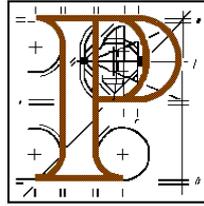


Annex 3

An Bord Pleanála



Inspector's Report

ABP-300460-17

Development:	Construction of wind farm comprising 19 x wind turbines, grid connection and all associated site works.
Location:	Meenbog, Croaghonagh and Cashelnavean, County Donegal.
Applicant:	Planree Limited
Planning Authority:	Donegal County Council
Application Type:	Strategic Infrastructure, Section 37E.
Oral Hearing:	None
Transboundary Consultation:	Yes - Northern Ireland
Type of Application:	Permission/Approval
Prescribed Bodies:	7 }
Transboundary:	1 } (Refer to next page)
Interest groups:	7 }
Public submissions:	27 }
Date of Site Inspection:	26 th to 28 th March 2018
Inspector:	Karla Mc Bride

Submissions

Prescribed Bodies:

- Donegal County Council
- Minister for Arts, Heritage and the Gaeltacht
- Minister for agriculture, Food & the Marine
- Transport Infrastructure Ireland
- Irish Aviation Authority
- Irish Water
- An Taisce

Transboundary:

- Department of Infrastructure for Northern Ireland

Interest Groups:

- Irish Wildlife Trust
- Irish Raptor Study Group
- Birdwatch Ireland
- Donegal East Tourism
- Finn Valley Wind Action Group
- Glenties Windfarm Information Group
- The Glenfin Cable Action Group & Residents of Lettershambo

Members of the Public:

- James Conaghan
- Francie Gallen
- George Sproule
- Kay Harvey
- Kevin Doherty
- Patrick Gallen
- Carl Scanlon
- James & Sharon Conaghan

- Mary & Darren Laverty
- Anne McMenamin
- Charlene McClintock
- Brendan Gallagher
- Delia McGinity & Others
- Joe & Marian Gallagher
- Laurence & Bernie Conaghan
- Michael McGlinchey
- Eileen Hynes
- John Crombie
- Stephen & Patricia Bradley
- Peter Crossan
- Ann Conaghan
- Anne & Basil McCrea
- Patrick Melaugh
- John Conaghan
- Mark Cannon
- Mat Browne
- Edward & Kathleen Byrne

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1.0 INTRODUCTION

1.1 Site and location

The site is located in the SE corner of County Donegal, to the NE of Donegal Town and SW of Ballybofey, and it adjoins the NI Border with County Tyrone to the E.

The upland rural area is characterised by a mix of mountains, blanket bog, forestry plantations and agricultural fields. It is sparsely populated with a small cluster of houses to the NE of the site on both sides of the Border. The c.990ha site is mainly occupied by Coilte coniferous plantations in various stages of growth and several forestry tracks crisscross the lands. The site is traversed by a network of streams that mainly drain N to the Bunadowan River and S to the Glendergan River and the lands slope from c.180mOD to c.330mOD. Vehicular access to the site is off the N15 to the W which connects Donegal Town with Ballybofey and Stranorlar and then via an internal track that also provides access to a quarry and the forestry plantations.

The site is not covered by any sensitive European site designations although there are several designated sites in the wider area. These include the River Finn SAC and River Foyle and Tributaries SAC which flow N to Lough Foyle SPA, the Croaghonagh Bog SAC & NHA to the immediate NW of the site, the Barnesmore Bog NHA to the immediate SW, and the Croagh Bog ASSI to the S in County Tyrone. The lands also lie within the SE section of a Non-Designated Special Protection Area for Hen Harrier, and the Lowerymore River, which flows parallel to the N15, supports Freshwater Pearl Mussel and drains into Lough Eske to the SW which in turn forms part of the Lough Eske & Ardnamona Wood SAC.

The site does not contain any Recorded Monuments or features of archaeological, historic or architectural interest although there are several features of heritage interest in the surrounding area and along the road network including some historic stone bridges. There are several walking and cycling routes in the area including the Ulster Way and the Northwest Cycle Trail, and Barnesmore Gap to the W along the N15 is located within a designated area of Especially High Scenic Amenity. There

are several permitted and operational windfarms in the wider area in both Counties Donegal and Tyrone which are located within a 20km radius of the application site.

Photographs and maps in Appendix 1 describe the site and location in detail.

