extended.
Construction	2 year construction phase Clear-felling of coniferous plantations. Physical disturbance of residual peat and subsoil. Release of sediments, organic matter (including dissolved organic carbon) and nutrients to drains. Potential indirect negative moderate temporary reversible effects of high probability. Earthworks – Direct release/discharges of sediment local to surface watercourses. Effect on water quality, water clarity, morphology and aquatic habitats downstream. Indirect negative significant short term reversible and of high probability Culvert installations. (2 new watercourse crossings). Potential upgrade of 4 existing culverted watercourse crossings.

	Provision of an estimated 66 culverts which includes upgrades to existing piped culverts and which are not related to natural watercourse crossings. Physical disturbance of streambanks and streambeds, sediment mobilisation and water quality and morphological effects. Direct negative moderate short term reversible and high probability effect. Cable works installations. Earthworks. Instream works avoided. HDD. Direct negative slight temporary reversible and of medium probability. Hydraulic effects of drainage. Interceptor drain construction can give rise to sediment mobilisation to watercourses and effect of draining peat contributing to water quality effects. Lowering water levels of peat can result in subsidence/ slumping of peat surface and loss or changes to vegetation types / communities. Potential effects are direct negative not significant long term and likely. Water quality effects of drainage – Suspended matter, dissolved organic matter and nutrients. Water quality deterioration. Indirect, negative slight temporary and of medium probability.
	Pumping from open pits. Discharges from sump pumping can affect water quality of watercourses especially with regard to suspended sediments. Indirect negative not significant temporary reversible and medium probability. Hydrogeologically from a quantitative perspective direct neutral imperceptible temporary and unlikely. Accidental spills or leaks. Pollution risk to both groundwater and surface water aquatic habitats and biota. Potential direct and indirect negative imperceptible to profound brief to long term reversible and of low probability. Release of cement based products Direct and indirect negative slight temporary to sort term and of low probability. Wastewater management – Staff welfare facilities at each of 5 proposed construction compounds. Fully enclosed tanks for disposal by authorised means to wastewater treatment plant. Potential direct and indirect negative not significant short term reversible and low probability. Turbine delivery route accommodation works. Potential direct negative moderate temporary and medium probability effects. Public and private water supplies. No hydrological connection to sources of public water supply. Groundwater flow in poorly productive bedrock aquifer is localised with short flow paths to local streams. Nearest dwellings hydraulically side gradient. Indirect negative imperceptible permanent unlikely. WFD water body status. Potential to affect surface water quality. Direct and indirect negative moderate short term unlikely. Along grid connection potential effects are indirect,

	negative imperceptible short term and unlikely. For groundwater potential effects are indirect, negative not significant short term and unlikely. Designated sites within likely zone of influence: Bellacorrick Bog Complex SAC Indirect negative not significant short term and low probability effects Kilalla Bay Moy Estuary SAC – indirect, negative, not significant short term and low probability. Killala Bay Moy Estuary SPA indirect, negative, not significant short term and low probability. Inagh Bog NHA - indirect, negative, not significant short term and low probability. , Bellacorrick Bog Complex pNHA indirect, negative, not significant short term and low probability. Killala Bay Moy Estuary pNHA indirect, negative, not significant short term and low probability.
Operation	35 year operational phase Maintenance works Indirect negative slight long term and of medium probability. Hydraulic effects of drainage indirect negative not significant long term and unlikely. Water quality Effects General -Indirect negative slight long term and of low probability. Compaction of Access track and hardstanding – indirect negative slight long term and of medium probability. Water Well Installation and Abstraction Direct negative imperceptible long term and of low probability Wastewater Management Indirect negative imperceptible long term reversible and unlikely WFD Water body status. Functional drainage effect on water quality. Indirect negative slight long term and low probability effects. Designated sites protected areas within the zone of influence. Affect on water quality and morphology of hydrologically linked streams and rivers. Risks associated with maintenance works including drainage management and accidental spills of fuel Bellacorrick Bog Complex SAC Indirect negative, not significant, long term and unlikely effects Kilalla Bay Moy Estuary SAC – indirect, negative, imperceptible, long term and unlikely. Killala Bay Moy Estuary SPA indirect, negative, imperceptible long term and unlikely. Inagh Bog NHA - indirect, negative, imperceptible long term and unlikely. Bellacorrick Bog Complex pNHA indirect, negative, imperceptible long term and unlikely. Killala Bay Moy Estuary pNHA indirect, negative, imperceptible long term and unlikely.

Decommissioning	Similar to construction but reduced in magnitude. Some of the potential effects of development will be reduced e.g. rehabilitating constructed areas with vegetation reducing runoff and sedimentation. Roadways to be kept and maintained (forestry/recreational use). Electrical cabling to be removed, ducting to remain. Turbines to be dismantled, turbine and mast foundations to remain in situ. Substation to remain. Informed flexibility in respect of decommissioning to remain. No significant effects on hydrological and hydrogeological environment predicted.
Cumulative	Kilalla community windfarm within same subcatchment of Moyne River Moyne_010 river waterbody. No expected cumulative effects. Proposed development has in combination with other windfarm developments in the sub catchments of Oweninny and Owenmore Rivers the potential to affect water quality and biological conditions of these rivers. To date no discernible or identified effects from existing windfarms as evidenced by high ecological status. With regard to existing forestry operations likely significant residual cumulative effects are considered both direct and indirect, negative, not significant long term and unlikely.

9.9.2.4 Mitigation

The EIAR proposes mitigation measures to offset potential effects on the water environment for all phases of the development. These include designed measures (avoidance of watercourses, watercourse buffers) and adherence to best practice construction methods including surface water management. All measures are incorporated into the CEMP.

Detailed measures during clear felling to mitigate risk of mobilising suspended solids and nutrients to watercourses will include use of small felling areas and sequencing to avoid intense felling within one subcatchment. Use of machine combinations with specific reference to ground conditions, sediment silt traps and drains, brash mats and soil erosion prevention, drain inspection and maintenance.

With regard to earthworks measures will include source controls, in line controls and treatment systems including the use of silt fences and silt bags. Measures to manage runoff from peat and spoil placement areas are propsoed.

Measures to ensure the prevention of and response to accidental spills and leaks of fuel or other chemicals and release of cement based products and wastewater

management measures are outlined within the CEMP and SWMP in accordance with best practice. Operational phase measures with regard to maintenance works are addressed in terms of control measures of surface water management design measures the mitigation of hydraulic effects of drainage and wastewater management.

With regard to the designated sites mitigation measures as outlined will serve to protect and mitigate against the identified potential effects.

9.9.2.5 Residual effects

With the implementation of the proposed mitigation measures, no significant residual effects on the water environment are predicted, including on WFD status of surface and or groundwater bodies. Mitigation measures serve to protect the designated sites from potential effects. It is concluded that the proposed drainage management system and other mitigation measures likely significant effects are not expected to occur.

9.9.2.6 The Assessment. Direct and Indirect Effects.

I have examined, analysed and evaluated Chapter 9 of the EIAR the associated appendices including Appendix 4-3 CEMP, 4-4 Surface Water Management Plan and Appendix 9-3 Water Framework Directive Assessment Report. I am satisfied that the applicant has provided sufficient survey data to enable assessment of likely effects on the water environment. Further, having regard to the detailed assessment carried out, the location of the development, absence of substantial concurrent development in the area of the site (sub catchment) and the proposed mitigation measures, which are standard good practice measures and which are proven to be effective at preventing adverse effects on water flows, hydromorphology and water quality, I am satisfied that no significant adverse direct, indirect or cumulative effects on the water environment, water quality or WFD objectives will arise as a consequence of the development. I refer the Commission also to the WFD Screening Assessment provided as Appendix 2 to this report. I note that the Keerglen windfarm (500344) drains to Ballinglen River in conjunction with 5 of the propsoed Glenora turbines. Mitigation and best practice measures as set out within the EIAR are

designed to ensure no negative effect on downstream surface water quality and quantity.

Regarding flood risk this has been fully assessed within the flood risk assessment and it has been demonstrated that the proposal will not exacerbate flash flooding on Keerglen and Ballinglen River. Drainage management design seeks to maintain existing drainage conditions with controlled discharge of intercepted water via buffered outfall at greenfield run off rates. Discharge and settling ponds are to be located 50m from watercourses or where this is not feasible silt fences will be incorporated to protect watercourses.

Regarding wastewater management proposal for the proposed development this involves the provision of sealed storage tanks for wastewater from staff toilets to be tankered off site by authorised waste collector to wastewater treatments plant. I am satisfied that this is appropriate as opposed to the provision of an onsite treatment. I have noted that the submission from Mayo County Council suggested on site treatment as an alternative to road tankering effluent referencing an environmental award winning UV system installed at the Oweninny Windfarm. I consider however that the proposal for offsite treatment is appropriate to avoid contamination and ensure adequate protection to groundwater and surface water quality.

9.9.3 Conclusion.

Having regard to the examination of environmental information in respect of water, in particular the EIAR and the technical appendices to the report, it is considered that the main significant direct and indirect effects of the development on water are the potential for contamination of ground and surface water during construction and operation, alterations to surface water flows/flowpaths, changes to hydromorphology. It is considered that these impacts will be mitigated by the design of the proposed development, which includes measures to avoid impacts on waterbodies and alterations to surface water flows; and by the proposed use of standard construction methodologies, which have been demonstrated to mitigate effects on hydrology and water quality.

9.10 Air and Climate

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

9.10.1 Air

9.10.1 Issues Raised.

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

9.10.2 Examination, analysis and evaluation

9.10.2.1 Context.

Chapter 10 sets out to address Air Quality and outlines 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 11-1 Carbon Loss Calculations sets out the calculation of carbon losses and savings from the development 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.

9.10.2.2 Baseline

The baseline for the subject development comprising coniferous forestry plantation including clear fell and planted on blanket bog (in various forms of degradation) and public road corridor. Grid connection corridor comprises public road pastureland, peat bogs and transitional woodland scrub. In terms of sensitive receptors there are 13 dwellings within a 3km distance of the proposed windfarm site while sensitive receptors along the road corridor are also considered.

The site lies within Air Quality Zone D as designated by the EPA representing rural areas located away from large population centres. EIA notes reports on air quality In Ireland 2021 published by EPA 2022. There are no statutory limits for dust deposition in Ireland however EPA guidelines suggests a deposition of

10mg/m2/hour (240mg/m2.day) can generally be considered as posing a soiling nuisance. A guideline limit of 350mg/m2.day measured according to TA Lift standard 2022 is noted. Baseline levels of Particulate Matter (PM_{10}) Nitrogen Dioxide (NO_2) and Carbon Monoxide (CO) are well below ambient air quality limit values while Ozone (O_3) recorded at Castlebar monitoring station falls within the Good category for air quality.

9.10.2.3 Potential Effects.

Likely significant effects of the proposed development on 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	Short term increase in exhaust emissions arising from construction vehicles and transport of turbines to the site Dust emissions arising from transport and other infrastructure, haul route, grid connection, cable and transport to the site.
Operation	Exhaust emissions associated with operational phase arising from occasional machinery and light goods vehicles long term imperceptible negative impact. Provision of alternative energy will result in emission savings of carbon dioxide oxides of nitrogen and sulphur dioxide. Long term significant positive impact on air quality and positive impact on population and human health.
Decommissioning	Similar to construction phase but of less impact.
Cumulative	Construction phase. Minor emissions from construction plant and machinery turbine components and construction material delivery and potential dust emissions. Where construction occurs simultaneously there will be short term negative cumulative impact on air quality. Emissions of Greenhouse gases arising during construction will be offset by the operation of the development. Cumulative long term significant positive effect on air quality.

9.10.2.4 Mitigation

Mitigation measures set out within the EIAR and CEMP include standard good practices to minimise vehicular and dust emissions arising during the construction and operation and decommissioning period for example appropriate maintenance

and use of vehicle /plant, use of agreed haul routes, transport in covered loads, use of aggregate material from borrow pits on site where feasible, dust suppression measures, wheel wash, minimisation of areas of excavation and stockpiling.

9.10.2.5 Residual Effects.

With the implementation of mitigation measures the EIAR predicts no significant residual adverse effects on air quality from exhaust or dust emissions. A long term positive impact is predicted in terms of air quality due to the operation of the development.

9.10.2.6 The Assessment Direct and Indirect Effects.

I have examined, analysed and evaluated chapter 10 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. 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 significant distance of residential receptors from any wind farm site infrastructure (in excess of 1km) and the isolated elevated nature of the site and screening provided by existing forestry 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.

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.

9.10.3 Climate

9.10.3 Issues Raised

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 is questioned.

9.10.4 Examination, analysis and evaluation

9.10.4.1Context.

Chapter 11 of the EIAR describes and assesses potential significant direct and indirect effects on climate arising from the construction, operation and decommissioning of the proposed development. The associated Appendix 11-1 set out Carbon Loss Calculations.

Carbon losses and carbon savings from the development are calculated 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 (section 11.5.2). Origin of potential carbon losses include

turbine life (manufacture, construction, and decommissioning), losses due to back up, reduced carbon fixing, losses from soil organic matter and due to leaching of dissolved and particulate organic carbon (CO_2) loss from removed and drained peat, forestry felling, embodied carbon in construction materials and carbon losses associated with traffic and transport movements.

9.10.4.2Baseline

The baseline comprises commercial forestry underlain by blanket peat. Grid connection route comprises public road corridor, pastureland peat bogs and transitional woodland shrub. Land use in the wider landscape setting comprises a mix of forestry, agriculture, peat cutting, with low density residential development.

9.10.4.3 Potential Effects.

Likely significant effects of the proposed development on climate, as predicted in the EIAR, in advance of any mitigation, are summarised in table C1 below:

Table C1 Summary of Potential Effects Climate	
Project Phase	Potential Direct, Indirect and Cumulative Effects
Do-Nothing	Opportunity to further significantly reduce greenhouse gas emissions including carbon dioxide oxides of nitrogen and sulphur dioxide from fossil fuels to the atmosphere would be lost.
Construction	Removal and reinstatement of peat habitat, tree felling construction material and operation of vehicles and plant. Short term increase in greenhouse gas emissions. Some potential long term slight negative impacts due to removal of carbon fixing vegetation and habitat. Transport - greenhouse gas emissions associated with transport and exhaust. Short term and slight. Waste –management of waste streams will give rise short term and slight negative.
Operation	Displacement of approximately 179,692 tonnes of carbon dioxide per annum from traditional carbon based electricity generation. Long term significant positive effect on climate. Some potential long term slight negative impacts during operational phase related to emissions arising due to maintenance and monitoring activities and removal of carbon fixing vegetation and habitat peat reinstatement and associated drainage.
Decommissioning	Similar to construction but of less impact

Cumulative	Construction phase. Minor emissions from construction plant and machinery turbine components and construction material delivery and potential dust emissions. Where construction occurs simultaneously there will be short term negative cumulative increase in GHG emissions. Greenhouse gas emissions during construction will be offset by the operation of the development. No adverse cumulative effects on climate. Cumulative long term significant positive effect on climate.

9.10.4.4 Mitigation

Mitigation measures set out in the EIAR, for the construction, operation and decommissioning phases of the development, include siting and design to minimise footprint of development e.g. use of existing roads, use of on site borrow pits for aggregate materials, operation of plant and machines and waste management in accordance with best practice guidelines CEMP (Appendix 4-3) and decommissioning plan (Appendix 4-7). Biodiversity Management and Enhancement Plan identifies enhancement activities such as removal of forestry, drain blocking and removal of rhododendron, rewetting of existing cutover peat habitat and restoration of wetland habitats.

9.10.4.5 Residual Effects

With the implementation of mitigation measures, the EIAR predicts short term imperceptible negative effects which will be restricted to duration of the construction phase. Following implementation of biodiversity enhancement the loss of carbon fixing vegetation over the lifetime of the development will be partially offset and using the precautionary principle will have potential long term imperceptible negative effect on Climate. The displacement of carbon dioxide from fossil fuel based electricity generation over the 35 year operational lifespan will ensure long term moderate positive effect on climate as a result of reduced greenhouse gas emissions.

9.10.4.6 The Assessment Direct and Indirect Effects. Conclusion

I have examined, analysed and evaluated chapter 11 of the EIAR and the associated appendix 11-1 and the CEMP. I am satisfied that the applicant has provided sufficient data to enable assessment of likely effects on climate for all phases of the development. As regards the issue of carbon sequestering it is considered that the proposal to restore 41 hectares of peatland as part of the biodiversity management and enhancement plan (BMEP) will significantly enhance the quantity and quality of peatland habitat thereby ensuring carbon sequestering capacity and benefits.

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 for GGG emissions.

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 12 of the EIAR deals with noise. It assesses the likely **e**ffects of the proposed development at all phases on the nearest noise sensitive locations within 3km of the proposed development. Associated appendices include Appendix 12-1 Construction Noise Report and Appendix 12-2 Operational Noise Report.

The construction noise report was undertaken using guidance contained in BS5228 Part 1 2009+a1:2014 ‘Noise and vibration control on construction and open sites - Noise” and the calculation methodology in ISO9613: 1996 Acoustics – Attenuation of sound during propagation outdoors’ Part 2: General Method of Calculation. For operation noise the EIAR refers to the ‘Wind Energy Development Guidelines 2006 (WEDG) and noise limits set out in that document, the UK’s Energy Technology

Support Unit Guidelines (ETSU, 1996), The Assessment and Rating of Noise from Wind Farms ETSU-R-97, The Institute of Acoustics A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise (IOA GPG).

The EIAR notes that for the assessment locations where no background noise measurements were undertaken noise data collected at proxy locations deemed representative of the background noise environment was used to assess noise impacts at those receptors. Candidate wind turbine used for prediction of operational noise may differ from final turbine to be used however compliance with noise limits will be ensured. No specific difficulties encountered in relation to noise and vibration are identified and I am satisfied that no significant limitations are evident.

9.11.2.2 Baseline

With regard to construction noise it is noted based on 14 residential noise receptors within 3km of the proposed development and 10 additional NSRs included to account for potential impacts arising from access track road widening works to the north east of the site. Five NSRs were chosen as Construction Noise Assessment Locations (CNALs) representing the closest NSRs or clusters of NSRs. Having regard to existing ambient noise levels around the development the BS5228 ACategory A threshold values were considered appropriate for construction noise assessment at all NSRs. Predictions assume that all items of plant are operating continually throughout the assessment period to provide a worst case scenario.

With regard to operational noise, a background noise assessment was undertaken at two noise sensitive receptors. Monitoring locations were selected to represent all noise sensitive receptors. These are shown in Figure 12-2 and Appendix 12-2. Locations were selected that were subject to minimal influence from other noise sources, such as local watercourse, operational wind turbines and vegetation. Background noise monitoring was undertaken for the purposes of setting the total WEDG noise limits, Data was recorded over the period 3 December 2020 to 17 February 2021 at NML1 and 3 December 2020 to 19 March 2021 at NML2. Specific kit detail and rationale are detailed in field data sheets (FDS) and installation report included in Annex 3. Meteorological data (wind speed and rainfall) was continuously

recorded alongside noise. The closest operational windfarm to the noise monitoring locations is Oweninny 1 windfarm which is over 6km away at its closest point. The contribution to overall background noise levels from Oweninny at is likely to be negligible and therefore was not considered further. A total of three Noise Sensitive Receptors (NSRs) were chosen as Noise Assessment Locations (NALs) to represent individual or clusters of Noise sensitive receptors. The assessment reports the worst case noise emission level expected at each group of NSRs. Prevailing background noise level for quiet daytime periods and night time periods are detailed in Tables 12.5 and 12.6. Background noise data during periods of rainfall were excluded in accordance with best practice.

9.11.2.3 Potential 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	Not specifically addressed within the EIAR. Noise environment likely to remain unchanged.
Construction	Potential for significant noise impact at CNAL05 during scenario 01 where threshold value of 65dB is exceeded by 3dBA. For all other CNALs predicted noise levels for all scenarios are well below weekday and Saturday daytime threshold values. Exceedance at CNAL05 arises due to presence of mobile plant operating in the vicinity of the receptor. Model assumes that all plant will be operating continuously however this will not be the case in reality and levels will fluctuate and are predicted to be lower. Short term temporary impact not significant. Modelled night time scenario below night time threshold levels of 45dBA. The extent of any blasting requirement not determined pending intrusive site investigation tests. Should it be required tests to be undertaken in accordance with BS5228-2:2009+A1:2014. Blasts designed through appropriate specification of Maximum Instantaneous Charge (MIC) to ensure no exceedance of guideline limits. Given relative distance between potential blasting locations and closest sensitive receptors issue scoped out from further detailed consideration.

Operation	Based on prevailing background noise levels the WEDG noise limits established for each of the NALs. At all receptors wind turbine noise emissions were below the site specific noise limits. No significant effects.
Decommissioning	Similar to construction phase but less
Cumulative	No construction activities that could give rise to significant cumulative impacts. Operational noise assessment has taken cumulative impacts with other operational consented and proposed windfarms into consideration. Likely cumulative operational noise assessment shows that the proposed development can operate concurrently with the operational consented and proposed wind farm near the NALs and no significant cumulative operational noise effects arise.

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. With regard to operation exact model of the wind turbine to be used will be as a result of a future tendering processes. The achievement of noise limits determined by the assessment would be a key determining factor.

9.11.2.5 Residual Effects.

With the implementation of mitigation measures the EIAR identifies short term but not significant residual effects of noise for the construction phase. For the operational phase, the EIAR predicts that the likely site specific and cumulative noise level lies below the total WEDG noise limits without mitigation. No significant residual effects arise.

9.11.2.6 The Assessment: Direct and Indirect Effects.

I have examined, analysed, and evaluated Chapter 12 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.

As noted no predictions have been given with regard the extent of any blasting requirement which remains undetermined pending intrusive site investigation tests. Should it be required tests to be undertaken in accordance with BS5228-2:2009+A1:2014. Blasts designed through appropriate specification of Maximum Instantaneous Charge (MIC) to ensure no exceedance of guideline limits. Given relative distance between potential blasting locations and closest sensitive receptors I am satisfied that the extent of any reserves to be freed by blasting can be designed to comply with standard criteria for air over pressure and ground borne vibration.

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. Reference is made to the 2019 draft WEDG issued for consultation in December 2019. It is noted that significant concerns were raised during the consultation process by a group of acousticians regarding the technical approaches proposed and it is noted that the draft guidelines have not been adopted.

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 2007 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. I have reviewed EIAR documentation submitted with concurrent application for

Keerglen windfarm 500344 which includes in chapter 12 and associated appendix 12.3 an assessment of cumulative noise for Keerglen and Glenora including noise contour map of cumulative effect with maximum sound power output at wind speed of 7m/s at 10m height which assumes that all turbines are simultaneously downwind to each location at the same time which results in an overprediction, a scenario that cannot occur in practice. All predicted noise levels are within noise limits.

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 all NSLs, is well below the proposed 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.

9.11.3 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, noise levels will not be significant in this context.

9.12 Material Assets, Cultural Heritage and the Landscape.

9.12.1 Issues raised.

The Planning Authority submission notes the rich cultural context, the significance of the Céide Fields and National Monuments and RMP sites within the zone of influence. Vulnerability of designated views along the north Mayo Coastline including Downpatrick Head and Wild Atlantic Way are noted. Photomontage 8 is cited as of concern regarding cumulative impact from along the R312 Western Way, as is photomontage 3 Knockaun a view from Downpatrick Head. Visual and tourism product impact should be addressed.

Fáilte Ireland refers to the significance of landscape as one of the primary assets for tourism in County Mayo and notes development plan objectives which seek to protect the Céide Fields from inappropriate development. Noting local landscape character and distinctiveness the vulnerability of the ridgelines/skylines of the Maumakeogh, streams and river corridors surrounding the site and Downpatrick Head is a crucial concern. An isolated section of the Western Way incorporated on the site will be altered in character by proposed road upgrades, this impact also cumulative with existing and permitted wind energy development. Regarding tourism impact, the Céide fields visitor centre and looped walk requires greater consideration. The construction phase will give rise to landscape and visual disturbance in this remote and secluded landscape which should be fully assessed by the Board. Secondary impacts on landscape and tourism including Western Way, Wild Atlantic Way, the north Mayo coast and the wider context of the Céide Fields need to be fully explored.

Submission from An Taisce challenges the justification in light of factors, inter alia landscape sensitivity and visual amenity for the proposed location of site outside areas ‘open for consideration’ or ‘preferred’ in terms of the RES.

The Department of Housing Local Government and Heritage DHLGH recommend that all mitigation measures in relation to archaeology and cultural heritage be implemented in full.

Third parties reiterate concerns regarding impact on Downpatrick Head, the Wild Atlantic Way, Céide Fields and historic monuments and ring forts in the vicinity including Glenora Fields, Rathlacken, Blanamore and Ballyglass Megalithic Court Tomb and House. Concerns in respect of potential cultural heritage impact noting connection of the site to the Táin Bó Flidhais and it is noted that Queen Maeve’s route passes through the site passing from Altderg to Keerglen. It is contended that the proposal would severely undermine the tourism and heritage strategies for the area, would be out of character and visually obtrusive and would represent an inappropriate intrusion on the landscape. The inaccurate depiction of the Céide Coastal walk within the applicant’s response to observers is criticised and it is asserted that these inaccuracies call into question the quality of information and level of assessment provided by the applicant.

9.12.2 Examination, analysis and evaluation of the EIAR.

9.12.2.1 Context.

Chapter 13 of the EIAR deals with cultural heritage. It presents results of an archaeological architectural and cultural heritage impact assessment which sets out to assesses the potential direct and indirect effects of the proposed development on the surrounding archaeological architectural and cultural heritage landscape. The assessment is based on desktop review and field inspection. The associated Appendix 13.1 provides a photographic record of the proposed development site.

The assessment methodology includes GIS mapping, desktop assessment of multiple sources and field inspection carried out in September and October 2021. Engineering site investigations carried out within the EIAR site boundary were also archaeologically monitored due to the proximity of the site to the surveyed extent of the Céide Fields. No archaeological finds, features or deposits were detected.

In terms of limitations associated with fieldwork it is noted that dense forestry within the development site rendered access to certain areas difficult. (T10 and T22 located within dense forestry were not accessible.)

The methodology for assessment of impact on visual setting (indirect effect) followed a standardised approach according to types of monuments and cultural heritage assets which may have varying degrees of sensitivity. The Zone of Theoretical visibility (ZTV) map in the Landscape and visual Impact Assessment as presented in Chapter 14 of the EIAR was relied upon in the assessment of impact.

9.12.2.2Baseline

The baseline environment is described at 13.3. It is noted that the Céide Fields and North West Mayo Boglands were previously included in the 2010 UNSECO World Heritage Sites Tentative List for Ireland but does not feature in the current 2022 Tentative list. The nearest World Heritage Site on the tentative list comprises the passage tomb landscape of County Sligo located c 55km east of the site.

In terms of national monuments there is one national monument within 10km an early Christian enclosure and church site MA014-061/001-006, Preservation Order No 11/1983). It is located 9km from T16 and T22 to the east of the site.

There are no recorded monuments within the EIAR site boundary while a total of 41 archaeological monuments are located within 5km of the nearest turbine, with the concentration of these to the east of the site. The nearest two within 2km comprise a redundant record and a standing stone pair. Six monuments lie between 2-3km and 15 between 3-4km with 18 between 4-5km. The Céide fields MA006-032 is located outside the 5km study area however the zone of notification around the Céide fields is located within 5km of the nearest proposed turbine.

No protected structures are located within the site boundary. The nearest (Ref: 0189) is in excess of 7km to the north east comprising the Stella Maris Hotel northwest of Ballycastle. Three structures listed in NIAH and three historic gardens are located within 5km of the nearest turbine. NIAH structures located along the grid connection cable route and transport delivery route are noted. A corn kiln is marked on the 1st Edition OS historic map adjacent to the Fiddaunfranka River which flows from north to south. The kiln is depicted as a small square building at ITM E502753 N834154. This is c190m south of T6 and 118m west of the proposed road between T7 and T9. This was not located due to dense mature forestry in the vicinity.

10 SMR sites are located within 100m of either side of the grid connection cable route. No protected structures within 100m of the grid connection route. The nearest structure listed in RPS is Ballysakeery Glebe House (Ref 272) towards the eastern end of the grid route located c11.5m north of the roadside. Eleven NIAH structures within 100m of grid connection route.

Consideration is also given to monuments protected structures and NIAH structures located along the turbine delivery route.

9.12.3 Potential Effects.

Likely significant effects of the development as identified in the EIAR are summarised in table CH1 below:

Table CH1: Summary of Potential Effects - Cultural Heritage.	
Project Phase	Potential Direct, Indirect and Cumulative Effects.
Do Nothing	Potential direct indirect impact on cultural heritage would not occur.

Construction	Direct, Construction phase earthmoving activities may impact on known and potential cultural heritage assets. Overall significance not significant. No potential for direct impact on UNESCO World Heritage Sites or National Monuments or Recorded Monuments within the site. With regard to grid connection route ten recorded monuments within 100m and while not direct impact the route extends through zone of notification. Turbine delivery route – no works proposed which would affect recorded monuments or NIAH sites along the turbine delivery route. Potential for previously unrecorded sub surface archaeological finds, features or deposits due to extensive groundworks and presence of blanket peatland. Due to proximity to Céide Fields further associated walls could potentially be uncovered during construction activities. Potential significant negative and permanent impact. Overall potential for subsurface archaeology along the grid connection route considered to be low given that it extends along public roads. Where within zone of notification potential impact on subsurface features if present. Not significant. Protected Structures NIAH Structures and Historic Gardens. No direct impacts arising from proposed turbines grid connection or turbine delivery route. Features of local cultural heritage merit. Corn Kiln on first edition OS Map adjacent to the Fiddaunfranka. 190m south of T6 and 116km west of existing road for upgrade between T7 and T9. Direct impact unlikely accidental damage to any remains as a result of movement of machinery and/or ground works may occur in the absence of mitigation. Complex of derelict structures 180m south east of T21. Direct impacts unlikely, accidental damage may occur in absence of mitigation.
Operation	Indirect Impacts – No indirect effects on UNESCO World Heritage Sites. No National Monuments located within 10km. One monument subject to preservation order Early Christian Enclosure and church site MA014-061/001-006) Preservation order No 11/1983 located circa 9km to T6 and T22 east of the site. Theoretical visibility 16-22 turbines possible. Change to the wider setting is acknowledged –Not significant. No recorded monuments within the site. 41 within 5km. Nearest redundant record 1km. No impacts to immediate setting of any monuments within 5km. Zone of archaeological potential around Céide Fields located c3km to nearest turbine T15. Six monuments located where 16-22 turbines theoretically visible, three in areas 11-15, sixteen where 6-10 turbines theoretically visible and seven where 1-5 theoretically

	visible. Remaining nine monuments located where no theoretical visibility. No theoretical visibility from Céide Fields visitor centre or from highest observer location at the centre. (Appendix 13-2 wireframe). Overall effect on wider setting of monuments within 5km not significant slight. Protected Structures. Stella Maris Hotel Northwest of Ballycastle 0189 in excess of 7km to the northeast. Potential visual effect to the wider setting - imperceptible. NIAH structures – nearest 3.7km from nearest turbine. ZTV shows no theoretical visibility. Only Ballinglen Cottage (historic garden (located in area where 1-5 turbines theoretically visible. Overall potential effects on NIAH structures and historic gardens imperceptible. Features of local Interest. Corn Kiln and site of ruinous stone houses located within EIAR boundary. Immediate setting of stone houses altered by the presence of forestry. Change to wider setting - not significant.
Decommissioning	No significant potential impacts on archaeological and cultural heritage. Potential direct impacts will have been resolved through mitigation during construction.
Cumulative	No direct cumulative effects on UNESCO world heritage sites, National Monuments Recorded Monuments and RPS structures. Cumulative effects on potential sub surface archaeology. Cumulative impact on setting. No potential cumulative effects on UNESCO World Heritage Sites National Monuments. One national monument within 10k of nearest turbine comprising early Christian enclosure and church sites (MA014-061/001-006) Preservation Order 11/1983. ZTV indicates 16-22 turbines possibly visible. While change in wider setting acknowledged no impacts to immediate setting and significant cumulative effects on setting not anticipated. While potential for effects on wider setting of recorded monuments may occur significant cumulative effects on setting not anticipated. Protected structures - potential effect to wider setting imperceptible. Three NIAH structures and three historic gardens within 6km - Overall potential effect imperceptible. No significant effects identified and no potential cumulative effects to the immediate setting. No significant effects or potential cumulative effects to setting of features of local cultural heritage merit.

9.12.4 Mitigation

Mitigation measures outlined within the EIAR include Archaeological monitoring under license along the grid connection cable route which extends through the Zone of Notification of MA007-046 Megalithic Tomb, MA007-046/001 and 002 Hut sites at Ballyglass. Ringfort MA007-047 at Ballycastle, Ringfort MA015-026 at Ballinglen. Report on monitoring on completion and further mitigation such as preservation in situ or by record. Pre development testing is proposed following keyhole clear felling but prior to commencement of construction, followed by further mitigation such as preservation in situ, by record or establishment of buffer zones. Archaeological monitoring of all groundworks and report on completion. A buffer Zone of 180m is to be established around features of local heritage merit with monitoring of construction phase. Appropriate reporting to national monuments services.

9.12.5 Residual Effects.

With the implementation of mitigation measures no significant residual effect on any feature of cultural heritage is predicted.

9.12.6 The Assessment Direct and Indirect Effects.

I have examined, analysed and evaluated Chapter 13 of the EIAR, all the information provided in respect of archaeological, architectural and cultural heritage and the submission made by the Department of Housing Local Government and Heritage, I am satisfied that the applicant has outlined an understanding of the baseline environment by way of desk and site surveys which is comprehensive and that the key impacts in respect of the likely effects on cultural heritage have been identified. The site is largely devoid of above ground features of cultural heritage interest. No recorded cultural heritage assets within the site and therefore no direct impacts. Where impacts are envisaged in terms of the potential for subsurface archaeology this is to be mitigated by way of pre development testing of windfarm infrastructure and archaeological monitoring of ground works during the construction phase. Buffer

zones will be established around features of local cultural heritage merit namely the corn kiln which is indicated on first edition OS maps adjacent to the Fiddaunfrnaka, c190m south of T6 and c 115m west of the existing road due for upgrade between proposed T7 and T9 and the complex of derelict and ruinous buildings c180m south east of T21, which are shown on the 1st edition OS 6 inch maps and again on the Cassini 6inch map and are likely to date from the early 19th century. Ground works will be archaeologically monitored. With regard to the proposed grid connection route monitoring of ground works is proposed within the zone of notification around recorded monuments.

Many of the submissions raise concerns in respect of the effects of the development (direct and indirect) on the Céide fields in terms of potential for related undiscovered archaeological heritage as well as impact on setting, landscape character and context. The question of impact on the Céide Fields is assessed in some detail within the application, specifically Chapters 13 and 14 of the EIAR and the findings are further elucidated within the response to submissions document. The centre point of the Céide Fields is located beyond 5km from the nearest turbine while the zone of archaeological potential is 3km distant from the nearest turbine. With regard to potential direct impacts it is acknowledged within the EIAR that further walls or heritage assets could potentially be uncovered during construction activities associated with the proposed development and mitigation measures are outlined to address such eventuality including Archaeological monitoring, testing, preservation in situ or by record.

With regard to visual impact and impact on setting it is outlined that as evidenced from the Zone of Theoretical Visibility (ZTV) no visibility is afforded from the Céide Fields Visitor centre as the proposed turbines are situated on the southern extent of the Maumakeogh ridgeline. Photowire F taken from a publicly accessible location within the Céide fields visitor centre illustrates the effectiveness of topographical screening. The eastern section of the zone of archaeological potential has partial theoretical visibility. VP1 from within the zone of archaeological potential of the Céide fields along the R314 shows some visibility however it is contended that the turbines are substantially screened and are appropriately scaled in the background of the view.

I consider that the submitted EIAR provides a thorough assessment of the potential impact on the Céide fields, and acknowledges the historical significance of the preserved landscape recognising its previous inclusion on the UNESCO World Heritage tentative list. The potential for further discoveries and for a wider understanding of the neolithic landscape is acknowledged and provided for in terms of the mitigation strategy. Having considered the EIAR and deliberated on the impact on Céide Fields I am inclined to concur with the findings that the proposed turbines are effectively absorbed within the landscape and will not have a significant adverse effect. As regards Ballyglass Megalithic Court Tomb Ballyglass, MA007-046 the grid connection route is within the Zone of Notification for this monument. Features of archaeological interest and future potential appreciation of same will not be precluded by the development. Mitigation proposed includes the provision of archaeological monitoring under licence, reporting, and further mitigation such as preservation in situ, preservation by record may be required depending on results of monitoring.

With regard to other features of cultural heritage in the wider landscape, having regard to inspection of the site and the wider area, the location of these features which are largely removed from the development site, the detailed cultural heritage, landscape and visual impact assessment carried out, the nature of the development site situated in an isolated upland area characterised by commercial forestry plantation, I am satisfied that the conclusions of the EIAR are accurate, and that the proposed development will not give rise to significant impact on cultural heritage. Whilst indirect effects on setting arise the magnitude of change is not significant and the local context of the features will not be demonstrably affected by the development. I am satisfied that the cultural heritage assessment provided within the EIAR is robust and comprehensive. I note also that the Department of Housing Local Government and Heritage indicated satisfaction with the proposed mitigation measures in respect of cultural heritage. I am satisfied that the impacts on archaeology, architecture and cultural heritage would largely be avoided, managed or mitigated to an acceptable extent by measures forming part of the proposed development.

9.12.7 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 landscape and visual effect of the development on the setting of features of cultural heritage (indirect and cumulative effects), with greatest effects on features in the immediate area of 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

9.13.1 Issues raised.

The Planning Authority notes the vulnerability of designated scenic views along the Mayo Coastline including Downpatrick Head and Wild Atlantic Way and the Céide Fields. Concerns are raised in respect of cumulative impact from along the R312 Western Way as illustrated in Photomontage 8 Derry Lower, and view from Downpatrick Head photomontage 3 Knockaun. The Planning Authority recommends that the Board conduct a detailed analysis of impacts along the coastal scenic route.

Fáilte Ireland refers to the significance of landscape as one of the primary assets for tourism in County Mayo and notes development plan objectives which seek to protect the Céide Fields from inappropriate development. Noting local landscape character and distinctiveness the vulnerability of the ridgelines/skylines of the Maumakeogh, streams and river corridors surrounding the site and Downpatrick Head is a crucial concern. An isolated section of the Western Way incorporated on the site will be altered in character by the proposed road upgrades, this impact also cumulative with existing and permitted wind energy development. Regarding tourism impact, the Céide fields visitor centre and looped walk requires greater consideration. The construction phase will give rise to landscape and visual disturbance in this remote and secluded landscape which should be fully assessed by the Board. Secondary impacts on landscape and tourism including Western Way, Wild Atlantic Way, the north Mayo coast and the wider context of the Céide Fields need to be fully explored. Submission from An Taisce challenges the justification in

light of factors, inter alia landscape sensitivity and visual amenity for the location of turbines outside areas ‘open for consideration’ or ‘preferred’ in terms of the RES.

Third parties reiterate concerns regarding impact on Downpatrick Head, the Wild Atlantic Way, Céide Fields and the Céide Coastal Walk. It is contended that the proposal would severely undermine the tourism and heritage strategies for the area, would be out of character and visually obtrusive.

9.13.2 Examination, analysis and evaluation of the EIAR

9.13.2.1 Context.

Chapter 14 of the EIAR addresses the potential effects on the landscape and on visual amenity. Associated appendices include Appendix 14-1 LVIA Methodology, Appendix 14-2 Landscape Character Assessment and Appendix 14-3 Photomontage Assessment, Appendix 15-4 Landscape and Visual Impact Baseline Map. The methodology, guidance used and assessment criteria is set out in detail in Appendix 14.2. The LVIA study area is established as 20km from the proposed turbines in all directions.

In terms of limitations the EIAR acknowledges the inherent limitations of theoretical visibility mapping in terms of its presentation of bare ground character, failure to account for localised undulations and other screening factors and its inability to precisely depict the magnitude of visual impact. It is noted that the findings are supplemented by ground truthing by way of on site visibility appraisals, route screening analysis and photomontage visualisations. Photomontage limitations are also acknowledged. No specific limitations with regard to the impact assessment per se are set out and I am satisfied that no significant limitations arise.

The Board should note that the Landscape and Visual Impact Assessment Area (LVIA) and ZTV is consistent with the WEDG, 2006 (and draft 2019 Guidelines), which recommend a 20km ZTV for turbines with a height >100m. The assessment of landscape character effects (LCA study area) has regard to a 15km distance, on the grounds that the development is not likely to have an effect on landscape character beyond this distance.

9.13.2.2 Baseline

The landscape (landscape receptors, policies, designations landscape character) and visual baseline is explored based on desk study supplemented by site surveys undertaken in summer 2021. ZTV mapping showing theoretical visibility of the proposed development informs the landscape baseline. Half blade ZTV map is shown in Figure 14.1. In terms of the description of theoretical visibility it is noted that the proposed development is enclosed by an elevated landform which wraps around the proposed turbines from west to the north and then to the east. Location of the proposed turbines on the southern side of the curving ridgeline ensures that the topography will obscure visibility of the turbines from most of the coastal landscape to the north west and north east.

Most of the full theoretical visibility of 22 turbines will occur within the relatively flat planes to the south and southeast of the LVIA study area. The topography of the site (upland setting with major surrounding ridgeline to north, west and southwest provides substantial screening from sensitive receptors in the wider landscape. Theoretical visibility is limited to the southeast within 10km where the Cluddaun and Shannetra Hills screen. (Partial visibility on ZTV Fig 14.1) Theoretical visibility within 5km is mainly full to partial to the southwest south and southeast with an area of no visibility to the west and north beyond the peaks of the surrounding topography. To the northeast within 5km there is partial theoretical visibility as a result of adjacent topography.