1.2 Pre-Application Consultation (PL05.PC0228)

The Board's Notice to the applicants under Section 37B (4) (a), Planning and Development Act 2000 (as amended) confirmed that the proposed development would constitute strategic infrastructure. The records of the pre-application meetings, copied to the applicants, also referred to the following issues as likely to be relevant to the consideration of the application:

- The application should clearly state the number and configuration of turbines proposed and the power output envisaged.
- The potential for significant effects on the environment of a transboundary state (vis-à-vis Northern Ireland).
- The need for robust data in light of the previous reason for refusal, and appropriate timeframes having regard to the deficiencies as identified in the consultant ecologists report in respect of the previous application.
- Consideration of survey data for an additional summer breeding season (2017) to demonstrate the presence or absence of Hen harrier.
- Further investigation of the advantages and disadvantages of overhead and underground cabling to facilitate grid connection as a basis for a reasoned decision in option choice.
- Cumulative/in-combination effect with existing and future developments.

1.3 Planning history

1.3.1 Appeal site:

ABP 05.PA0040: The Board refused planning permission for a 49-x turbine windfarm, 2 x met masts, 2 x substations & associated works at two interconnected sites (c.3481ha) at Meenbog and other townlands, County Donegal for 1 reason:

In making its decision the Board has regard to:

- The location of the proposed development in an area deemed open for consideration for wind developments in the County Donegal Development Plan albeit in close proximity to Especially High Scenic Areas, to the Northern Ireland border and to a number of designated and protected areas in both jurisdictions (including Pettigo Plateau Nature Reserve SPA (site code 004099); and Lough Nillan Bog SPA (site code 004110));
- The nature of the site in a generally open landscape characterised by blanket bog, commercial forestry and multiple watercourses;
- The documentation submitted in support of the application including the EIS and the NIS;
- The report of the Inspector and the report of the Board's consulting ecologist.

The Board considers that the information contained in the EIS and NIS is deficient in that it does not enable a comprehensive assessment of the potential impact of the proposed development to be undertaken on populations of birds listed in Annex 1 of the EU Habitats Directive due to:

- a. Failure to carry out viewshed analysis of vantage points;
- b. Failure to carry out systematic, vantage point surveys at the key times of dusk and dawn in order to identify commuting corridors for species such as Whooper Swan and Greenland white-fronted geese (both Annex 1 species);

- c. Failure to survey water bodies outside the survey area but within the 15km buffer zone, which may be utilised by species such as Whooper swan and Greenland white-fronted geese in order to identify any potential flight paths between these water bodies;
- d. Failure to comprehensively identify potential bird mortality associated with turbine collision owing to deficient surveys;
- e. Failure to satisfactorily address secondary habitat loss/disturbance for birds associated with avoidance; and
- f. Failure to identify potential cumulative impacts through a “barrier effect”.

The Board is not satisfied that:

- (i) The development proposed would have a significant adverse impact on the ecological environment; and
- (ii) Would not adversely affect the integrity of certain designated (Natura) sites in view of those sites conservation objectives;

and determines that the proposed development is, therefore, contrary to the proper planning and sustainable development of the area.

ABP 05E.SU.0027: SC permission for the existing quarry in the site.

1.3.2 Surrounding area:

Reg. Ref. 11/20064: Permission granted for the Clogher 110kV Substation.

Reg. Ref. 17/50543: Permission refused for 110kV Substation and associated underground cabling to connect the Dromnahough & Lenalea windfarms to the existing Clogher Substation. Permission refused for 4 reasons related to:

1. Underground cabling would compromise the future realignment & widening of the N15 (c.5km) and destabilise the existing the local road network (c.30km).
2. Adverse impacts on several European sites and NHAs.
3. Adverse impacts on FWPM populations of Lowerymore River & Lough Eske.
4. Adverse impacts on visual amenity, archaeology & built heritage.

Currently on appeal to the Board under PL05E.248796.

1.3.3 Other Windfarm sites in wider area:

Donegal County Council and the Board have granted planning permission for several windfarm developments within a 20km radius of the appeal site, ranging in size from c.3 to c.25 turbines. Permission has also been refused for several other windfarm developments within this radius.

The Department of Environment Northern Ireland and the Northern Ireland Planning Appeals Commission have granted permission for several windfarm developments in County Tyrone within a 20km radius of the appeal site. The permitted windfarms range in size from c.3 to c.22 turbines. Permission has also been refused for several other windfarm developments within this radius.