The topography surrounding the site limits theoretical visibility to the west, north, east and southeast even within 5km. Beyond 5km theoretical visibility remains extremely limited to the west, north and north east with large areas of no or partial theoretical visibility. There is partial to full theoretical visibility in the area around Downpatrick Head to the northeast, and along the stretch of the R314 regional road near Glenamoy to the west. Aside from these locations there is very limited full theoretical visibility to the west north and northeast. There is widespread full theoretical visibility beyond 5km throughout the LVIA study area to the south and west. Between 5km and 10km to the southeast there is an area of partial visibility as

a result of the topography surrounding the site. Approximately 15km south there are some patches of no theoretical visibility due to smaller topographical undulations.

Route screening analysis which was carried out within 5km informed Figure 14-3 which designates roadways as having a) little / no screening, b) Intermittent/partial screening or c) full screening. It is noted that the location in a remote and sparsely settled upland landscape means that there are very few public roads within 5km of the site. The majority of roads within 5km have intermittent /partial screening and little/no screening. Immediately adjacent to the site boundary views are restricted and contained due to the presence of mature coniferous forestry. Roads within 1km of the site are local roads of low traffic density. Open and expansive views are available across moorland landscape surrounding the site to the south and south east. Long distance views can be restricted by coniferous plantations located in proximity to roads. Within 1-3km to the south little or no screening is the dominant category. It is noted that there are very few residential receptors in the open upland landscape to the south within 3km. In areas beyond 3km intermittent/partial screening is the dominant category. To the north and northeast around the village of Ballycastle Intermittent/partial screening and full screening are the dominant category. Roads into and adjacent to Ballycastle comprise mainly full screening. The R315 regional road east is primarily classed as Intermittent/partial screening.

Notable Landscape baseline characteristics are identified as follows:

Landscape designations and policy context.

Mayo County Development Plan 2022-2028, Landscape Policy and landscape objectives. Scenic routes. Mayo's Coastal Areas and Lakeshores. Landscape Appraisal. Landscape sensitivity matrix.

County Mayo Renewable Energy Strategy (RES) 2011-2020. 4 turbines within classification tier 2 areas -open to consideration. 3 turbines within Tier 1 preferred (large wind farm) Remaining turbines are within with area that does not fall under any designation in the RES. Figure 14-4 Landscape Baseline and Figure 14-5 Landscape Baseline and ZTV and Figure 14-5 Landscape Policy Areas and RES.

Landscape Policy Areas - Site lies within LPA – 3 Upland Moors, Heaths and Bogs. The landscape appraisal for County Mayo sets out a number of policies with regard

to development in LPA 3 noting the occurrence of areas of highly valued scenic vistas, development not to have disproportionate visual impact or detract from scenic upland vistas, encourage development that will not interrupt or penetrate distinct linear sections of primary ridge lines when viewed from areas of public realm. Facilitate developments that have locational requirement to be situated on elevated sites (e.g. telecommunications and wind energy). Adverse visual impacts to be mitigated or avoided where possible. Preserve from development any areas that have not already been subject to development which have retained a dominantly undisturbed upland /moorland character.

Landscape Sensitivity Matrix outlined in the Landscape Appraisal for County Mayo shows that LPA3 has a “high potential to create adverse impacts on the existing landscape character. Having regard to the intrinsic physical and visual characteristics of the landscape area, it is unlikely that such impacts can be reduced to a widely acceptable level.”

Scenic Routes and Scenic Views - no scenic routes or scenic routes with designated views within the site or within 5km of development boundary. The closest scenic route with designated views is approximately 5.5km northeast of the nearest turbine. The closest scenic route is 5.7km northeast of the proposed development. Table 14.2 Designated Scenic Routes and Scenic Views. Figure 14-5.

Designated Vulnerable Features. A number of skylines and ridges of upland areas within the LVIA study area. Landscape features screened in for further assessment based on proximity (5km), Cloghmoyle and Maumakeogh Mountains. Shorelines of Lakes Rivers and Estuaries screened in on basis of proximity (5km) Oweninny River, Keerglen River, Glenucullen River, Glenulra River.

Tourism Strategy. Downpatrick Head is signature discovery point along the wild Atlantic way.

A ZTV map overlaid on identified landscape receptors is presented in Fig 14-5. Landscape Policy Areas 3 and 4 are the only designated Landscape Policy areas LPAs to have any substantial visibility of the proposed development. LPA 1 also screened in for further assessment on the basis of visibility from area around Downpatrick Head and portion of LPA 1 to the west of the proposed development.

Landscape Character of the site is described in detail:

Topography and landform limits visibility which is mainly concentrated to the lower elevated lands (bogland plain) to the south and east. The majority of views within the EIAR boundary are rural and remote in character and the landscape is characterised by undulating topography with a mix of scrub vegetation and mature coniferous forestry plantation. Key hydrological features within the site are the Altderg River and Glenora stream which ultimately drain to the Owenmore River.

Landcover of the vast majority of the site comprises young to mature forestry coverage and low cover vegetation. Remainder of the site is dominated by degraded upland blanket bog. Large areas of the site where tree felling has occurred with land cover comprises low scrub vegetation, bare earth and remnants of the coniferous trees that have been removed. Forestry tracks through the site are primarily comprised of gravel.

Primary land use is commercial forestry. The Western Way walking track traverses the site. Wind energy is also a significant land use in the wider landscape setting. Other land uses include agriculture peat cutting and low density residential.

In terms of views and aesthetic qualities within the site a predominance of small scale views are available owing to the presence of mature coniferous forestry. Open and unrestricted views with little screening are common outside the EIAR boundary to the north and south. Very few visual receptors occur within 4km including residential receptors and road networks.

In terms of landscape value and sensitivity based on indicators including landscape designations, landscape quality/condition, scenic or aesthetic qualities, rarity or conservation interests, cultural meaning/associations, wildness/naturalness and recreation value, the landscape is considered to be low. The site has some recreational value given presence of the western way walking route. The heavily modified nature of the site, its remote location and presence of other windfarms suggest a low susceptibility to the proposed change.

In the context of the landscape characterisation WEDG 2006 and Draft Guidelines 2019, Mountain Moorland influences the siting and design of the proposed development within the wider setting at the north-eastern periphery of an elevated

range of moorland peaks that span north Mayo. Beyond the ridgelines to the north landform tapers down to the rugged and exposed north Mayo Coastline which is aligned in an east west orientation. The landscape transitions to rolling agricultural lowlands beyond the Ballinglen River and town of Ballycastle to the northeast. To the east and southeast comprises fertile farmlands and increased human settlement. A flat basin of open moorland extends away to the south and southwest. The basin is enclosed by a linear range of mountains which arc south-westerly from the site culminating in the peak of Slieve Fyagh, then south then southeast to the northern margins of the extensive and mountainous Nephin Beg range. The upland plateau is rural, remote and isolated with large setback distances from human settlement. Consequently this area has been deemed suitable for wind energy developments as demonstrated by multiple existing and permitted windfarms. The surrounding topographical features provide visual screening from large areas of North Mayo such as the sensitive coastal areas to the north and west.

The N59 national road crosses the southern portion of the LVIA in an east west orientation. Carrowmore Lough lies north of Bangor Erris at the western extent of the LVIA study area. This is on the western side of the mountain range with substantial topographical elements intervening between the area surrounding Carrowmore Lough and the proposed development. The landscape to the east and north of the Lough is remote moorland with heavy coniferous forestry. To the northwest the Glenemoy River and Muingnabo River are significant landscape features feeding into Sruwaddacon Bay. The level of elevation begins to undulate more dramatically along the coastline to the north of these rivers with the Porturlin and Tawnaghmore being the most substantial topographical features along this stretch of coastline to the northwest of the development.

Sensitive landscape receptors are identified as ridgelines, riverbanks and lakeshores, coastline of County Mayo from Kilalla Bay to Killary Harbour. Downpatrick Head. Significant heritage site with views of Staggs of Broadhaven island and the Dún Briste sea stack. Topographical features and ridgelines along the coastline including the peaks of Tawnaghmore, Glinsk and Porturlin and Céide Fields. Six landscape character units located within the 15km LVIA study area as illustrated in Figure 14-11 and five of which are screened in for further assessment.

Visual baseline receptors are identified in Figure 14-13 (Visual baseline) and 14-14 (Visual baseline and ZTV) and these mechanisms were used to identify key visual receptors considered for viewpoint selection. Screening also took account of Tables 14-7 Views and Scenic Routes within 20km, Table 14-8 Settlements within 20km, Table 14-9 Recreational Routes and Tourist Destinations within 20km, Table 14-10 Viewing Areas, Table 14.11 Significant transport routes. Visual Receptors screened out are summarised on Table 14-2 on basis of no visibility. Visual Receptors screened in and used to establish photomontage locations are listed in Table 14-13.

Visual Receptors screened in include designated scenic routes, scenic views and OSI viewpoints, settlements, recreational and tourist destinations and transport routes. Additional viewpoints within 10km were selected to assess the visual effects closer to the proposed development from various directions in view of the potential for cumulative interactions.

Photomontage Viewpoint Locations (11 no) are shown in Figure 14.15. A detailed assessment of each photomontage (Volume 2 Photomontage Booklet) is provided in the assessment tables Appendix 14-3. The assessment of cumulative effects focusses on other existing permitted and proposed wind energy developments within the LVIA study area. Those considered are existing Bellacorick, existing Killala, existing Oweninny 1 and Oweninny 2 permitted, Abo Sheskin, proposed Oweninny 3 proposed Sheskin South and proposed Kilsallagh. Overall the relatively small additional areas that would have visibility of turbines are generally remote. Non windfarm development was not considered to give rise to significant cumulative landscape and visual effects.

9.13.2.3 Potential Effects

Likely significant effects of the development as identified in the EIAR are summarised in the table L1 below.

Table L1 : Summary of Potential Effects	
Project Phase	Potential Direct, Indirect and Cumulative Effects.

Do Nothing	No changes would be made to current land use practices of commercial forestry. Baseline landscape and visual context would remain.
Construction	18-24 month period. Construction phase effects would include peat placement areas, temporary construction compounds and associated effects resulting from movement of construction and turbine transport vehicles. Landscape Effects- Felling and earthworks direct effect on landscape. Temporary, largely visually contained by surrounding forestry and not visible from wider LVIA study area. Temporary impacts from temporary structures and dust. Short term slight negative effect in terms of direct landscape effects. Building tower sections and erection of turbines including cranes and haulage vehicles short term slight negative visual effects. Ancillary Project Elements Grid connection. Underground Short term localised and transient as works move along cable route and include loss of roadside vegetation, tar and soil stripping excavation and associated construction activities. Temporary negative landscape effects of slight significance. Other ancillary project elements will only be visible in immediate surroundings giving rise to localised effect. Substation. Substation surrounded by commercial forestry which will screen any potential long range views limiting landscape and visual effects. Localised negative short term of moderate significance, Site access roads and hardstand areas. Localised impact. Negative Short term effects of slight significance. Meteorological mast. Negative short term effects of slight significance. Peat and spoil placement areas. Negative long term effects of slight significance.
Operational	Landscape Effects. Landscape of the site. Change of character by introduction of vertical structures in the landscape. Localised change around ancillary project infrastructure. Substantial magnitude of change to the landscape in localised areas within the site where the landscape is materially altered. Low sensitivity balanced with substantial magnitude of change amounts to long term landscape effects of moderate significance on the physical fabric of the landscape of the site. Effects on the perceptual and aesthetic character of the proposed development site are deemed to be of moderate significance. Landscape Designations. Landscape Policy Areas.

	Direct effects on LPA 3 - Uplands, Moors Heath or Bogs. Susceptibility to change is low given renewable energy designations in local planning policy. Notwithstanding landscape sensitivity matrix within Mayo CDP deeming this landscape type have high sensitivity to wind farm development, given notable widespread development of wind energy and designation of large parts of the LPA as Tier 1 (preferred) and Tier 2 (Open to consideration), the Sensitivity deemed medium. Localised moderate changes will result in localised direct moderate landscape effects. LPA 4 – Drumlins and Inland Lowlands. An area of high to moderate landscape sensitivity to windfarm development as indicated in landscape sensitivity matrix of the Mayo County Development Plan. No direct effects as site is 5km away. No significant landscape effects. LPA 1- Montaine Coastal Zone. High landscape sensitivity. Large areas of no theoretical visibility within 10km, Some areas of partial visibility around Downpatrick Head. Large areas of partial visibility between 10km-20km west. VP3 shows long distance view from Downpatrick head. No significant landscape effects envisaged. Landscape Designations, - Downpatrick Head. Plate 14-7 to 14-20 show views in various directions. Panoramic Views. VP3 11.4km distant, partially visible as small vertical features in background, above a ridgeline to the southeast of the headland. By virtue of setback distance and positioning in landscape proposed turbines unlikely to detract from visitor tourism experiences of Downpatrick Head. Also strategically located at lower elevations relative to ridgelines enclosing them to the north and west. Downpatrick Head considered a high sensitivity landscape receptor and a moderate effect on the landscape character arises. Vulnerable Landscape Features – No significant landscape effect as a result of the generally remote location. Ridgelines Cloghmoyle. VP11 No significant landscape effects. Maumakeogh Mountain, VP10, VP1 and VP9 No significant landscape effect. Lakeshores and Riverbanks Oweninny River – No significant landscape effects Keerglen River – No significant landscape effects Glencullen River – No significant landscape effects Glenulra River - No significant landscape effects. Glencullen River – No significant landscape effects Landscape Character Units (LCU). No significant effects likely to occur (summarised in Table 14-15). Significance ranging from Moderate in LCU E- North Mayo Mountain Moorland and LCU D North Coast Plateaux to slight in LCU

	G - North Mayo Drumlins and LCU C - Northwest Coastal Bog and to moderate in LCU D North Coast Plateau. Visual Effects Photomontage Viewpoints. 11 locations. Appendix 14-3 Predicted effects in advance of mitigation area Not Significant (VP1 & VP 5), Slight (VP 2, VP4, VP6, VP7, VP8, VP9, VP10 and VP11) and Moderate (VP3) Visual Effects on Visual Receptors Designated Scenic Routes and Views. 4 scenic routes brought forward for viewpoint assessment. One OSI viewpoint Céide Fields screened out as ZTV indicated no theoretical visibility and view is directed away from the development. Scenic Route with designated views R314 at Céide Fields,- Focus out to sea away from proposed development. VP1 shows closest location along R314 where there is likely to be visibility. Limited to 4 turbines blade tips visible above ridgeline. Slight residual visual effect. Scenic Route E314 from Ballinaboy to Barnatra – 16.5km from nearest turbine. VP2 represents view. Slight residual visual effect. Scenic Route Local Road from south of Pollatomish to Barnatra VP2. Turbines mostly screened by ridgeline. Slight residual visual effect. Scenic route local road northeast of Ballycastle passing Downpatrick Head. VP3 at Downpatrick Head adjacent to scenic route. Distance of 11km. Turbines take up limited horizontal extent and appear as small elements in background. Visual effects moderate. OSI Viewpoint Downpatrick Head. VP 3 - 15 turbines partially visible beyond distant ridgeline. Proposed turbines do not obstruct or intrude on key scenic sensitivities such as sea cliffs sea stacks and immediate seascape setting. Proposed development includes 19^{o} (5.2%) of the expansive panoramic vista 360^{o}. Unlikely to detract value from visitor or tourism experience of Downpatrick Head including views of Dún Briste sea stack and rugged coastline. Iterative design process achieves turbine layout resulting in lack of visual stacking mitigating potential for visual confusion. Visual balance afforded by framing the development between two crests on the ridgeline and serves to effectively accommodate and absorb the proposed turbines. Settlements Ballycastle. Mostly partial visibility. VP4. Glenamoy – Partial theoretical visibility. Screening by forestry and topography. No significant visual effects. Moygowna - Partial visibility however screening provided by mature treelines and localised topographical undulations

	substantially screen. VP5 in same orientation but 3km closer – not significant. Crossmolina. Full theoretical visibility however additional screening from built infrastructure and vegetation in intervening landscape. VP6 at similar orientation and distance. No significant visual effect. Killala VP7 south of Killala - areas of full and partial theoretical visibility. Limited or no visibility within the village due to screening from built infrastructure or vegetation. Residual effect of slight. Pollathomish. Partial theoretical visibility. VP2. Slight effect. Due to screening and distance 18km. No significant visual effects. Recreational Routes and Tourist destinations. Downpatrick Head – Moderate visual effects. Wild Atlantic Way WAW. Theoretical visibility mostly limited to a portion of the WAW to the west of the LVIA study area represented by VP2. – slight impact and portion of WAW to northeast of the site close to Downpatrick Head. VP3 – moderate impact. VP1 also along WAW showing view from north close to Céide Fields. Residual effect - Not significant. Given large stretches of no theoretical visibility within 10km and limited visibility from majority of the area – no significant residual effect overall on WAW. Western Way - runs through site and total length 76km. Significant visual effect on section of route through the site. VP4 and VP8 along the route. VP4 4.5km northeast of nearest turbine, VP8 14.8km south. Slight visual effects. Overall moderate visual effect. Ballycastle Sralagagh Loop walk. Partial theoretical visibility. VP4. Visual effects slight. Moygownagh Loop Walk – Full to partial theoretical visibility. VP5. Not significant. Belmullet cycle loops. VP1 and VP2 – slight visual effects. Given extent of partial screening and no theoretical visibility - no significant visual effects. Major Transport Routes. R315 passes within 5km of nearest turbine. VP9 located along this road. Common mature roadside hedgerows. No significant visual effects. R314. VP1 and VP7. Majority of route within 10km no theoretical visibility due to intervening ridgelines. Views of the turbines fleeting where available. R312. 14km from nearest turbine. VP8 - slight visual effect. Generally open views across bogland to proposed development. Increased density of turbines visible but will be viewed as smaller background features within view than other turbines visible along the route.

	N69. Large stretches of full theoretical visibility VP6 – Slight visual effect. Turbines appear as small features in background. Residential visual amenity. Isolated upland setting and resulting substantial setback distances (over twice the required setback distance set out in WEDG 2006 and draft WEDG 2019) mean no significant visual effects are likely. Largest cluster of dwellings within 5m lie 2km east on the opposite side of an intervening ridgeline where theoretical visibility is indicated as a small area of partial visibility and large area of no theoretical visibility. Majority of these houses will have no visibility due to screening from ridgelines. The nearest property 1.9km from nearest turbine. No significant visual effects predicted. Slight residual visual effect to these properties. Ancillary project elements including grid connection. Due to topography and coniferous forestry project elements only visibility in immediate surroundings and visual effects highly localised slight significance. Regarding Aviation lighting. Will be dependent on IAA requirements. Options outlined in Chapter 15 include reduced intensity. Shielding and Directional Intensity. Obstacle Zone Agreement, Cardinal or Perimeter lighting, reduced lighting or aircraft detection system. No significant visual effects.
Decommissioning	Similar to construction. Dismantling and removal of turbines and ancillary infrastructure. Short term slight negative visual effects.
Cumulative	Cumulative landscape effects will occur within the open upland landscape where the proposed development is viewed from behind several existing permitted and proposed windfarms. 8 within 20km. Landscape Character Units – LCU E North Mayo Moorland cumulative effect with Sheskin. Not significant. Limited number of visual receptors in the intervening space between the proposed turbines and large areas of wind turbines to the southwest. Siting of the turbines at lower elevations than surrounding topography resulting in a particular aesthetic effect where they are saddled between peaks. Highly sensitive receptors to the north and northwest are unlikely to have substantial visibility of multiple windfarms and no significant cumulative effects anticipated particularly along coastline to the north VP1 and VP3. Some cumulative impact along transport routes most notably along R315. However not significant. Landscape character of the area which is one of a large scale which contains open expansive views assist the

	landscape to accommodate a large number of turbines. Long term slight cumulative visual effect is predicted.

9.13.2.4 Mitigation

In terms of visual mitigation it is noted that mountain moorland windfarm sites tend to be capable of accommodating suitably designed wind farm projects of scale. Vegetated farmland landscape and abundance of coniferous forestry around the site provides screening which has the capacity to substantially reduce the magnitude of visual effects in close proximity to the site. Measures to mitigate visual effects include strategic siting in a saddle between peaks. Siting on the lower regions of the overall elevated landscape within which it is located adjacent to the high elevation point of the Maumakeogh peaks and associated ridgeline which provides substantial screening from most areas within the LVIA study area to the north, northeast and north west reducing visibility and mitigating visual effects in an extensive area. Strategic siting at a lower elevation than adjacent ridgelines (below 230mOD) to the north east and west and Slieve Fyagh to the southwest the proposed development is partially contained or framed by the surrounding landform.

9.13.2.5Residual Effects.

Chapter 14 concludes that no significant landscape or visual effects were recorded as a result of the proposed development. Location of the site in an area surrounded to the north, west and north east by topographical features which provide substantial levels of screening and siting of turbines at lower elevation to these features substantially reduces visibility. Longer ranging views are only available from south and southeast. Location within a remote sparsely populated area means that there are limited numbers of residential receptors and settlements in proximity thereby reducing the spatial extent and size of turbines from sensitive locations. In relation to vulnerable features, including ridgelines and riverbanks there are no significant landscape effects deemed to arise. Overall, the proposed development is predicted to have no more than slight residual landscape effects on the character, integrity and uniformity of the landscape features including scenic routes. In terms of landscape character, the proposed development site itself is of low landscape value and

sensitivity given its current landcover and land use of commercial plantation forestry. Overall taking into account its current use and remoteness, the topographical features surrounding the site, and the policy contained within the WES, the landscape of the proposed development site itself has a low sensitivity to wind energy development and no significant landscape effects will arise. Regarding wider landscape units the effects on landscape character will be moderate.

Residual visual effects of “moderate” was deemed to arise at one of the eleven viewpoint locations with other viewpoints resulting in “slight” (8) and “not significant” (2) residual visual effects. Furthermore, it was shown that the potential for actual visibility is greatly restricted by the strategic siting of the proposed development in a saddle between peaks, as well as commercial forestry and vegetated agricultural land to the southeast.

In terms of other sensitive visual receptors, such as recreational and tourist destinations, settlements, and transport routes, the visual effects were found to be ‘Slight’ or ‘Not Significant’ for the majority. Downpatrick Head, and The Western Way walking route were deemed to experience a ‘Moderate’ residual visual effect. Given setback distance impact on residential amenity not significant. The proposed development will not have a significant effect on the extent of cumulative visibility within the LVIA study area.

9.13.2.6The Assessment: Direct and Indirect Effects.

I have examined, analysed and evaluated chapter 14 of the EIAR and all associated appendices and all submissions on file. I have also inspected the site and surrounding area. I am satisfied that the applicant understanding of the baseline environment by way of desk survey, field research and route screening analysis, is comprehensive and that the key impacts in respect of likely landscape and visual effects have been identified. Furthermore, I am satisfied that the conclusions of the report are appropriate, and that the key impacts in respect of the likely landscape and visual effects have been identified.

The key direct and indirect effects arising from the introduction of large turbine structures to this remote rural environment and the potential for landscape and visual

effects have been assessed. The methodology outlined is precise and comprehensive and the locations chosen for photomontage viewpoints are representative of the likely views of the proposed development from the local and wider area including from sensitive locations.

The proposed development by reason of its nature and scale will be widely visible in the landscape and will intensify and extend the presence of large scale wind farm development within the rural Mayo landscape. Having regard to the strategic siting and design of the proposed development, its site topography and location within a heavily modified landscape dominated by coniferous forestry plantation, I am satisfied that the landscape has the capacity to absorb the development and it will not give rise to a significant change to the landscape character of the area. With regard to visibility it is evident that the topographical screening provides that the most significant visibility occurs in the immediate vicinity of the site to the south and southeast of the site where flatter topography permits long ranging views of the site. The remote nature of the location and setback distance to sensitive receptors reduces the spatial extent and visual effect arising.

In terms of visual effects, I am generally satisfied that the development will not have significant adverse effects on scenic routes, designated views vulnerable landscape features tourist designations or transport routes.

The third parties in submissions raise a number of concerns in relation to the landscape and visual effects citing concerns that visual impact is understated particularly views from Downpatrick Head and the Wild Atlantic Way (photomontage 9). It is also noted that the applicant's response to observations includes a misinterpretation of the route of the Céide Coastal Walk. Mayo County Council also questioned the significance of impacts on the Wild Atlantic Way, Downpatrick Head and coastal scenic routes raising particular concern with regard to photomontage 8 Derry Lower along the R312 and photomontage 3 from Downpatrick Head. Submission from Fáilte Ireland outlines concern regarding impact on landscape as the primary tourism asset with concerns with regard to visual impact on Céide Fields and the broader Neolithic landscape noting also the major landscape and visual disturbance to this remote and secluded landscape during the construction phase. Concerns are also outlined regarding the impact on the western way in terms of

cumulative impact of existing and permitted windfarm development. It is contended that the assessment of visual impact is high level and basic.

I note that the applicant addressed many of these issues in turn within the detailed LVIA response to submissions. With regard to the impact on Céide Fields it is outlined that as detailed within chapter 14 of the EIAR there is no visibility from the Céide Fields visitor centre and publicly accessible area of the Céide Fields. Photowire F (Plate 14-21) shows the topographical screening present showing no possibility of visibility as the turbines are situated behind the brow of the hill within the historic site and as the turbines are located on the southern extent of the Maumakeogh ridgeline. As regards the wider context of the Céide fields the eastern section of the zone of archaeological potential has partial theoretical visibility. As outlined by the applicant the RES for County Mayo designates Tier 1- preferred (large wind farms) and Tier 2 – open for consideration closer to the zone of archaeological potential therefore it is evident that local planning policy envisions wind farms visible from the Céide Fields. While some theoretical visibility will occur this will be limited with turbines being partially visible with substantial topographical screening and appearing in the background of any such views.

Regarding Downpatrick Head, the landscape and visual effects arising at Downpatrick Head are assessed in detail within Chapter 14 and represented in Viewpoint 3 from Knockaun c11km northeast of nearest turbine and near OSI viewpoint and near scenic route is assigned a ‘very high’ sensitivity however the residual visual effect of moderate was deemed to arise. I would concur with the applicant that visibility per se does not necessarily give rise to significant visual effects. As set out in the assessment in relation to the 360º panoramic vista, the field of view comprising the proposed development includes approximately 19º (5.2%) of the expansive vista. The proposed turbines do not intrude on the focus of this landscape which are sea cliffs, Dún Briste sea stacks and the immediate seascape setting. The partial visibility of the turbines beyond the distant (11km+) ridge line does not impact on the key sensitivities of the landscape. Similarly with regard to the Wild Atlantic Way and REDV1 scenic route located along the Regional Road R314 it has been demonstrated that there are no overlapping sightlines between Downpatrick Head and the proposed development.

Regarding the proposed Céide to Downpatrick Head coastal walk it is noted that the agents for the applicant incorrectly assumed that walk follows the route of the Wild Atlantic Way (WAW), whereas the actual route runs along the coastline and is shown in submission dated 21 January 2025 of Céide Coast Community Development Company, Appendix 3. I note therefore that it is at a greater setback than the Wild Atlantic Way. In terms of the ZTV it is evident that there is no theoretical visibility along the western section of the route with partial theoretical visibility along the central section and partial visibility along the eastern section where 11-15 turbines may be theoretically visible and potential full theoretical visibility for a very short section on approach to Downpatrick Head. I consider that given the very limited potential for full theoretical visibility and in the context of the focus of the coastal walk a "not significant" visual effect from the Céide Coastal Walk arises.

Regarding the Wild Atlantic Way (WAW) theoretical visibility is mostly limited to a portion of the WAW to the west of the Study area and represented by (VP2). A not significant visual effect overall arises and portion of the WAW close to Downpatrick Head. (VP 3). Where visibility occurs the turbines are in background and distant views and do not significantly alter the views available and therefore the visual impact is not considered significant. VP1 representing view from scenic route along the R314 WAW 5.9km from the nearest turbine from the residual effect was deemed not to be significant. The focus of designated scenic routes along the WAW is generally to the north out to sea and away from the proposed development. Furthermore mitigation arises from the distance involved and hedgerow vegetation along majority of the WAQ which provides substantial screening in the direction of the proposed development. On the basis of the evidence as provided in the detailed assessment I consider that it has been demonstrated that the overall scenic quality of the WAW will not be significantly affected by the proposed development.

With regard to policy context including the Renewable Energy Strategy and landscape policy areas and sensitivities as outlined within the LPA sensitivity matrix, I consider that it has been shown that the location is acceptable in terms of wind energy designations, and I note that Mayo County Council concurred with this view. Whilst 4 turbines are within Tier 2 – open to consideration and 3 turbines within Tier 1 'preferred areas' while the remaining turbines are on lands undesignated within the

RES however are within 700m of Tier 1 or Tier 2 areas, however in any event it is evident that planning policy provides for wind energy development notwithstanding landscape sensitivity. I consider that the application has comprehensively detailed the manner in which site selection and design has followed best practice to ensure that adverse visual impacts are avoided or appropriately mitigated.

With regard to local residential amenity I note that submissions have raised concerns vis-à-vis visibility from Ballycastle. As outlined within the ZTV there is mostly partial visibility from the village. Route screening analysis further demonstrates intermittent or full screening on main approaches to Ballycastle thereby limiting views. VP9 taken circa 4.5km south of the village where there is little/no screening and 4.1km east of the nearest turbine along the R315. It shows visibility of 9 turbines in the background screened by intervening landform. VP4 taken circa 1.7km west of the village overlooking Maumakeogh ridge and within approximately 4.5km of the nearest proposed turbine, shows more visibility of the turbines than will be available from within the village. As shown in VP4 partial visibility of 9 turbines is available due to screening by the undulating topography and coniferous plantation. A slight residual effect is recorded in respect of both VP4 and VP9. I consider that the visual impact arising is not significant.

With regard to cumulative effect the EIAR has in my view provided evidence to show that the wider landscape context is capable of absorbing a number of wind energy developments. From the south and east the proposed development is viewed within the background of large scale expansive landscape while from the north and west the development is viewed within a large scale, varied and undulating landscape. The highly sensitive receptors to the north and northwest are unlikely to have substantial visibility of multiple wind farms.

I note that Mayo County Council expressed some concern regarding cumulative effect as represented in VP8 from the R312 Western Way in the townland of Derry Lower c14.8km south of the nearest proposed turbine. The view presents a long ranging view across the flat remote landscape of peatlands and forestry plantations showing a concentration of wind energy developments including the existing Bellacorrick and Oweninny, permitted Sheskin Wind Farm, and now permitted Oweninny 3 wind farms. The proposed development does contribute to the

accumulation of wind energy infrastructure and visual clutter however the development is seen as a distant background feature, is not prominent and does not give rise to significant cumulative effects. With regard to the cumulative effect of wind energy development along the Western Way, given the restricted small scale views which predominate along this route, the extent of topographical and vegetative screening and limited visual receptors affected it is considered that the cumulative impacts arising are not significant.

I note that the submitted EIAR cumulative assessment given its compilation in advance does not account for two proposed windfarm developments namely the Keerglen windfarm (8 turbines) and Tirawley Windfarm (16 no turbines) (incomplete PA.X.323778). I have also considered the Gortnahurra Windfarm (18 no turbines) (pre-planning). I am satisfied that I have taken account of the change to the cumulative baseline and considered the evident potential for an increased sense of proliferation. I have reviewed the information and analysis provided in the respective EIARs compiled in respect of these applications and duly assessed the context and potential cumulative landscape and visual effects. With regard to Keerglen PL16.500344 the proximity to the proposed Glenora windfarm will inevitably give rise to potential cumulative effect adding intensity to views of both developments and this is acknowledged within the EIAR accompanying the Keerglen windfarm application. As outlined the cumulative effect of in combination Glenora and Keerglen from a number of vantage points display increased depth and width of windfarm development. From a number of viewpoints the proposals will present as one larger amalgamated development whilst in other instances partial visibility behind the landform draws the viewer and accentuates the greater extent of wind energy in the wider upland area.

As regards the Tirawley windfarm proposal (incomplete application 323778) I note the findings of the EIAR that in light of the contextual separation of the Tirawley windfarm and its location on a relatively defined crest of hills and based on its distance from the permitted and proposed windfarms including Glenora the magnitude of cumulative effect is high medium. Whilst an increased intensity of windfarm development arises it will not appear out of place or uncharacteristic of the area.

With regard to the Gortnahurra and adjacent windfarm developments within the broader Bellacorrick basin it is noted that the contextual separation from the remaining developments and siting within a well-defined setting mitigates potential proliferation effects. A greater prevalent presence of wind energy development in the potential future cumulative scenario is acknowledged however it is noted that wind farm development will become an established and characteristic land use and the location is away from the more sensitive visual receptors.

Mayo County Council also in submissions notes that the assessment of visual effects is from a daylight perspective and question the impact in isolation and cumulatively of red flashing warning lights. I am satisfied that having regard particularly to the separation distance to residential properties the visual impact arising from the proposed development is not significant and as further discussed below will not have a significant detrimental impact on the environment or human population.

With regard to the construction phase I have noted concerns raised in the submission of Fáilte Ireland regarding potential temporary adverse visual impacts in terms of key scenic routes and tourist amenities including the Sralagh Loop and Western Way. I consider that these temporary impacts have been adequately addressed and appropriately mitigated within the EIAR. The construction phase, and to a lesser extent decommissioning phase will have minor and temporary landscape and visual impacts such as vehicle movement, construction compounds, earth movement and loss of roadside vegetation. Having regard to the nature of works and construction methodology as outlined I am satisfied that such effects are appropriately mitigated and will not give rise to significant impacts.

9.13.2.7 Conclusion

Having regard to the detailed LVIA carried out and to my inspection of the site and analysis of site context, I am generally satisfied with the conclusions drawn within the LVIA with regard to the landscape and visual effects. I consider that the analysis of visual effects is an accurate assessment of residual effect. The development will add to existing wind farm development in the area with direct and cumulative landscape effects and the increased density and intensity of wind energy development within

the wider area which is substantially affected by large scale wind farms. However the landscape has in my view the capacity to absorb the proposed development which has been sited and designed to ensure that the development does not interfere with or alter the setting of the more sensitive landscape features, designated sites and important heritage and tourism sites. I consider that it has been demonstrated that the proposed development can be accommodated without resulting in significant adverse effects on the overall landscape character and sensitivities of the area. I am satisfied that the proposed development on the whole would not give rise to any unacceptable additional adverse visual impacts on residential receptors, scenic views, scenic routes recreational / tourist destinations or transport routes.

9.14 Material Assets (Traffic and Transport)

9.14.1 Issues Raised

Submission from Mayo County Council noted the concerns of the Area Engineer Ballina MD with regard to the proposed circuitous haul route for construction from Ballina along the N59 though Crossmolina Regional Road R313 and Local Road L1204 which was considered inappropriate and it recommended that delivery from Ballina to Ballycastle with prior agreement required. Conditions were recommended to ensure prior road structural capacity survey and pavement repair and advanced and ongoing bridge structural survey and repair.

TII submission notes that works to the national road network to facilitate turbine component delivery should comply with TII publications and be subject to road safety audit as appropriate and subject to relevant license, approvals, permits or agreements. Location of Haul route in Galway and Mayo will require consultation with both local authorities.

Third parties raised concerns regarding construction traffic impact, capacity issues and implications for local traffic, pedestrians and residents.

9.14.2 Context

Chapter 15 of the EIAR deals with Material Assets including transportation. Associated appendices include Appendix 15-1 Autotrack Assessment and Appendix 15-2 Traffic Management plan. No limitations are identified.

9.14.3 Baseline

The baseline environment is described at 15.1.2. The site location in the context of the local road network and the proposed turbine delivery route from port of entry Galway city is depicted on Fig 15-1 and 15.2a – 15.2d. A detailed assessment of the route for abnormally large vehicles was carried out and 38 locations along the route were identified as potential pinch points and were subject to geometric assessment.

Entrance to the windfarm site is via an existing forestry access road running along the eastern boundary of the site in the townland of Glenora. The existing forestry access road merges with the Ballyglass local road approximately 4.7km to the northeast of the site in the townland of Ballyglass. The Ballyglass Local road meets the R314 approximately 1.6km further east.

In terms of existing traffic volumes an all day classified turning count was undertaken by Traffinomics Ltd at the junction between the Killerduff Road leading to the site and the R314 (links 1a and 1b) and on the N59 adjacent to the L52926 at Ballymunnelly (link 2). Counts were undertaken in 2021 and provide base flows for these links. Traffic counts were undertaken on Tuesday 27th July 2021 which was during a period when some Covid 19 related government travel restrictions were impacting traffic flows. A Covid 19 related correction factor for traffic demand on the N59 of +15.4% was applied. For all other links (links 3-9) traffic flow data was obtained from continuous traffic count sites maintained by TII. Table 15-1 shows observed average all day traffic flows (AADT). Construction year is anticipated to be 2028 and background traffic data for this year is calculated using TII growth rates and shown in Table 15-5 all day flows by year. (2 way vehicles). The traffic count data was also used to determine percentage of HGVs on the proposed delivery routes. Table 15-6 All day flows, percentage HGVs and flows by vehicle type 2028.

Trip Generation is set out in two stages stage one site preparation and ground works and stage 2 turbine component delivery and construction. Projections on trip generation data are based on other windfarm construction projects. The shortest

potential construction phase 19 months was assumed for the purpose of assessment to test a conservative scenario in terms of concentration of traffic volumes.

Trip generation for stage 1 is set out at Table 15-9. Turbine Construction Stage 2 is set out in table 15-10 which summarises that a total of 198 trips will be made to and from the site by extended artics with a further 88 trips by standard articulated HGVs. It is assumed that the turbine delivery element will progress at a rate of 5 extended artic trips made by convoy to the site on 2 days per week resulting in this stage taking approximately 40 days/nights spread over a 20 week period. On a further 22 days at 2 days per week lasting for approximately 11 weeks the remaining equipment will be delivered. (Table 15-11 and 15-12)

Construction employee traffic is based on 80 staff members employed on site at any one time during site preparation and groundworks stage, reducing to a maximum of 40 staff during turbine construction stage. In a worst case it is assumed that all staff will travel to and from the site by car at an average of two persons per car.

During operation the windfarm will be unmanned and remotely monitored with minimal traffic volumes. Access to the site for amenity purposes is estimated to give rise to up to 20 car trips per day.

During decommissioning, there will be similar but significantly less than trip generation estimates for construction.

9.14.4 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	
Project Phase	Potential Direct, Indirect and Cumulative Effects
Do Nothing	No additional traffic generated or accommodation works carried out on the road network and therefore no effects with respect to traffic.
Construction	Background traffic volumes and proposed traffic volumes are shown for the anticipated construction stage scenarios - table 15-13 to 15-16 with traffic effects summarised in table 15-17 to 15-20. Predicted flows represent a worst case scenario and are greatest for the smaller roads where existing traffic volumes are low. (e.g. 449.7% 1a Killerduff Road to Site during concrete pouring -stage 1). On 22 days when concrete foundations are poured increase in traffic levels between +17% on N59 between Ballymunnelly and Ballina to +9.2% on N59 west of Ballymunnelly. On R314 north of Ballycastle increased traffic flow +30.1%. Temporary slight negative impact on general traffic using the surrounding road network. During remaining 299 site preparation and groundworks there will be a temporary slight negative impact on general traffic using surrounding road network. Link capacity assessment is presented in Table 15-21 to 15-23. On the external network the N58 between Ballylahan and Foxford is the busiest road with a link capacity forecast to operate at 141% in the do nothing scenario by the year 2028 increasing to a maximum of 144% during the 22 days that abnormal loads will be delivered to site. The N18 between Tuam and Claremorris is forecast to operate at capacity, 101% for the do nothing scenario by 2028 increasing to a maximum of 102% during abnormal load deliveries. The N59 west of Ballymunnelly is forecast to operate at 96% for the do nothing scenario by 2028 increasing to a maximum of 105% during concrete foundation pour reducing to maximum of 99% during the rest of the construction period. All other roads leading to the site operate within link capacity for all scenarios. Junction capacity. Detailed capacity assessment undertaken for the existing R314 Killerduff Road junction using PICADY simulation software. Results of capacity assessment (Table 15-24 and 15-25) show additional car trips passing through the junction will be accommodated with maximum ratio of flow to capacity (RFC) forecast to increase from 2.2% in the do nothing scenario to 10.6% with the proposed development construction traffic in place during the PM peak hour with increase from 0.0% to 8.3% during AM peak. (within acceptable limit of 85% set by TII)

	N58 between Ballylahan and Foxford forecast to operate over link capacity 141% by 2028 in the do nothing scenario increasing to 144% during abnormal load delivery. Impacts negative slight and temporary. Grid Connection. Fig 15-5. On-site substation proposed to be connected by means of 110kV electrical cable to the existing 110kV Tawnaghmore electrical substation. Cable route 28.4km predominantly within road corridor. There will be closures along the route for a total of 189 days. As traffic volumes are relatively low the direct effect to existing traffic will be negative temporary and slight. Abnormal Load route assessment. Transport of large components will be carried out at night when traffic is lightest and in consultation with roads authorities and An Garda Síochána. Impact on local highway network will be negative temporary (over 20 nights) and slight. A swepth path analysis was undertaken using Autotrack to establish where remedial measures may be required. Swepth path analysis for locations 1-38 summarised. Temporary measures required. It is noted that accommodation works required at Location 8 Junction N17/N5 will be applied for separately. Provision for sustainable modes of travel not relevant as travel distances will likely exclude employees walking or cycling to work. There are no public transport services passing the site.
Operation	During operation effects on flow links will be imperceptible (2-3 visits per week for maintenance purposes and 20 recreational and amenity purpose trips. R314 Killerduff Road will operate within acceptable limit. Direct effects on road network including junctions will be neutral and long term. No significant effects on roads and traffic. Recreational and amenity proposals likely to give rise to small (up to maximum of 20 trips per day) No significant effects anticipated on roads and traffic.
Decommissioning	As per construction but reduced in scale as much of the infrastructure will remain in place. Volumes of materials transported to and from the site will be significantly less.
Cumulative	Assessment of potential for cumulative traffic effects arising from existing and permitted development wind energy within 20km. In the event that construction coincides with other development traffic related cumulative impacts would be negative short term moderate for the 4 wind farm developments based on overlap of TDRs and associated traffic generation. Permitted Hydrogen Storage facility Bellacorrick potential for cumulative impacts negative temporary slight.

9.14.5 Mitigation

Mitigation measures will include significant coordination during construction phase. Mitigation by design in terms of selection of appropriate delivery route and provision of detailed traffic management plan as proposed in the CEMP to be finalised and agreed with the road authority and An Garda Síochána. Measures include standard good practices for the management of construction traffic and the following :

Abnormal load delivery at night in consultation with Local Authority and An Garda Síochána - 40 convoys of 5 undertaken over 40 separate nights and Spread out over an approximately period of 20 weeks. Garda escort vehicles to front and rear.

Traffic Management Plan to include:

- Traffic Management Coordinator
- Delivery Programme
- Information to locals
- Pre and Post construction condition survey
- Liaison with local authority
- Implementation of temporary alterations to road network at critical locations
- Identification of delivery routes
- Delivery times of large components
- Travel plan for construction workers
- Additional measures wheel washing, sweeping of local roads
- Reinstatement works.

Due to low volumes of traffic forecast at operational stage no mitigation measures are required. Decommissioning stage measures will include a traffic management plan and measures similar to those in the construction phase.

9.14.6 Residual Effects

During the 18 month construction stage it is forecast that the additional traffic that will appear on the delivery route will have a negative and temporary impact on existing road users, which will be minimised by the implementation of mitigation measures included in the traffic management plan. Effects will be slight to imperceptible during all the construction stage with the exception of delivery of abnormal loads which will reduce from moderate to slight if these deliveries are undertaken at night as proposed. Traffic impact during operational stage will be imperceptible. Residual effect on traffic during decommissioning will be slight to imperceptible.

Based on the assessment it is concluded that the proposed development will have no significant effects in relation to background traffic movements on the existing road network.

9.14.7 The Assessment Direct and Indirect Effects - Conclusion

Having regard to the nature and scale of the proposed development, it is clear that the greatest potential for negative impacts on traffic and transportation arises during the construction phase, and there will be minimal traffic generated during the operational phase.

In relation to the submission from Mayo County Council it is noted that the Area Engineer of the Municipal District outlined concerns with regard to the circuitous haul route for turbine component deliveries and its use for construction materials noting a requirement for further agreement. I consider that this can be addressed as part of the Construction Management Plan and travel plan for the development. A condition requiring agreement of haul route with the planning authority and other organisations as required is attached for the Commission's consideration. This also to address TII requirement for consultation with the relevant road management company and local authorities in respect of Abnormal load deliveries.

In relation to the route assessment for abnormally sized loads (TDR) this was fully detailed in Section 15.1.9 including Autocad and Autotrack analysis by specialist haulage consultancy services. The assessment outlined a total of 38 locations which

were subject to geometric assessment to determine the extent of necessary road widening or accommodation works and these are outlined in Appendix 15-1. Consultation between the developer and PPP concessions, Motorway Maintenance and Renewal Contractors and local authorities (Galway and Mayo) will be undertaken prior to commencement of any temporary accommodation works which will be subject to road safety audit and carried out in accordance with TII specifications.

Based on detailed assessment it has been outlined that the 18 month construction stage will give rise to additional traffic that will have a negative and temporary impact on existing road users. This will be minimised by way of implementation of mitigation measures included in the traffic management plan and in accordance with best practice. Effects are predicted to be slight to imperceptible in the main though the delivery of abnormal loads will reduce from moderate to slight based on nighttime delivery. With regard to cumulative effects were construction to coincide with other development traffic related cumulative impacts would be negative short term moderate. No significant cumulative impacts on traffic and transportation are predicted. I note that with regard to the propsoed Keeglen windfarm coordination would be required in the event of concurrent construction.

I am satisfied that the conclusions of the EIAR in terms of impacts of traffic and transport are acceptable. I am satisfied, subject to the inclusion of appropriate measures as discussed above and any recommended planning conditions, that the development would not have any significant adverse effects on traffic and transport and no significant residual impacts are likely to arise.

9.15 Material Assets Other

9.15.1 Issues Raised.

Third parties raise concerns regarding potential interference with phone signals and disruption to utilities and potential for impact on water supplies. The Department of Defence submission outlines requirement for red obstacle aviation lighting.

9.15.2 Context.

Chapter 15.2 of the EIAR deals with other material assets comprising utilities, telecommunications and aviation assets. The EIAR assesses potential for impact at construction, operation and decommissioning phases of the development.

9.15.3 Baseline

Water. No groundwater wells abstractions within the EIAR site boundary. The nearest source of water supply is Belderrig c 6km northwest of the proposed development. Nearest town Ballycastle receives water supply from the Ballina distribution network which is sourced from Lough Conn. In terms of electricity infrastructure two overhead 110kV lines cross the underground grid connection route in the townland of Lisglennon. With regard to broadcast communications the potential for electromagnetic interference, shadowing and interference with radar systems is assessed. Scoping response from *RTE* indicated that the proposal will not have any impact on *RTE* fixed links, however *2rn* have stated there is a risk of interference to digital terrestrial television services in the areas and have requested a protocol agreement between the telecoms operator *2rn* and the applicant. Virgin media indicated no impact on their presence in the area. No potential interference concerns were raised from other operators. In relation to aviation the Department of Defence require high intensity obstacle lighting and the inclusion on mapping and entry to aircraft navigation databases. Irish Aviation Authority set out requirement for aeronautical warning lights, provision of as constructed coordinates and pre notification of crane operations.

9.15.4 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 existing built services, telecommunications and aviation operations.
Construction	Water : Potential for grid connection route to necessitate relocation of water supply services giving rise to short term negative impact on water supply. Electricity. Potential for impact to two overhead 110kV lines traversing local road at Lisglennon along grid connection route. Potential for interference or breakage would have

	unlikely but temporary moderate negative impact on local electricity supply.
Operation	No interactions with water supply or existing electricity infrastructure during operational phase. Proposed output of 132MW to 198MW has potential to produce up to 607,068MWh of electricity per year offsetting use of fossil fuels within electricity generating sector. Potential to supply approximately 144,540 households per year. Potential for electromagnetic interference from wind turbines. Aviation – No potential for impact on Ireland West and Sligo due to separation distance. Lighting safety
Decommissioning	Electricity infrastructure and supply, water infrastructure and supply. Similar to construction. No significant effects No potential for electromagnetic interference.
Cumulative	Potential significant positive cumulative effect on electrical supply with the other existing and permitted windfarms. Each project designed and built to avoid impacts therefore no significant cumulative impacts arising.

9.15.5 Mitigation

Measures to include pre commencement surveys of grid route to confirm presence or otherwise of services such as water supply. Diversion and works to be carried out in accordance with specifications of relevant utility provider.

Pre commencement surveys of grid route to confirm presence of overhead lines. Establishment of goal posts, risk assessment barriers, dry run prior to delivery of turbines, information on safe clearances to all staff and visitors. Signage, Health and Safety requirements. In the event of interference occurring to telecommunications effects can be reduced avoided or mitigated by the use of divertor relay link out of line with the proposed wind turbines.

Regarding aviation lighting safety scheme options seek to ensure compliance with IAA requirements and Department of Defence while avoiding significant impact on potentially sensitive receptors (i.e. ecological or visual)

9.15.6 Residual Impact

A short term imperceptible residual effect is predicted on water supply. A temporary slight negative impact on local electricity supply in construction phase with a long

term slight positive residual effect on electricity supply during the operational phase. No residual impact is predicted on telecommunications signals and no residual impact on aviation as all lighting requirements will be met by the applicant.

9.15.7 The Assessment: Direct and Indirect Effects.

I have examined, analysed and evaluated Chapter 15 of the EIAR. I am satisfied that the applicant's 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 and interference with telecommunications infrastructure. Subject to the implementation of proposed standard good practice mitigation measures as outlined I am satisfied that no significant adverse effects will arise.

Having regard to the examination of environmental information in respect of material assets, 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 are potential impacts on key services e.g. water, electricity, 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

No specific issues were raised in respect of major accidents or disasters.

9.16.2 Examination analysis and evaluation of the EIAR.

Chapter 16 of the EIAR deals with the 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 natural disasters in relation to the environmental parameters considered in the EIAR. No limitations are identified.

9.16.3 Baseline

HSE Emergency Management Area 2 Crisis Management Team Major Emergency Plan May 2022 outlines several hazard categories which may have potential to lead to major emergency in area 2 Galway, Roscommon and Mayo. These hazard categories include Natural, Transportation, Technological and Civil. There is low potential for significant natural disasters, as Ireland is geologically stable and has a mild temperate climate. Natural disasters are limited to issues such as flooding or fire. Flood risk associated with the development is low however there is a risk of flooding along a section of the grid. Peat stability risk assessment has been undertaken (Appendix 8-1). The proposed development is not connected to or in close proximity of any site regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations (SEVESO) sites.

9.16.4 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	
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	Potential vulnerability to disaster risks -Severe Weather. Risk to construction activity on site. risk Score (consequence x likelihood) 3[5] (low risk scenario) -Flooding. High levels of surface water on site risk score 2 (low risk scenario) - Peat stability. Movement of peat during construction. Risk score 4[6] (low risk scenario)

[5] I note anomaly in figures provided in Tables 16.8 and Table 16.9 in terms of assigned likelihood rating - 3 in Table 16.8 and 2 Table 16.9 resulting in corresponding change in risk score of 3 or 2 respectively. The higher figure has been quoted above on basis of worst case scenario.
[6] As above

	Potential to cause accidents and/or disasters Traffic Incident. Collisions on-site and offsite. risk score 3 (low risk scenario) Contamination – Discharge or spillage of fuel chemical solvents to watercourses or percolated to groundwater. Risk Score 4 (low risk scenario) Industrial Accident Fire, Gas explosion risk score 4 (low risk scenario)
	Potential vulnerability to disaster risks
Operation	Contamination – Discharge or spillage of fuel chemical solvents, sewage or wastewater to watercourse of percolate to ground risk score 4 (low risk scenario) Potential to Cause accidents or disasters Industrial Accident Fire /Gas explosion risk score 4 (low risk scenario) Collapse /damage to structures risk score 1 (low risk scenario) Traffic Incident risk score 3 (low risk scenario) Loss of critical infrastructure risk score 2 (low risk scenario)
Decommissioning	Potential vulnerability to disaster risks -Severe weather Risk score 2 (low risk scenario) - Flooding Risk score 2 (low risk scenario) Potential to cause accidents and or disasters Traffic Incident Risk score 3 (low risk scenario) Contamination Risk score 4 (low risk scenario) Industrial Accident – Fire/Gas explosion risk score 4 (low risk scenario) Loss of critical infrastructure risk score 2 (low risk scenario)
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.

9.16.5 Mitigation

Mitigation measures are addressed in Section 16.4.2 of the EIAR. The potential for the higher risk scenarios (in themselves low risk) peat stability, contamination during construction, operation and decommissioning and industrial accident fire/gas explosion during construction have been minimised through the design and further mitigated through the implementation of best practice construction control measures as set out in the CEMP which will be subject to ongoing review through regular environmental auditing and site inspections. The CEMP sets out Emergency

Response Procedure to be adopted in the event of emergency including contamination health and safety and environmental protection.

9.16.6 Residual Effects

The risk of a major accident and or disaster during the construction of the development is considered low in accordance with the “Guide to Risk Assessment in Major Emergency Management” (DoEHLG 2010). With mitigation and monitoring measures in place there will not be a significant residual effect associated with construction operation and decommissioning of the development.

9.16.7 The Assessment : Direct and Indirect Effects.

I have examined, analysed and evaluated Chapter 16 of the EIAR. I am satisfied that the applicant has presented a very reasonable assessment of 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. I have noted certain anomalies with respect to the significance of risk where table 16.8 and 16.9 assign likelihood rating of 3 and 2 varyingly resulting similarly in risk score of 3 or 2. However I have assumed the higher risk score representing worst case scenario. I am satisfied that with the implementation of the proposed mitigation measures, that there is no potential for significant direct, indirect or cumulative environmental effects as a result of vulnerability to the risk of accident and/or natural disaster.

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 relates to the landscape visual and cultural heritage impacts of the development.

9.17.2 Examination, analysis and evaluation of the EIAR.

9.17.2.1 Context.

Chapter 17 of the EIAR deals with impact interactions. A matrix is presented in Table 17-1 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 5-15 of the EIAR will reduce or remove the potential for these effects.

9.17.2.5 Residual Effects.

Residual effects following mitigation have been presented in each relevant chapter of the EIAR.

9.17.2.6The Assessment: Direct and Indirect Effects.

I have examined, analysed and evaluated Chapter 17, 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. However, having regard to the detailed assessment of likely effects on these parameters, as considered in this report, and with the application of the proposed mitigation measures as outlined I am satisfied that no significant adverse environmental effects will arise by virtue of

the interaction of impacts. In the longer term, there will be positive interactions arising from the provision of energy from a renewable source.

9.18 Reasoned Conclusion on the significant effects

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 by way of noise, vibration, dust and traffic and short-term positive impacts on the local economy during construction. 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 view 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 - The main significant direct and indirect effects on biodiversity comprise: the loss of 1.3 ha of highly degraded peatland habitat, loss of 1.3km hedgerow while the majority of habitat loss relates to 116ha of conifer plantation which is of low ecological value. The potential for increased loading and pollution of waterbodies with adverse effects on downstream water quality dependant habitats and species (construction and operation) and potential for significant direct and indirect effects on protected flora and mobile species during construction. There is also a risk of collision by bat species during operation. Mitigation measures include those to control pollution/sedimentation and implementation of a surface water management plan and the restoration of approximately 40ha of peatland habitat within the

northern section of the site. In terms of birds the main significant direct and indirect effects are the potential for loss of habitat disturbance and collision risk in the operational period. Mitigation measures are proposed such as works outside the breeding season and pre construction breeding and pre and post construction monitoring surveys for sensitive species as well as the restoration of approximately 40ha of peatland habitat.

Land soil water air 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. Mitigation measures include peat management, CEMP and Surface Water Management Plan. 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 CO2 emissions otherwise used to generate electricity.

Archaeology, cultural heritage, landscape and material assets. Potential direct effects on unknown features of archaeology, substantial changes to the landscape character of the site and substantial visual effects in the immediate area of the site, increased traffic and interruption to telecommunications/utilities. Mitigation by way of archaeological monitoring of groundworks, the landscape context, management of traffic and layout. Landscape and visual effects will remain. The location of the site and existing topography and landscape features provides for a level of assimilation of the development into the landscape.

10.0 The Likely Significant Effects on a European Site

10.1 Appropriate Assessment.

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 Glenora Windfarm in view of the relevant conservation objectives of Bellacorrick Bog Complex SAC. [001922] Killala Bay/Moy Estuary SAC [000458] and Killala Bay/Moy Estuary SPA [004036] based on scientific information provided by the applicant and considering expert opinion set out in observations on nature conservation.

The information relied upon includes the following:

- Natura Impact Statement prepared by MKO
- Response to Observations document by MKO.
- Report of Inspectorate Ecologist

I am satisfied that the information provided is adequate to allow for Appropriate Assessment
I am satisfied that all aspects of the project which could result in significant effects are considered assessed in the NIS and mitigation measures designed to avoid or reduce any adverse effects on site integrity are included and assessed for effectiveness.

Submissions/observations

Observation by Department of Housing Local Government and Heritage (DHLGH)
Issues raised include the following related to the appropriate assessment process.
Characterisation and analysis of collision mortality impacts - non differentiation between potential collision mortality of breeding and wintering Golden Plover populations.

Public observations question the adequacy of information to provide certainty with regard to potential for adverse impact on the integrity of European sites. Adequacy of bird surveys are called into question.

European Sites

Bellacorrick Bog Complex SAC [001922]

Summary of Key issues that could give rise to adverse effects (from screening stage):

Water quality degradation (construction and operation)

See Table 5.1 NIS

Qualifying Interest features likely to be affected	Conservation Objectives	Potential adverse effects	Mitigation measures (summary)	

			NIS SECTION 6.2	
[3160] Natural dystrophic lakes and ponds	Maintain favourable conservation condition Maintain appropriate natural hydrological regime Maintain water quality to support the habitat	Habitat mapped approx. 0.92km south of the windfarm site and likely to occur in all pools and lakes. Downstream surface water connectivity	Design Mitigation Site Drainage Best practice CEMP Supervision by ECOW.	
[7230] Alkaline Fens	To restore favourable conservation condition Maintain water quality to support the habitat	Habitat documented to occur throughout the SAC most well developed along eastern margin. Downstream connectivity via Owenmore River.		
[7130] Blanket bogs it active bog	To restore favourable conservation condition	Not at risk – can be screened out based on terrestrial nature of the habitat and absence of source pathway receptor chain		
[7150] Depressions on peat substrates of the Rhynchosporion	To restore favourable conservation condition	Not at risk – can be screened out based on terrestrial nature of the habitat and absence of source pathway receptor chain		
[4010] Northern Atlantic Wet Heath with Erica tetralix	To restore favourable conservation condition	Not at risk – can be screened out based on terrestrial nature of the habitat and absence of source pathway receptor chain		
[1013] Geyer's Whorl Snail Vertigo geyeri	To maintain favourable conservation condition	Closest mapped record of this QI species approx. 7.9km southeast of the site. Indirect impacts can be ruled out due to buffering distance and absence of source pathway receptor chain.		
[1528] Marsh Saxifrage Saxifraga hirculus	To maintain favourable conservation condition	Indirect impacts can be ruled out due to absence of suitable habitat, surface or groundwater connection between the site and this QI species and absence of source pathway receptor chain.		
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 [3160] Natural dystrophic lakes and ponds and [7230] Alkaline Fens.				

Assessment of issues that could give rise to adverse effects view of conservation objectives

(i) Water quality degradation

Downstream surface water connectivity between the windfarm site and Bellacorrick Bog Complex SAC via the Owenmore River. 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 affecting the following Qis /SCIs in the form of deterioration of water and habitat quality in the absence of mitigation : [3160] Natural dystrophic lakes and ponds and [7230] Alkaline Fens.

Mitigation measures and conditions

Avoidance by design:

The footprint of the development has been specifically designed to avoid large watercourses and hydrologically sensitive areas of the site. All significant infrastructure is located a minimum 50m from mapped watercourses.

Upgrade of existing access tracks and construction of new tracks will involve some works within 50m of watercourses and new watercourse crossings - mitigation measures outlined

No vehicle plant movement or stockpiling within 50m buffer zone

Minimisation of excavation arisings

Use of floating roads

Maintain drainage neutral situation

Hardstanding areas minimised

Peat stability assessment hazard assessment demonstrates low risk of peat failure.

Construction Phase Mitigation

Construction methodology and drainage design specifically proposed with the intention of having no negative impact on water quality of the site and associated rivers. All discharges from proposed works areas or from interceptor drains will be made over vegetation filters at a distance from natural watercourses.

No alteration of natural drainage features.

Environmental Management Framework during construction phase details during site set up pollution prevention and hydrocarbon management,

CEMP

Project hydrologist to assist with implementation of drainage controls. Schedule of works Operation Record (SOWOR) provides abandonment triggers.

Forestry felling - keyhole forestry felling to facilitate construction works. Water protection measures during felling operations. Sediment traps silt fencing, brash mats, straw bales and check dams on down gradient side of timber storage. Works during periods of low or no rainfall. No crossing of streams by machinery. Refuelling permit systems. Mobile bowser, drip kits trained personnel. Environmental Clerk of Works (ECoW) to oversee keyhole and extraction works. Toolbox talks.

Borrow pit drainage. Peat placement area drainage Floating road drainage Cable trench drainage Refuelling fuel and hazardous materials controls. Cement based products control mechanisms. Peat stability management. Dust control. Monitoring **Operation Phase Mitigation** Operational phase drainage measures. Interceptor drains, swales roadside drains stilling ponds, check dams. **Decommissioning Phase /Mitigation** I am satisfied that the preventative measures as set out which are aimed at interrupting the source pathway receptor are targeted at protecting water quality and blocking the key threats to protect the protected habitats and by arresting these pathways or reducing possible effects to a non significant level, adverse effects can be prevented. Mitigation measures related to water quality are captured in Planning Condition 7 of the Inspector's report.	
In-combination effects I am satisfied that in-combination effects have 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 operation and decommissioning 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 Bellacorick Bog Complex SAC considered in the Appropriate Assessment. No direct impacts are predicted. Indirect impacts would be temporary in nature and mitigation measures are described to prevent ingress of silt laden surface water and pollution. Monitoring measures are also proposed to ensure compliance and effective management of measures. I am satisfied that the mitigation measures proposed to prevent adverse effects have been assessed as effective and can be implemented. **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 Bellacorrick Bog Complex SAC[001922]. Adverse effects on site integrity can be excluded and no reasonable scientific doubt remains as to the absence of such effects.	

Killala Bay/Moy Estuary SAC [000458] **Summary of Key issues that could give rise to adverse effects (from screening stage):** **Water quality degradation (construction and operation)** **See Table 5.5 NIS**				
Qualifying Interest features likely to be affected	**Conservation Objectives**	**Potential adverse effects**	**Mitigation measures (summary)** NIS SECTION 6.2	
[1095] Sea Lamprey	Maintain favourable conservation condition	Deterioration in water quality pollution would undermine conservation objectives	[Best practice pollution control measures Application of industry standard controls, CEMP, Supervision by ECOW.	
[1130] Estuaries	Maintain favourable conservation condition	Deterioration in water quality pollution would undermine conservation objectives		
[1140] Mudflats and sandflats not covered by water at low tide	Maintain favourable conservation condition	Deterioration in water quality pollution would undermine conservation objectives		
[1365] Harbour Seal Phoca vitulina	Maintain favourable conservation condition	Deterioration in water quality pollution would undermine conservation objectives		
[1014] Narrow-mouthed Whorl Snail Vertigo angustior	Maintain favourable conservation condition	No impact due to buffering distance approximately 21km and absence of suitable habitat and absence of source pathway receptor chain		
[1210] Annual vegetation of drift lines	Maintain favourable conservation condition	No impact due to buffering distance approximately 14km of open sea and absence of source pathway receptor chain		
[1310] Salicornia and other annuals colonising mud and sand	Maintain favourable conservation condition	No impact due to buffering distance approximately 3.7km from grid connection route, terrestrial nature of the Qia and absence of source pathway receptor chain		

[1330] Atlantic salt meadows (Glauco-Puccinellietalia maritimae)	Maintain favourable conservation condition	No impact due to buffering distance approximately 3.4km from grid connection route, terrestrial nature of the QI habitat and absence of source pathway receptor chain	
[2110] Embryonic shifting dunes	Restore favourable conservation condition	No impact due to buffering distance approximately 3.4km from grid connection route, terrestrial nature of the QI habitat and absence of source pathway receptor chain	
[2120] Shifting dunes along the shoreline with Ammophila arenaria (‘white dunes’)	Restore favourable conservation condition	No impact due to buffering distance approximately 3.5km from grid connection route, terrestrial nature of the QI habitat and absence of source pathway receptor chain	
[2130] *Fixed coastal dunes with herbaceous vegetation ('grey dunes')	Restore favourable conservation condition	No impact due to buffering distance approximately 4km from grid connection route, terrestrial nature of the QI habitat and absence of source pathway receptor chain	
2190 Humid dune slacks	Maintain favourable conservation condition	No impact due to buffering distance approximately 4.1km from grid connection route, terrestrial nature of the QI habitat and absence of source pathway receptor chain	
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 [1095] Sea Lamprey, [1130] Estuaries, [1140] Mudflats and sandflats not covered by water at low tide and [1365] Harbour Seal Phoca vitulna.			
Assessment of issues that could give rise to adverse effects view of conservation objectives **(i) Water quality degradation** Downstream surface water connectivity between the windfarm site and Killala Bay Estuary SAC via the Cloonaghmore River 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 affecting the following Qis /SCIs in the form of deterioration of water and habitat quality in the absence of mitigation : [1095] Sea Lamprey [1130] Estuaries, [1140] Mudflats and sandflats not covered by water at low tide and [1365] Harbour Seal Phoca vitulna. **Mitigation measures and conditions**			

Avoidance by design:
The footprint of the development has been specifically designed to avoid large watercourses and hydrologically sensitive areas of the site. All significant infrastructure is located a minimum 50m from mapped watercourses.
Upgrade of existing access tracks and construction of new tracks will involve some works within 50m of watercourses and new watercourse crossings - mitigation measures outlined
No vehicle plant movement or stockpiling within 50m buffer zone
Minimisation if excavation arisings
Use of floating roads
Maintain drainage neutral situation
Hardstanding areas minimised
Peat stability assessment hazard assessment demonstrates low risk of peat failure.
Construction Phase Mitigation
Construction methodology and drainage design specifically proposed with the intention of having no negative impact on water quality of the site and associated rivers. All discharges from proposed works areas or from interceptor drains will be made over vegetation filters at a distance from natural watercourses.
No alteration of natural drainage features.
Environmental Management Framework during construction phase details during site set up pollution prevention and hydrocarbon management,
CEMP
Project hydrologist to assist with implementation of drainage controls. Schedule of works Operation Record (SOWOR) provides abandonment triggers.
Forestry felling - keyhole forestry felling to facilitate construction works. Water protection measures during felling operations. Sediment traps silt fencing, brash mats, straw bales and check dams on down gradient side of timber storage. Works during periods of low or no rainfall. No crossing of streams by machinery. Refuelling permit systems. Mobile bowser, drip kits trained personnel. Environmental Clerk of Works (ECoW) to oversee keyhole and extraction works. Toolbox talks.
Borrow pit drainage.
Peat placement area drainage
Floating road drainage
Cable trench drainage
Refuelling fuel and hazardous materials controls.
Cement based products control mechanisms.
Peat stability management.
Dust control.
Monitoring
Operation Phase Mitigation
Operational phase drainage measures. Interceptor drains, swales roadside drains stilling ponds, check dams.
Decommissioning Phase /Mitigation

I am satisfied that the preventative measures as set out which are aimed at interrupting the source pathway receptor are targeted at protecting water quality and blocking the key threats to protect the protected species and protected habitats and by arresting these pathways or reducing possible effects to a non significant level, adverse effects can be prevented. Mitigation measures related to water quality are captured in Planning Condition 7 of the Inspector's report.	
In-combination effects I am satisfied that in-combination effects have 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 operation and decommissioning 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 Killala Bay /Moy Estuary SAC [000458] considered in the Appropriate Assessment. No direct impacts are predicted. Indirect impacts would be temporary in nature and mitigation measures are described to prevent ingress of silt laden surface water and pollution. Monitoring measures are also proposed to ensure compliance and effective management of measures. I am satisfied that the mitigation measures proposed to prevent adverse effects have been assessed as effective and can be implemented. **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 Killala Bay Moy Estuary SAC [000458]. 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): Killala Bay Moy Estuary SPA [004036] Summary of Key issues that could give rise to adverse effects (from screening stage): Water quality degradation (construction and operation) See Table 5.11 NIS Collision mortality risk				
Qualifying Interest features likely to be affected	**Conservation Objectives Targets and attributes**	**Potential adverse effects**	**Mitigation measures (summary)** NIS SECTION 6.2	
A137 Ringed Plover Charadrius hiaticula	**Maintain favourable conservation condition**	**Downstream surface connectivity (approximately 3.5km surface water distance) with this SPA via the watercourses which cross the grid connection route and flow to Kilalla Bay.** **Water quality degradation and or alteration of habitat quality would undermine conservation objectives** **Collision mortality Risk (Golden plover)**	Best practice pollution control measures Application of industry standard controls, CEMP, Supervision by ECOW.	
A140 Golden Plover Pluvialis apricaria				
A141 Grey Plover Pluvialis squatarola				
A144 Sanderling Calidris alba				
A149 Dunlin Calidris alpina alpina				
A157 Bar-tailed Godwit Limosa lapponica				
A160 Curlew Numenius Arquata				
A162 Redshank Tringa totanus				
A999 Wetlands				
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.				

Assessment of issues that could give rise to adverse effects view of conservation objectives

(i) Water quality degradation

Downstream surface water connectivity between the windfarm site and Killala Bay Moy Estuary SPA via the Cloonaghmore River 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

Avoidance by design:

The footprint of the development has been specifically designed to avoid large watercourses and hydrologically sensitive areas of the site. All significant infrastructure is located a minimum 50m from mapped watercourses.

Upgrade of existing access tracks and construction of new tracks will involve some works within 50m of watercourses and new watercourse crossings - mitigation measures outlined

No vehicle plant movement or stockpiling within 50m buffer zone

Minimisation if excavation arisings

Use of floating roads

Maintain drainage neutral situation

Hardstanding areas minimised

Peat stability assessment hazard assessment demonstrates low risk of peat failure.

Construction Phase Mitigation

Construction methodology and drainage design specifically proposed with the intention of having no negative impact on water quality of the site and associated rivers. All discharges from proposed works areas or from interceptor drains will be made over vegetation filters at a distance from natural watercourses.

No alteration of natural drainage features.

Environmental Management Framework during construction phase details during site set up pollution prevention and hydrocarbon management,

CEMP

Project hydrologist to assist with implementation of drainage controls. Schedule of works Operation Record (SOWOR) provides abandonment triggers.

Forestry felling - keyhole forestry felling to facilitate construction works. Water protection measures during felling operations. Sediment traps silt fencing, brash mats, straw bales and check dams on down gradient side of timber storage. Works during periods of low or no rainfall. No crossing of streams by machinery. Refuelling permit systems. Mobile bowser, drip kits trained personnel. Environmental Clerk of Works (ECoW) to oversee keyhole and extraction works. Toolbox talks.

Borrow pit drainage.

Peat placement area drainage
Floating road drainage
Cable trench drainage
Refuelling fuel and hazardous materials controls.
Cement based products control mechanisms.
Peat stability management.
Dust control.
Monitoring

Operation Phase Mitigation

Operational phase drainage measures. Interceptor drains, swales roadside drains stilling ponds, check dams.

Decommissioning Phase /Mitigation

I am satisfied that the preventative measures as set out which are aimed at interrupting the source pathway receptor are targeted at protecting water quality and blocking the key threats to protect the protected species and protected habitats and by arresting these pathways or reducing possible effects to a non significant level, adverse effects can be prevented.

Mitigation measures related to water quality are captured in Planning Condition 7 of the Inspector's report.

(ii) Collision mortality. (Golden Plover)

With regard to collision mortality impacts based on distance to Killala Bay /Moy Estuary SPA to the site commuting by golden plover for foraging or roosting purposes unlikely and birds occurring at the site likely represent dispersed population of wintering birds on blanket bogs. Based on records of bird survey (over 4 winters) and having regard to the absence of suitable habitat on site for golden plover conclusion reached that the birds recorded did not form part of the local breeding population and that collision risk affects the wintering population at the site. On this basis the proposed development will not adversely affect the integrity of the breeding golden plover populations at the SPA.

The inspectorate ecologist report (Appendix 3) outlines satisfaction that the bird populations recorded within the zone of influence of the windfarm are unlikely to be connected to any special protection areas in the wider area due to distance (>10km) documented core ranges and ecological requirements. The inspectorate Ecologist's report notes satisfaction with the detailed Bird Impact Assessment Report evaluation which considered only wintering golden plover at risk from collision as assessed in the collision risk model and that based on the consideration of in combination effects from operational / permitted windfarms will not increase the predicted impact magnitude beyond moderate adverse. The inspectorate ecologist concludes that the implications for bird species of conservation concern have been adequately assessed and where there is uncertainty in

terms of the scale of impact, a precautionary approach has been taken in impact prediction.	
In-combination effects I am satisfied that in-combination effects has been assessed adequately in the NIS. Plans and projects that could act in combination with the proposed development are detailed and assessed.	

Findings and conclusions

The applicant determined that following the implementation of mitigation measures the construction operation and decommissioning 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 Killala Bay / Moy Estuary SPA [004036] considered in the Appropriate Assessment. No direct impacts are predicted. Indirect impacts would be temporary in nature and mitigation measures are described to prevent ingress of silt laden surface water and pollution. Potential for mortality due to turbine collision during the operational phase Monitoring measures are also proposed to ensure compliance and effective management of measures. I am satisfied that the mitigation measures proposed to prevent adverse effects have been assessed as effective and can be implemented.

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 Killala Bay Moy Estuary SPA . Adverse effects on site integrity can be excluded and no reasonable scientific doubt remains as to the absence of such effects.

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 the 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 of the Department of Housing, Local Government and Heritage, I consider that adverse effects on site integrity of the Bellacorrick Bog Complex SAC, Killala Bay / Moy Estuary SAC and Killala Bay Moy Estuary SPA 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.

My conclusion is based on the following:

- Detailed assessment of construction and operational impacts.
- Effectiveness of mitigation measures proposed including supervision and monitoring and integration into CEMP and schedule of commitments ensuring smooth transition of obligations to eventual contractor.
- Application of planning conditions to ensure the application of these measures.
- The proposed development will not affect the attainment of conservation objectives for the Bellacorrick Bog Complex SAC, Killala Bay / Moy Estuary SAC and Killala Bay Moy Estuary SPA.

11.0 Recommendation

Arising from my assessment of this case, I recommend that the Commission grant planning permission for the proposed development subject to the reasons and considerations below, subject to the attached conditions and in accordance with the following Draft Order.

12.0 Reasons and Considerations

The Commission reached its decision in accordance with its duties under Section 15(1) of the Climate Action and Low Carbon Development Act 2015, as amended, and the requirement to, in so far as practicable, perform its functions in a manner

consistent with inter alia the Climate Action Plan 2025 and the furtherance of the national climate objective.

And in coming to its decision, the Commission had regard to the following:

- European legislation, including of particular relevance:

  - Directive 92/43/EEC (Habitats Directive) and Directive 79/409/EEC as amended by 2009/147/EC (Birds Directive) which set the requirements for Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union.

  - EU Renewable Energy Directive 2009/28/EC which aims to promote the use of renewable energy and amending Directive EU/2023/2413 which aims to speed up the EU's clean energy transition as implemented by European Union (Planning and Development) (Renewable Energy) Regulations 2025 (S.I. 274 of 2025)

  - Directive 2011/92/EU (The EIA Directive) as amended by Directive 2014/52/EU as implemented by Article 94 and Schedule 6 (paragraphs 1 and 2) of the Planning Regulations as amended.

  - Directive 2000/60/EC, the Water Framework Directive and the requirement to exercise its functions in a manner which is consistent with the provisions of the Directive and which achieves or promotes compliance with the requirements of the Directive.

- National and regional planning and related policy, including:

  - National policy with regard to the development of alternative and indigenous energy sources and minimisation of emissions from greenhouse gases, particularly the NPF First Revision 2025 and National Policy Objective 70.

  - Wind Energy Guidelines: Guidelines for Planning Authorities 2006 and the draft guidelines published in 2019.

  - The objectives and targets of the National Biodiversity Action Plan 2023-2030.

- Regional and local planning policy, including:

  - Regional Spatial Economic Strategy for the Northwest Region;

- Mayo County Development Plan 2022-2028.

- Other relevant national policy and guidance documents.
- The nature, scale and design of the proposed development as set out in the planning application and the pattern of development in the vicinity.
- The likely consequences for the environment and the proper planning and sustainable development of the area in which it is proposed to carry out the proposed development and the likely significant effects of the proposed development on European sites.
- The submissions and observations made in connection with the planning application.
- The further information provided by the applicant to the Commission received on 22 May 2024 and submissions received in response to same.
- The report and the recommendation of the Inspector, including the examination, analysis and evaluation undertaken in relation to appropriate assessment and environmental impact assessment, as well as the specialist ecologist report for the Commission relating to the same.

12.1 Appropriate Assessment Stage 1 Screening Determination

The proposed development was considered in light of the requirements of Section 177U of the Planning and Development Act 2000, as amended. Having carried out Screening for Appropriate Assessment, and on the basis of the information considered in this AA screening, it is not possible to exclude the possibility that the proposed development alone would result significant effects on European sites, Bellacorrick Bog Complex SAC (Site Code 001922), Killala Bay / Moy Estuary SAC (Site Code 000458) and Killala Bay Moy Estuary SPA (Site Code 004036) in view of the sites conservation objectives. It is therefore determined that Appropriate Assessment of the proposed development is required.

12.2 Appropriate Assessment Stage 2 Conclusion

Following an examination, analysis and evaluation of the NIS all associated material submitted with the application and taking into account all submissions on nature conservation, it has been ascertained that adverse effects on site integrity of the European sites, Bellacorrick Bog Complex SAC (Site Code 001922), Killala Bay / Moy Estuary SAC (Site Code 000458) and Killala Bay Moy Estuary SPA (Site Code 004036) 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. The conclusion is based on the following :

- A full and detailed assessment, including information presented in the Environmental Impact Assessment Report and NIS and supplementary information submitted by the applicant, of the proposed development including proposed mitigation measures and water quality monitoring
- Effectiveness of mitigation measures proposed including supervision and monitoring and integration into CEMP ensuring smooth transition of obligations to eventual contractor.
- Application of planning conditions to ensure application of these measures.
- The likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,

12.3 Environmental Impact Assessment

The Commission completed in compliance with Section 172 of the Planning and Development Act 2000, an environmental impact assessment of the proposed development, taking into account:

(a) the nature, scale, location and extent of the proposed development,

(b) the Environmental Impact Assessment Report and associated documentation submitted with the application,

(c) the submissions from the planning authority, the submissions from observers and the prescribed bodies in the course of the application, and

(d) the Inspector’s report.

The Commission considered that the Environmental Impact Assessment Report, supported by the documentation submitted by the applicant, identifies and describes adequately the direct, indirect and cumulative effects of the proposed development on the environment. The Commission is satisfied that the information contained in the Environmental Impact Assessment Report complies with the provisions of EU Directive 2014/52/EU amending Directive 2011/92/EU. The Commission agreed with the summary and examination, set out in the Inspector's report, of the information contained in the Environmental Impact Assessment Report and associated documentation submitted by the applicant and submissions made in the course of the application.

The Commission is satisfied that the Inspector's report sets how these were addressed in the assessment and recommendation (including environmental conditions) and are incorporated into the Commission's decision.

The Commission 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 by way of noise, vibration, dust and traffic and short-term positive impacts on the local economy during construction. 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 view 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 - The main significant direct and indirect effects on biodiversity comprise: the loss of 1.3 ha of highly degraded peatland habitat, loss of 1.3km hedgerow while the majority of habitat loss relates to 116ha of conifer plantation which is of low ecological value. The potential for increased loading and pollution of waterbodies with adverse effects on downstream water quality dependant habitats and species

(construction and operation) and potential for significant direct and indirect effects on protected flora and mobile species during construction. There is also a risk of collision by bat species during operation. Mitigation measures include those to control pollution/sedimentation and implementation of a surface water management plan and the restoration of approximately 40ha of peatland habitat within the northern section of the site. In terms of birds the main significant direct and indirect effects are the potential for loss of habitat disturbance and collision risk in the operational period. Mitigation measures are proposed such as works outside the breeding season and pre construction breeding and pre and post construction monitoring surveys for sensitive species as well as the restoration of approximately 40ha of peatland habitat.

Land soil water air 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. Mitigation measures include peat management, CEMP and Surface Water Management Plan.

Archaeology, cultural heritage, landscape and material assets. Potential direct effects on unknown features of archaeology, substantial changes to the landscape character of the site and substantial visual effects in the immediate area of the site, increased traffic and interruption to telecommunications/utilities. Mitigation by way of archaeological monitoring of groundworks, the landscape context, management of traffic and layout. Landscape and visual effects will remain. The location of the site and existing topography and landscape features provides for a level of assimilation of the development into the landscape. Positive effects would arise in terms of provision of public amenity pathways.

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 CO2 emissions otherwise used to generate electricity.

The Commission is satisfied that the reasoned conclusion is up to date at the time of making the decision.

The Commission completed an Environmental Impact Assessment in relation to the proposed development and concluded that, subject to the implementation of the mitigation measures propsoed, and subject to compliance with the conditions set out below, that effects of the proposed development on the environment, by itself and in combination with other plans and projects in the vicinity would be acceptable. In doing so the Commission adopted the report and conclusions of the Inspector.

12.4 Proper Planning and Sustainable Development.

It is considered that the proposed development would accord with European, national, regional and local planning and that it is acceptable in respect of its likely effects on the environment and its likely consequences for the proper planning and sustainable development of the area.

It would

make a positive contribution to Irelands national strategic policy on renewable energy and its move to a low carbon future, and

have an acceptable impact on the environment and on the amenities of the area.

The proposed development would, therefore, be in accordance with the proper planning and sustainable development of the area.

Conditions

1. The development shall be carried out and completed in accordance with the plans and particulars lodged with the application, including the response to submissions document received by An Coimisiúin Pleanála on the 22nd day of May 2024, except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to

commencement of development and the development shall be carried out and completed in accordance with the agreed particulars.
Reason: In the interest of clarity.

2. The mitigation measures and monitoring commitments identified in the Environmental Impact Assessment Report EIAR and other plans and particulars submitted with the application shall be implemented.
Reason: In the interest of clarity and the protection of the environment during the construction, operational phases and decommissioning of the proposed development.

3. The mitigation measures contained in the Natura Impact Statement NIS submitted with the planning application shall be implemented.
Reason: In the interest of clarity and the proper planning and sustainable development of the area and to ensure the protection of European sites in the vicinity.

4. The period during which the development hereby permitted is constructed shall be 10 years from the date of this Order.
Reason: Having regard to the nature of the development, the Commission considers it appropriate to specify a period of validity of this permission in excess of five years.

5. (a) This permission shall be for a period of 35 years from the date of the first commissioning of the wind farm. All structures shall then be removed and the site reinstated, unless, prior to the end of that period, planning permission shall have been granted for their retention for a further period.
(b) Prior to the commencement of development, a detailed Site Restoration Plan providing for the removal of the turbines and ancillary structures, and a timescale for its implementation, shall be submitted to and agreed in writing with the planning authority. The site restoration plan shall address various stages in the lifetime of the development including initial commissioning and final decommissioning of the

windfarm, and restoration works to be undertaken in the event of partial decommissioning of the windfarm.
Reason: In the interest of clarity. To enable the planning authority to review the operation of the windfarm over the stated time period, having regard to the circumstances then prevailing, and in the interest of landscape restoration upon cessation of the project.

6. The following design requirements shall be complied with:
   (a) The wind turbines shall have a maximum tip height of 180m and hub height of 99m and rotor diameter 162m in accordance with turbine options assessed in the Environmental Impact Assessment report (EIAR) and Natura Impact Statement (NIS).
   (b) Wind turbines including masts and blades shall be finished externally in a light grey colour.
   (c) Cables within the site shall be laid underground.
   (d) The wind turbines shall be geared to ensure that the blades rotate in the same direction.
   (e) No advertising material shall be placed on or otherwise be affixed to any structure on the site without a prior grant of planning permission.

Reason: In the interest of clarity and in the interest of visual amenity.

7. (a) The developer shall consult with Inland Fisheries Ireland in relation to the locations of surface water monitoring and monitoring methodology prior to commencement of development.

(b) The developer shall consult with Inland Fisheries Ireland in relation to the design and method statement for the construction of new or upgrade watercourse crossings and culverts in advance of construction works commencing.
(c) There shall be no discharge of silted waters, cement products, hydrocarbons or otherwise polluted waters to any surface watercourse as a result of the development. Drainage shall be treated with adequately sized silt traps.

(d) The on-site vehicle wash shall be closed loop with no discharge of waters to surface waters.

(e) Road construction and surfacing materials used shall be of adequate strength so as not to give rise to silt/fine solids discharges

Reason: In the interest of the protection of the environment and water quality.

8. Noise levels generated by the windfarm following commissioning, by itself or in combination with other existing or permitted wind energy development in the vicinity, when measured externally at existing noise sensitive locations, shall not exceed

· For the daytime period 7am to 11pm, in quiet environments, where background noise is less than 30dB(A)L90 T10, a maximum noise level of 40dB(A)L90 T10,
· For the daytime period 7am to 11pm, where the background noise level exceeds 30dB(A)L90 T10, the greater of 45dB(A)L90 T10, or 5dB(A) above background levels,
· For the nighttime period 11pm to 7am, for all noise environments, 43dB(A)L90 T10.
Prior to the commissioning of the windfarm, the developer shall submit and agree in writing with the planning authority a Noise Compliance Monitoring Programme (NCMP) for the operational windfarm. The NCMP shall include a detailed methodology for all sound measurements, including frequency of monitoring and recording of results, which shall be made publicly available. The results of the initial noise compliance monitoring to be submitted to and agreed in writing with the planning authority within 12 months of commissioning of the wind farm. The NCMP shall be fully implemented during the operation of the windfarm.
Reason: In order to protect the amenities of existing noise sensitive properties in the vicinity of the development.

9. Details of the materials, colours and textures of all external finishes of the proposed windfarm operation and maintenance control building and fencing shall be submitted

to and agreed in writing with the planning authority prior to commencement of development.

Reason: In the interest of visual amenity.

10. In the event that the proposed development causes interference with telecommunication signals, effective measures shall be introduced to minimise interference with telecommunication signals in the area. Details of these measures, which shall be at the developer's expense, shall be submitted to and agreed in writing with the planning authority prior to the commissioning of the turbines and following consultation with relevant authorities.

    Reason: In the interest of protecting telecommunication signals and residential amenity.

11. Details of aeronautical requirements which shall comply with the requirements of the Department of Defence and the Irish Aviation Authority, shall be submitted to, and agreed in writing with, the planning authority prior to the commencement of development and shall be designed to minimise cumulative visual effects. Prior to the commissioning of the turbines, the developer shall inform the planning authority and the Irish Aviation Authority of the as constructed tip heights and co-ordinates of each of the turbines and wind monitoring mast and shall notify the Irish Aviation Authority with at least 30 days prior notification of their erection and use of cranes.

    Reason: In the interest of air traffic safety.

12. Prior to any development taking place the developer shall submit the following to Transport Infrastructure Ireland in the case of national roads and the planning authority in relation to other roads:
    (a) Road safety audits relating to junction works proposed on the national road network
    (b) Details of all signage, crash barriers, poles etc, to be removed on the national and local road network to facilitate the abnormal loads to be delivered on site.

    Reason: In the interest of traffic safety.

13. (a) Prior to the commencement of development, a traffic management plan for the construction phase shall be submitted to and agreed in writing with the planning authority. The traffic plan shall incorporate the following:

(i) Details of the road network/haulage routes and the vehicle types to be used to transport materials and turbine parts to and from the site and a schedule of control measures for abnormal delivery load.

(ii) A condition survey of the roads along the haul route shall be carried out at the developer's expense by a suitably qualified person both before and after the construction of the proposed development. This survey shall include a schedule of required works to enable haul routes to cater for construction related traffic. The extent and scope of the survey and the schedule of works shall be agreed with the planning authorities and Transport Infrastructure Ireland prior to the commencement of development.

(iii) Bridge structural surveys shall be undertaken to all bridges along haul routes in advance of the project commencing and at agreed intervals during construction, and shall be presented at agreed intervals to the planning authority.

(iv) Detailed arrangements whereby any construction damage which arises shall be made good and completed to the satisfaction of the planning authority.

(v) Detailed arrangements for temporary traffic arrangements/control on roads and protocols to keep residents informed of upcoming traffic related matters, temporary lanes/road closures and delivery of turbines.

(vi) A phasing programme indicating the timescale within which it is intended to use each public route to facilitate the construction of the proposed development. In the event that the proposed development is being developed concurrently with any other wind farm in the area the developer shall consult with and arrange suitable traffic phasing arrangements with the planning authority.

(vii) Within three months of the cessation of the use of each public road and haul route to transport material to and from the site, a road survey and scheme of works detailing works to repair any damage to these routes shall be submitted to and agreed in writing with the planning authority.

(b) All works arising from the aforementioned arrangements shall be completed at the developer's expense within 12 months of the cessation of each road's use as a haul route for the proposed development.

Reason: To protect the public road network, the amenity of local residents and to clarify the extent of the permission in the interests of traffic safety and orderly development.

14. The construction of the development shall be managed in accordance with a complete Construction Environmental Management Plan (CEMP), which shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. The CEMP shall provide an implementation tool for the schedule of mitigations (as conditioned) and as applicable to the construction phase and the contractor(s). The CEMP shall provide details of intended construction practice for the development, including, but not limited to, and in line with the methodology and mitigation and monitoring measures detailed within the EIAR and the NIS:
(a) Details of the construction methodology for all the components of the development;
(b) Details of all services and utilities along the grid connection route and methodology for crossing/diversions;
(c) Details of on-site car parking and access arrangements for site workers and deliveries.
(d) A construction traffic management plan. Details of abnormal load road routes and management of the abnormal load delivery process, construction haul routes, road closures and diversion, local property access arrangements, and alternative arrangements to be put in place for pedestrians in the case of the closure of any public road or footpath during the course of site development works;
(e) Measures to obviate queuing of construction traffic on the adjoining road network;
(f) Measures to prevent the spillage or deposit of clay, rubble or other debris on the public road network;

(g) Details of appropriate mitigation measures for noise, dust and vibration, and monitoring of such levels;
(h) Containment of all construction-related fuel and oil within specially constructed bunds to ensure that fuel spillages are fully contained. Such bunds shall be roofed to exclude rainwater;
(i) Details of marking of hydrological buffer zones and silt fencing. Means to ensure that surface water run-off is controlled such that no silt or other pollutants enter local surface water sewers or drains;
(j) A surface water management plan including details of water quality monitoring;
(k) Works to be carried out in accordance with Inland Fisheries Ireland 'Guidelines on protection of fisheries during construction works in and adjacent to waters';
(l) Location and specifications of any temporary storage requirements;
(m)A waste management plan for construction waste;
(n) Location of all archaeological constraints and cultural heritage constraints relevant to the development;
(o) A record of daily checks that the works are being undertaken in accordance with the CEMP shall be available for inspection by the planning authority, with monitoring on a daily basis of all watercourses in or adjacent to works areas;
(p) Details of a local community feedback mechanism, where feedback including complaints are received and acted upon by a designated Community Liaison Officer.
Reason: In the interest of amenities, public health and safety and environmental protection.

15. (a) The developer shall employ a suitably-qualified archaeologist (licensed under the National Monuments Acts) to carry out predevelopment archaeological testing in areas of proposed ground disturbance within the wind farm site and to submit an archaeological impact assessment report for the written agreement of the planning authority following consultation with the Department of Housing, Local Government and Heritage in advance of any site preparation works or groundworks, including site investigation works/topsoil stripping/site clearance and/or construction works.

(i) The report shall include an archaeological impact statement and mitigation strategy. Where archaeological material is shown to be present, avoidance, preservation in-situ, preservation by records (archaeological excavation) and/or monitoring may be required.

(ii) Any further archaeological mitigation requirements specified by the planning authority, following consultation with the National Monument Service shall be complied with by the developer.

(iii) No site preparation and or construction works shall be carried out on site until the archaeologist's report has been submitted to and approval to proceed is agreed in writing with the planning authority.

(b) A suitably qualified archaeologist shall be retained to advise on, and establish appropriate Exclusion Zones around the external-most elements of vulnerable Heritage Assets (as identified in Chapter 13 of the EIAR)

(i) Exclusion zones shall be fenced off or appropriately demarcated for the duration of construction works in the vicinity of the monuments. The location and extent of each exclusion zone and the appropriate methodology for fencing off or demarcating at each location shall be agreed in advance with the National Monuments Service and the planning authority.

(ii) No groundworks of any kind (including but not limited to advance geotechnical site investigations) and no machinery, storage of materials or any other activity related to construction will be permitted within Exclusion Zones.

(C) The Construction Environment Management Plan (CEMP) shall include the location of any and all archaeological or cultural heritage constraints relevant to the proposed development as set out in Chapter 13 of the EIAR and by any subsequent archaeological investigations associated with the project. The CEMP shall clearly describe all identified likely archaeological impacts, both direct and indirect, and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during all phases of site preparation and construction activity.

(d) The developer shall retain the services of a suitably qualified archaeologist to advise on an archaeological mitigation plan for decommissioning of the development, to include mitigation measures for the removal of the turbines and the

protection of any archaeological sites and monuments that are in situ at the site. The Decommissioning plan shall be updated to include the location of any archaeological or cultural heritage constraints as set out in Chapter 13 of the EIAR and by any subsequent archaeological investigations associated with the project. It shall clearly describe all identified likely impacts from decommissioning- both direct and indirect – and all mitigation measures to be employed to protect the archaeological or cultural heritage environment during decommissioning works.

(e)The planning authority and the Department of Housing, Local Government and Heritage shall be furnished with a final archaeological report describing the results of all archaeological monitoring and any archaeological investigative work/excavation required, following the completion of all archaeological work on site and any necessary post-excavation specialist analysis. All resulting and associated archaeological costs shall be borne by the developer.

Reason: In order to conserve the archaeological heritage of the area and to secure the preservation (in-situ or by record) and protection of any archaeological remains that may exist within the site.

16. A suitably qualified Project Ecological Clerk-of-Works and Licenced Ecologist shall be retained by the developer to undertake pre-construction surveys at the various project elements, including any river crossings, immediately prior to commencing work in order to check for the presence of protected species in the vicinity.

    Reason: In the interest of nature conservation and the protection of ecology and wildlife in the area.

17. Prior to the commencement of development, details of a pre-construction and post-construction monitoring and reporting programme for birds shall be submitted to and agreed in writing with the planning authority. The survey shall be undertaken by suitably qualified and experienced bird specialists. Copies of the report shall be

submitted to the planning authority and the Department of Housing Local Government and heritage, (National Parks and Wildlife Service)

Reason: To ensure the appropriate monitoring of impact of the proposed development on the avifauna of the area.

18. The developer shall review usage by birds of the wind farm site and document bird casualties through an annual monitoring programme which shall be submitted by the developer to, and agreed in writing with, the planning authority prior to commencement of development. This programme shall be developed in consultation with the Department of Housing Local Government and Heritage, and shall cover the entire period of the operation of the wind farm.

Reason: To ensure appropriate monitoring of the impact of the development on the avifauna of the area.

19 The developer shall prepare an Invasive Species Management Plan for the written agreement of the planning authority and all plant and machinery used during the works should be thoroughly cleaned and washed before delivery to the site to prevent the spread of hazardous invasive species and pathogens.

Reason: In the interest of the proper planning and sustainable development of the area.

20 The developer shall appoint a community liaison officer for all stages of the development and shall be the first point of contact for residents seeking information, making a complaint and shall be responsible for discharging information in relation to the project to residents.
During the construction phase the developer shall maintain a complaints register to record any complaints regarding but not limited to noise, odour, dust, traffic and any other environmental nuisance. The complaint register shall include details of the complaint and measures taken to address the complaint and prevent repetition of the complaint.

Reason: In the interest of residential amenity and the orderly development of the site.

21. This permission shall not be construed as any form of consent or agreement to a connection to the national grid or to the routing or nature of any such connection.

    Reason: In the interest of clarity.

22. Prior to commencement of development, the developer shall lodge with the Planning Authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the relevant Planning Authority, to secure the reinstatement of public roads which may be damaged by the transport of materials to the site, coupled with an agreement empowering the relevant Planning Authority to apply such security or part thereof to the satisfactory reinstatement of the public road. The form and amount of the security shall be as agreed between the relevant Planning Authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.
    Reason: To ensure the satisfactory reinstatement of the site.

23. Prior to commencement of development, the developer shall lodge with the Planning Authority a cash deposit, a bond of an insurance company, or such other security as may be acceptable to the relevant Planning Authority, to secure the satisfactory reinstatement of the site upon cessation of the project, coupled with an agreement empowering the Planning Authority to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the Planning Authority and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

    Reason: To ensure the satisfactory reinstatement of the site.

24 The developer shall pay to the planning authority a financial contribution in respect of public infrastructure and facilities benefiting development in the area of the planning

authority that is provided or intended to be provided by or on behalf of the authority in accordance with the terms of the Development Contribution Scheme made under section 48 of the Planning and Development Act 2000, as amended. The contribution shall be paid prior to the commencement of development or in such phased payments as the planning authority may facilitate and shall be subject to any applicable indexation provisions of the Scheme at the time of payment. Details of the application of the terms of the Scheme shall be agreed between the planning authority and the developer or, in default of such agreement, the matter shall be referred to the Board to determine the proper application of the terms of the Scheme.

Reason: It is a requirement of the Planning and Development Act 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to this permission.

25. The Community Benefit scheme shall be adhered to for the life of the wind farm. The scheme shall be administered in accordance with the RESS Community Benefit Fund Good Practice Principles, 2021, prepared by the Department of the Environment, Climate and Communications.

Reason: To ensure that the community living in proximity to the wind farm, benefits from it.

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

23rd February 2026

Commission Order to issue bilingually.

Appendix 1.
Appropriate Assessment (AA) Screening Determination

Screening for Appropriate Assessment (AA) Test for likely significant effects	
Step 1: Description of the project and local site characteristics	
Brief description of project	A full description of the development and site is provided in the application documentation EIAR and NIS and summarised in Section 3 of the Inspector's report Glenora Windfarm. Proposed wind farm development comprising • The Construction of 22 no wind turbines and all associated hard-standing areas. (Tip height 180m, hub height 99m Rotor diameter 162m) • 1 no permanent meteorological anemometry mast with a height of 99m and associated hard standing areas • 1 no permanent meteorological anemometry mast with a height of 99m and associated hard standing area • Upgrade of existing tracks and roads (15.4km), provision of new permanent site access roads (10.5km) and upgrade of 1 no existing site entrance including the provision of 1 no security cabin with automatic traffic barriers. • Temporary widening of sections of public road in the townland of Ballyglass. • The provision of a new temporary roadway in the townland of Ballyglass to facilitate the delivery of turbine components and other abnormal loads; • 1 no wind farm operation and maintenance control building in the townland of Glenora; • 3 no borrow pits; • 13 no permanent peat placement areas. • 5 no temporary construction compounds with temporary site offices and staff facilities. • Permanent recreation and amenity works, including marked trails, seating areas, amenity car park and associated amenity signage. • Site drainage. • Site signage. • Ancillary forestry felling to facilitate construction and operation of the proposed development. • All works associated with the habitat enhancement and biodiversity management within the proposed wind farm site • All associated site development works and ancillary infrastructure.
Brief description of development site characteristics and potential	The majority of the site (64% approximately) comprises commercial coniferous forestry plantation including clear fells. Other habitats on site include areas of upland blanket bog and wet heath which connect to larger peatlands partially designated as NHAs/SACs. Several small potential dystrophic lakes / ponds are located to the south west (Annex I Blanket Bog) and Altderg lough (Annex I Natural

impact mechanisms	Dystrophic Lakes and Ponds). Areas of spoil and bare ground and recolonising bare ground and eroding upland rivers and drainage ditches. Grid connection route has a proposed length of 27km and crosses several watercourses within Glencullin.
Screening report	Yes. Prepared by MKO – *Appropriate Assessment Screening Report and Natura Impact Statement -Glenora Wind Farm*
Natura Impact Statement	Yes. MKO – *Appropriate Assessment Screening Report and Natura Impact Statement -Glenora Wind Farm*
Relevant submissions	Observation by Department of Housing Local Government and Heritage (DHLGH) Issues raised include the following related to the appropriate assessment process with questions raised regarding the ccharacterisation and analysis of collision mortality impacts – specifically querying the methodology used to determine significance of collision mortality with regard to breeding and wintering Golden Plover populations. Public observations question the adequacy of the submitted information to provide certainty with regard to potential for adverse impact on the integrity of European sites questioning in particular the adequacy of bird surveys.

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
Glenamoy Bog Complex SAC [000500]	1106 Salmon Salmo salar 1230 Vegetated sea cliffs of the Atlantic and Baltic coasts 1393 Slender Green Feather-moss Drepanocladus vernicosus 1395 Petalwort Petalophyllum ralfsii 1528 Marsh Saxifrage Saxifraga hirculus 21A0 Machairs (* in Ireland) 3160 Natural dystrophic lakes and ponds 4010 Northern Atlantic wet heaths with erica tetralix 5130 Juniperus communis formations on heaths or calcareous grasslands	0.2km from site boundary Closest works 1km T1 1.2km from grid connection	Distance 1km from works No downstream connectivity	No

	7130 Blanket bogs (* if active bog) 7140 Transition mires and quaking bogs 7150 Depressions on peat substrates of the Rhynchosporion https://www.npws.ie/protected-sites/sac/000500			
Bellacorrick Bog Complex SAC [001922]	1013 Geyer's Whorl Snail Vertigo geyeri 1528 Marsh Saxifrage Saxifraga hirculus 3160 Natural dystrophic lakes and ponds 4010 Northern Atlantic wet heaths with Erica tetralix 7130 Blanket bogs (* if active bog) 7150 Depressions on peat substrates of the Rhynchosporion 7230 Alkaline fens https://www.npws.ie/protected-sites/sac/001922	0.9km from wind farm site boundary 3km from grid connection Hydrological distance 2.6km	Yes downstream surface water connectivitiy via Owenmore river. 2.6km.	Yes
Bellacorrick Iron Flush SAC [000466]	1528 Marsh Saxifrage Saxifraga hirculus https://www.npws.ie/protected-sites/sac/000466	7.3km from windfarm site boundary 11.3km from grid connection	No Distance from works 7km and no downstream connectivity.	No
Slieve Fyagh Bog SAC [000542]	7130 Blanket bogs (* if active bog) https://www.npws.ie/protected-sites/sac/000542	7.8km to windfarm site boundary 11.9km to grid connection	No Distance from works 8.5km and no downstream connectivity	No
Lacken Saltmarsh and Kilcumin Head SAC [000516}	1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1410 Mediterranean salt meadows (Juncetalia maritimi) 2120 Shifting dunes along the shoreline with Ammophila arenaria (white dunes)	10.5km to windfarm site boundary 6.2km grid connection	No Buffered from closest downstream connected watercourse by more than 8km of river/estuary channel and 6km Atlantic ocean.	No

	2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) https://www.npws.ie/protected-sites/sac/000516		No potential for significant effect on water quality.	
Carrowmore Lake Complex SAC [000476]	1393 Slender Green Feather-moss Drepanocladus vernicosus 1528 Marsh Saxifrage Saxifraga hirculus 7130 Blanket bogs (* if active bog) 7150 Depressions on peat substrates of the Rhynchosporion https://www.npws.ie/protected-sites/sac/000476	10.9km from windfarm site boundary 18.1km from grid connection	No No downstream connectivitiy No pathway for significant effect	No
Lough Dahybaun SAC [002177]	1833 Slender Naiad Najas flexilis https://www.npws.ie/protected-sites/sac/002177	11.7km from windfarm site boundary 15km from grid connection	T14 works 12km from SAC No downstream surface water connectivity No pathway for significant effect	No
River Moy SAC {002298]	1092 White-clawed Crayfish Austropotamobius pallipes 1095 Sea Lamprey Petromyzon marinus 1096 Brook Lamprey Lampetra planeri 1106 Salmon Salmo salar 1355 Otter Lutra lutra 7110 Active raised bogs* 7120 Degraded raised bogs still capable of natural regeneration 7150 Depressions on peat substrates of the Rhynchosporion 7230 Alkaline fens 91A0 Old sessile oak woods with Ilex and Blechnum in the British Isles 91E0 Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)* https://www.npws.ie/protected-sites/sac/002298	12.9km from windfarm site boundary 6.3km from grid connection	No – No downstream surface water connection	No
Killala Bay Moy Estuary SAC [000458]	1014 Narrow-mouthed Whorl Snail Vertigo angustior	13km from windfarm site boundary.	Downstream surface water connectivity via	Yes

	1095 Sea Lamprey Petromyzon marinus 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 Salicornia and other annuals colonizing mud and sand 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1365 Harbour Seal Phoca vitulina 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with Ammophila arenaria ('white dunes') 2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes') 2190 Humid dune slacks https://www.npws.ie/protected-sites/sac/000458	1.1km from grid connection Hydrological distance 7km	Cloongaghmore River crossing grid connection route in two places flowing northerly direction before discharge to Killala Bay after approximately 7km	
Owenduff/Nephin Complex SAC [000534]	1106 Salmon Salmo salar 1355 Otter Lutra lutra 1393 Slender Green Feather-moss Drepanocladus vernicosus 1528 Marsh Saxifrage Saxifraga hirculus 3110 Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) 3130 Oligotrophic to mesotrophic standing waters with vegetation of the Littorelletea uniflorae and/or Isoeto-Nanojuncetea 3160 Natural dystrophic lakes and ponds 3260 Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation 4010 Northern Atlantic wet heaths with erica tetralix 4060 Alpine and Boreal heaths 5130 Juneiperus communis	13.3km from windfarm site boundary 19.5km from Grid connection	Downstream connectivity via watercourses from western part of the site to Owenmore River. However, given distance of 20km no potential for significant effects.	No

	formations on health or calcareous grasslands 7130 Blanket bogs (* if active bog) 7140 Transition mires and quaking bogs https://www.npws.ie/protected-sites/sac/000534			
Killala Bay /Moy Estuary SPA [004036]	A137 Ringed Plover Charadrius hiaticula A140 Golden Plover Pluvialis apricaria A141 Grey Plover Pluvialis squatarola A144 Sanderling Calidris alba A149 Dunlin Calidris alpina alpina A157 Bar-tailed Godwit Limosa lapponica A160 Curlew Numenius arquata A162 Redshank Tringa totanus A999 Wetlands https://www.npws.ie/protected-sites/spa/004036	10.2km from windfarm site boundary 2km from gid connection Hydrological distance 3.5km	Yes Downstream surface water connectivity via Cloongaghmore River crosses grid connection in two locations in a northerly direction before discharge to Kilalla Bay after approx. 3.5km	Yes
Illanmaster SPA [004074]	A014 Storm Petrel Hydrobates pelagicus https://www.npws.ie/protected-sites/spa/004074	10.8km from windfarm site 13.9km from grid connection	No direct downstream water connectivity buffered from closest outlet of downstream connected watercourse by more than 18km of Atlantic Ocean. No potential for significant effects No suitable habitat for storm petrel no potential for significant effect.	No
Owenduff/Nephin Complex SPA [004098]	A098 Merlin Falco columbarius A140 Golden Plover Pluvialis apricaria	13.6km from windfarm site	Downstream connectivity via watercourses in west of the site	No

	https://www.npws.ie/protected-sites/spa/004098	19.5km from grid connection Hydrological distance 20km	into Owenmore River. However intervening 20km of river channel and buffering distance of 20km no potential for significant adverse effect on water quality. Given distance to SPA unlikely disturbance displacement or mortality to SCI species.	
Blacksod Bay /Broadhaven SPA [004037)	A003 Great Northern Diver Gavia immer A046 Brent Goose Branta bernicla hrota A065 Common Scoter Melanitta nigra A069 Red-breasted Merganser Mergus serrator A137 Ringed Plover Charadrius hiaticula A144 Sanderling Calidris alba A149 Dunlin Calidris alpina alpina A157 Bar-tailed Godwit Limosa lapponica A160 Curlew Numenius arquata A191 Sandwich Tern Sterna sandvicensis A466 Dunlin Calidris alpina schinzii A999 Wetlands https://www.npws.ie/protected-sites/spa/004037	14.5km from windfarm site boundary 17.7km from grid connection	No direct surface water connectivity with buffering from closest outlet of downstream connected watercourse by more than 4okm of Atlantic ocean. No potential for significant effects from water pollution No suitable habitat for SCIs apart from curlew and located out of maximum range of curlew. No pathway for significant effect.	No

Step 3. Describe the likely effects of the project (if any, alone <u>or</u> in combination) on European Sites

The proposed development will not result in any direct effects on the SAC or SPA sites. However, due to the size and scale of the development impacts generated by construction and operation of the windfarm development require consideration.
Sources of impact and likely significant effects are detailed in the table below.

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: Name Bellacorrick Bog Complex SAC [001922] QI list 1013 Geyer's Whorl Snail Vertigo geyeri 1528 Marsh Saxifrage Saxifraga hirculus 3160 Natural dystrophic lakes and ponds 4010 Northern Atlantic wet heaths with Erica Tetralix 7130 Blanket bogs (* if active bog) 7150 Depressions on peat substrates of the Rhynchosporion 7230 Alkaline fens	Direct: No direct effects Indirect: Negative impacts (temporary) on surface water/water quality due to construction related emissions including increased sedimentation and construction related pollution	Negative effect on habitat quality/ function and prey availability. Potential to undermine conservation objectives related to water quality Possibility of significant effects cannot be ruled out without further analysis and assessment
	Likelihood of significant effects from proposed development (alone): Yes	
	If No, is there likelihood of significant effects occurring in combination with other plans or projects?	
	Possibility of significant effects (alone) in view of the conservation objectives of the site*	
	Impacts	**Effects**
Site 2: Killala Bay / Moy Estuary SAC [000458] 1014 Narrow-mouthed Whorl Snail Vertigo angustior	**No direct impacts** Indirect: Negative impacts (temporary) on surface water/water quality due to construction related emissions including increased	**Potential pollution to surface waters adversely impacting the aquatic**

1095 Sea Lamprey Petromyzon marinus 1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 Salicornia and other annuals colonizing mud and sand 1330 Atlantic salt meadows (Glauco-Puccinellietalia maritimae) 1365 Harbour Seal Phoca vitulina 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with Ammophila arenaria ('white dunes') 2130 *Fixed coastal dunes with herbaceous vegetation ('grey dunes') 2190 Humid dune slacks	sedimentation and construction related pollution	**influenced QI habitats and species within the SAC, via deterioration of water quality in the absence of mitigation.**
	Likelihood of significant effects from proposed development (alone): Yes	
	If No, is there likelihood of significant effects occurring in combination with other plans or projects?	
Site 3 Killala Bay / Moy Estuary SPA [004036] A137 Ringed Plover Charadrius hiaticula A140 Golden Plover Pluvialis apricaria A141 Grey Plover Pluvialis squatarola A144 Sanderling Calidris alba A149 Dunlin Calidris alpina alpina A157 Bar-tailed Godwit Limosa lapponica	Direct No direct impacts Indirect: Negative impacts (temporary) on surface water/water quality due to construction related emissions including increased sedimentation and construction related pollution. Collision risk in operational period	Potential pollution to surface waters adversely impacting the aquatic influenced QI habitats and species within the SAC, via deterioration of water quality in the absence of mitigation. Mortality Bird populations recorded within the zone of influence of the windfarm are unlikely to be connected to any special

A160 Curlew Numenius arquata A162 Redshank Tringa totanus A 999 Wetlands		protection areas in the wider area due to distance (>10km) documented core ranges and ecological requirements
	Likelihood of significant effects from proposed development (alone): Yes	
	If No, is there likelihood of significant effects occurring in combination with other plans or projects?	
Step 4 Conclude if the proposed development could result in likely significant effects on a European site		
It is not possible to exclude the possibility that proposed development alone would result significant effects on Bellacorrick Bog Complex SAC [001922], Killala Bay Moy Estuary SAC [000458] Killala Bay/Moy Estuary SPA [004036] from effects associated with potential pollution to surface waters adversely impacting the aquatic influenced QI habitats and species within the European Sites, via deterioration of water quality in the absence of mitigation. An appropriate assessment is required on the basis of the possible effects of the project 'alone'. Further assessment in-combination with other plans and projects is not required at screening stage. **Proceed to AA.**		

Screening Determination
Significant effects cannot be excluded
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 will give rise to significant effects on 3 European Site(s) in view of the sites conservation objectives. Appropriate Assessment is required.

Appendix 2. Water Framework Directive (WFD) Impact Assessment Stage 1 Screening

Water Framework Directive (WFD) IMPACT ASSESSMENT STAGE 1: SCREENING			
Step 1: Nature of the Project, the Site and Locality			
An Bord Pleanála ref. no.	**ABP-318701-23**	**Townland, address**	Townlands of Glenora, Altderg, Keerglen, Balliykinlettragh, Ballycastle, Ballyglass, Kileena, Glencullin and Lugnalettin, Co Mayo.
Description of project		10 year planning permission for the proposed wind energy development consisting of 22 wind turbines and all associated infrastructure. The application includes an EIAR including Water framework Directive Assessment Report (Appendix 9.3) and a Preliminary Flood Risk Assessment (Appendix 9.1), AA Screening Report and a Natura Impact Statement.	
Brief site description, relevant to WFD Screening,		The proposed development is located at Glenora Forest in an upland peatland setting straddling the headwater catchments of the Owenmore and Ballinglen Rivers. The proposed development including grid connection resides in Hydrometric Area WFD Catchment 33 Blacksod -Broadhaven and WDF Catchment 34 Moy and Killala Bay. Streams originating within and flowing through the site drain south as the Altderg River before merging with the Oweninny River which in turn continues as the Owenmore River to Tullaghan Bay and east as the Keerglen River before merging with the Ballinglen River which discharges to Bunatrahir Bay. The grid connection route follows existing roads passing through sub catchments of the Glencullin, Ballinglen and Cloonaghmore Rivers. The Glencullin river discharges to Buatrahir bay while the Cloonaghmore discharges to Killala Bay. There are no WFD reportable lake water bodies linked to the proposed development. Altderg Lough within the southeastern part of the site is not part of the WFD status classification scheme. Potential river waterbodies that could be affected are listed in Table 9-6 of the EIAR and shown in Figure 9-4. <u>Windfarm Site</u> Owenmore (Mayo)_010 (IE_WE_33040050) Owenmore (Mayo)_020 (IE_WE_33O040200) Keerglen_010_(IE-WE_33K010200) Balinglen_010(IE_WE_33B010100) Balinglen_010(IE_WE_33B010200) <u>Grid Connection Route</u> Glencullin (North Mayo)_010(IE_WE_33G020200) Ballinglen_010(IE)WE_33B010100)	

	Ballinglen_010(IE_WE_33B010200) Breaghwy_010(IE_WE_34B060600) Cloonaghmore_040(IE_WE_34C030200) Cloonaghmore_040(IE_WE_34C030270) Moyne_010(IE_WE_34M190890) Potential groundwater bodies that could be affected are identified at 9.3.4 Bangor (IE_WE_G_0052), Belmullet (Code IE_WE_G_0057) and Bellacorrick-Killala (Code IE_WE_G_0041)
Proposed surface water details	Modification of surface water runoff patterns will result from construction of new infrastructure. The integration of existing drains into the surface water drainage system seeks to reduce the magnitude of change to the existing drainage regime. The proposed system provides for existing and new interceptor drains to capture greenfield runoff from areas upslope of new and existing infrastructure. This greenfield runoff will be discharged in a controlled manner from multiple locations at greenfield runoff rates to flow diffusely across ground before entering streams. Buffered outfalls will promote percolation of discharge waters across vegetation. The interceptor drains will be integrated with existing drains. In-line check dams in interceptor dams will be used to break the energy of drain water during high flow, storm events. Swales will be established downslope of proposed infrastructure components and access roads to capture 'dirty water' during construction activity. The swale water will be directed to settlement ponds before being discharged diffusively across ground before entering streams. The swales will remain in place during all subsequent phases of the proposed development and will capture runoff from access roads and hardstanding. Swales drains and settlement ponds will be constructed at least 50m from streams where possible. One borrow pit extends into the 50m buffer and swale will be built between the borrow pit and access road. No direct discharge to watercourses. Check dams incorporated along interceptor drains and swales to attenuate flow and energy associated with storm events thereby reducing scour and erosion Drainage along the grid connection route not needed as cables will be housed in trenches alongside existing roadways, span existing bridges and in a few cases cross streams with drilled horizontal boreholes
Proposed water supply source & available capacity	Staff welfare facilities at control buildings and operation and maintenance building during the operational phase with small non potable water requirement. Well to be installed adjacent to the electrical substation and operation and maintenance building. Volume of groundwater to be pumped $<5m^3/d$.

Proposed wastewater treatment system & available capacity, other issues	Toilet facilities will be installed with a low-flush cistern and low-flow wash basin. It is not proposed to treat wastewater on site. Wastewater from the staff welfare facilities in the control building and operation and maintenance building will be managed by means of sealed storage tanks, with all wastewaters being transported offsite by permitted waste collector to wastewater treatment plants.
Others	N/A

Step 2: Identification of relevant water bodies and Step 3: S-P-R connection

Identified water body	Distance to (m)	Water body name(s) (code)	WFD Status	Risk of not achieving WFD Objective e.g.at risk, review, not at risk	Identified pressures on that water body	Pathway linkage to water feature (e.g. surface run-off, drainage, groundwater)
River Waterbody	0m	Owenmore(Mayo)_010(IE_WE_33O040050) (incorporating Fiddaunfrankagh, Glenora, Alderg and Oweninny within windfarm site	High	Not at risk	Anthropogenic pressures	Surface Water runoff, drainage
		Owenmore(Mayo)_020(IE_WE_33O040200)	High	Not at risk	Extractive Industry Peat harvesting Anthropogenic pressures	Surface water runoff, drainage
		Keerglen_010 (IE_WE_33K010200	Moderate	Review	Unknown	Surface water runoff, drainage
		Ballinglen_010(IE_WE_33B010100)	Poor	At risk	Anthropogenic pressures	Surface water runoff, drainage.

		Ballinglen_020(IE_WE_33B010200)	Good	Review	Agriculture, Urban Wastewater. Hydromophology, agriculture	Surface water runoff, drainage
		Glencullin (North Mayo)_010(IE_WE_33G020200)	Good	Not at Risk	Anthropogenic	Surface water runoff, drainage
		Breaghwywy_010(IE_WE34B060600)	Moderate	Not at risk	Unknown	Surface water runoff, drainage
		Cloonaghmore_040(IE_WE_31C030200)	Moderate	Not at risk	Unknown	Surface water runoff, drainage
		Cloonaghmore_050(IE_WE_31C030270)	Good	Not at risk	Unknown	Surface water runoff, drainage
		Moyne_010	Moderate	Review	Unknown	Surface water runoff, drainage
Groundwater Body		Bangor (IE_WE_G_0052_	Good	Not at risk	No pressures	Contamination events Changes to groundwater flow patterns.
		Belmullet (IE_WE_G_0057)	Good	Not at risk	Agriculture	Contamination events Changes to groundwater flow patterns.
		Bellacorrick-Killala(IE_WE_G0041)	Good	Not at risk	No pressures	Contamination events Changes to groundwater flow patterns.
Step 4: Detailed description of any component of the development or activity that may cause a risk of not achieving the WFD Objectives having regard to the S-P-R linkage.						

CONSTRUCTION PHASE							
No.	Component	Water body receptor (EPA Code)	Pathway (existing and new)	Potential for impact/ what is the possible impact	Screening Stage Mitigation Measure*	Residual Risk (yes/no)	**Determination** to proceed to Stage 2. Is there a risk to the water environment? (if 'screened' in or 'uncertain' proceed to Stage 2.
1.	Tree Felling	Owenmore(Mayo)_010(IE_WE_33O040050) Owenmore(Mayo)_020(IE_WE_33O040200) Keerglen_010 (IE_WE_33K010200 Ballinglen_010(IE_WE_33B010100) Ballinglen_020(IE_WE_33B010200)	Local streams and downgradient rivers. Incorporating Fiddaunfrankagh, Glenora, Alderg and Oweninny within windfarm site	Clearfelling using machinery resulting in physical disturbance cam release sediments organic matter and nutrients to drains	Avoidance controls Source Controls Inline controls Treatment controls Drainage/outfall controls. Keyhole felling Water protection measures sediment traps/ silt fencing brash mats strawbales and check dams on down gradient side of timber storage. Works in periods of low/no rainfall. No crossing of	No	Screened out.

					streams. Refuelling permit systems mobile bowser drip kits. ECoW to oversee keyhole extraction.		
2.	Earthworks	Owenmore(Mayo)_010(IE_WE_33O040050) Owenmore(Mayo)_020(IE_WE_33O040200) Keerglen_010 (IE_WE_33K010200 Ballinglen_010(IE_WE_33B010100) Ballinglen_020(IE_WE_33B010200) Glencullin (North Mayo)_010(IE_WE_33G020200 Breaghwywy_010(IE_WE34B060600) Cloonaghmore_040(IE_WE_31C030200) Cloonaghmore_050(IE_WE_31C030270) Moyne_010	Local streams and downgradient rivers.	Potential to affect water quality and hydromorphology of local streams and downgradient rivers Sediment load Changes in ph of streams Physical damage to streambanks and streambeds	Avoidance controls Source Controls Inline controls Treatment controls Drainage/outfall controls	No	Screened out
3.	Drainage/De-watering	Bangor (IE_WE_G_0052_ Belmullet (IE_WE_G_0057) Bellacorrick-Killala(IE_WE¬_G0041)	Groundwater bodies underlying the development.	At groundwater body scale no risk of affecting 'good' status. Any local effect would likely be brief/episodic and short term. Negligible compared to spatial extents.	Avoidance controls Source Controls Inline controls Treatment controls Drainage/outfall controls	No	Screened out.

4.	Construction/ Upgrade of Access roads	Owenmore(Mayo)_010(IE_WE_33O040050) Owenmore(Mayo)_020(IE_WE_33O040200) Keerglen_010 (IE_WE_33K010200 Ballinglen_010(IE_WE_33B010100) Ballinglen_020(IE_WE_33B010200) Glencullin (North Mayo)_010(IE_WE_33G020200 Breaghwywy_010(IE_WE34B060600) Cloonaghmore_040(IE_WE_31C030200) Cloonaghmore_050(IE_WE_31C030270) Moyne_010	Local streams and downgradient rivers.	Release of sediments, organic matter, nutrients pollutants to streams and down gradient rivers	Avoidance controls Source Controls Inline controls Treatment controls Drainage/outfall controls	No	Screened out
5	Use of machinery Poor handling of fuels chemicals and drainage	Owenmore(Mayo)_010(IE_WE_33O040050) Owenmore(Mayo)_020(IE_WE_33O040200) Keerglen_010 (IE_WE_33K010200 Ballinglen_010(IE_WE_33B010100) Ballinglen_020(IE_WE_33B010200) Glencullin (North Mayo)_010(IE_WE_33G020200 Breaghwywy_010(IE_WE34B060600) Cloonaghmore_040(IE_WE_31C030200)	Local streams and downgradient rivers.	Release of pollutants to streams and downgradient rivers	Avoidance controls Source Controls Inline controls Treatment controls Drainage/outfall controls Best practice methods in accordance with CEMP	No	Screened out

		Cloonaghmore_050(IE_WE_31C030270) Moyne_010					
6	Wastewater	Owenmore(Mayo)_010(IE_WE_33O040050) Owenmore(Mayo)_020(IE_WE_33O040200) Keerglen_010 (IE_WE_33K010200 Ballinglen_010(IE_WE_33B010100) Ballinglen_020(IE_WE_33B010200)	Local streams and downgradient rivers.	Release of pollutants to streams and downgradient rivers	Self-contained portaloos with integrated waste holding tanks maintained by contractor. No wastewater discharge on site.	No	Screened out
OPERATIONAL PHASE							
7.	Maintenance works	Owenmore(Mayo)_010(IE_WE_33O040050) Owenmore(Mayo)_020(IE_WE_33O040200) Keerglen_010 (IE_WE_33K010200 Ballinglen_010(IE_WE_33B010100) Ballinglen_020(IE_WE_33B010200) Glencullin (North Mayo)_010(IE_WE_33G020200 Breaghwywy_010(IE_WE34B060600) Cloonaghmore_040(IE_WE_31C030200) Cloonaghmore_050(IE_WE_31C030270) Moyne_010	Local streams and downgradient rivers.	Potential to affect water quality. Sediment load. Release of pollutants. streams and downgradient rivers	Interceptor drains. Swales. Check dams settlement ponds. No wastewater discharge on site.	No	Screened out

DECOMMISSIONING PHASE							
8.	Earthworks Turbine disassembly and removal	Owenmore(Mayo)_010(IE_WE_33O040050) Owenmore(Mayo)_020(IE_WE_33O040200) Keerglen_010 (IE_WE_33K010200 Ballinglen_010(IE_WE_33B010100) Ballinglen_020(IE_WE_33B010200)	Local streams and downgradient rivers. Groundwater bodies underlying the development	Potential effects similar to those associated with construction but reduced magnitude. Potential for mobilisation of suspended sediments to watercourses. Potential contamination be fuel leaks.	Avoidance controls Source Controls Inline controls Treatment controls Drainage/outfall controls	No	Screened out