1.3.4 Grid connection:

Reg. Ref. 17/50543: Council refused permission for a 110kV substation and associated underground cabling to connect the Dromnahough and Lenalea Windfarms (N of appeal site) to the existing Clogher substation (SW of appeal site). Currently on appeal to the Board under PL05E.248796 (refer to section 1.3.2 above)

2.0 THE APPLICATION

2.1 Documentation

The application documentation includes the following:

- Planning Drawings
- Environmental Impact Assessment Report
- Natura Impact Statement

2.2 Development Description

The proposed development would comprise the construction of a wind farm along with all associated site and access works to include:

- 19 wind turbines, associated foundations & hard standing areas.
- Generating capacity in excess of 50MW.
- No specific design but with a tip height of 156.5m.
- 1 x permanent c.110m high meteorological mast.
- 1x 110kV electrical sub-station with 2 x control buildings & fencing.
- All associated internal underground cabling.
- 110kV underground grid connection cabling (to Clogher substation).
- Upgrade of access junctions.
- Upgrade existing tracks and roads.
- Provide new site access roads and hardstand areas.
- Excavate 3 x borrow pits.
- Install 2 x temporary construction compounds.
- Provide a new public amenity area (tracks & trails, picnic & play areas, car parking & vehicular access).
- Install site drainage systems.
- Forestry felling and replacement planting.
- Permanent signage.
- All associated site developments and ancillary works.
- A 10-year permission with a 30-year operational life.

2.3 Related matters

Revision: This application represents a revision to a previously refused 49 turbine wind farm which was refused planning permission by the Board in 2016 under PL05.PA0040 as summarised in section 1.3.1 above.

Grid connection: It is proposed to connect the windfarm to the existing Clogher substation to the SW of the site mainly along the local road network via a proposed

underground cable under 2 x options. The first option forms part of this application. The second option would connect to a separate grid connection proposal by a different applicant which was refused permission by the County Council and is currently before the Board under PL05E.248796 (refer to section 1.3.2 above).

2.4 Environmental Impact Assessment Report (EIAR)

The EIAR described the site and other windfarms in the area; stated that the proposal would comply with national and local planning and energy policy; addressed the issues raised in the previous reason for refusal; considered alternatives; and provided a detailed project description.

The main body of the EIAR described the receiving environment; outlined the study methodologies; assessed the potential impacts on the receiving environment under the usual range of headings; proposed mitigation measures for the construction, operational and decommissioning phases; identified residual impacts and cumulative; assessed interactions; and had regard to the risk of major accidents and natural disasters.

The EIAR was informed by a visual impact analysis contained in Volume 2 and several technical appendices contained in Volumes 3a and 3b, and a Non-Technical Summary was provided.

The EIAR concluded that environmental impacts will be minimised; that the main identified risks which relate to visual amenity, ecology and water quality will be managed by mitigation measures; the proposed development would comply with renewable energy and planning policy; that it would not adversely affect amenities (residential, visual or heritage) or give rise to a traffic hazard; and that it would be in accordance with the proper planning and sustainable development of the area.

2.5 Natura Impact Statement

A Stage 1 AA screening exercise was carried out for the proposed windfarm and grid connection and a Stage 2 Natural Impact Statement was prepared.

2.5.1 Stage 1 AA Screening Report

The AA Screening exercise described the site location and the characteristics of the proposed development, and it identified the European sites within the Likely Zone of Influence of the project. It assessed the likely effects on several European sites within a 15km radius of the windfarm site. The report described the individual elements of the project with potential to give rise to effects on these European sites and it described any likely direct, indirect or secondary effects on the European sites along with in-combination effects, and it assessed the significance of any effects. This exercise concluded that the proposed windfarm and cable connection to the national grid could have likely significant effects, either alone or in-combination with other plans or projects, on the Qualifying Interests and Conservation Objectives of 4 European Sites, and that progression to a Stage 2 Natura Impact Statement was considered necessary for those sites.

2.5.2 The Natura Impact Statement Report

The NIS summarised the background to the report and described the AA methodology. It described the proposed development and the baseline ecology of the site and it assessed the likely significant effects on 4 European sites which were screened in after the Stage 1 AA exercise. It identified the potential for direct and indirect effects on these European sites and proposed a range of mitigation measures which are contained in the EIAR. It assessed the potential for cumulative effects in combination with other plans and projects, including forestry works. The NIS was informed by the Stage 1 AA Screening Report, a Freshwater Pearl Mussel Survey Report, a Fisheries Assessment, a Construction & Environmental Management Plan and relevant EIAR Chapters.

The NIS concluded that, on the basis of objective scientific information, that the proposed development, individually or in combination with other plans or projects, will not adversely affect the integrity of any European Site.

3.0 PLANNING POLICY FRAMEWORK

3.1 National Planning Framework Plan 2018-2040

This Plan sets out a strategic national planning framework for the entire country. It recognises the need to move toward a low carbon and climate resilient society, and it emphasizes that rural areas have a strong role to play in securing a sustainable renewable energy supply. Sections 8 and 9 deals with the issues around and the national objectives related to sustainability and climate change. It states that new energy systems and transmission grids will be necessary for a more distributed, more renewables focused energy generation system to harness the considerable on-shore and off-shore potential from energy sources such as wind, wave and solar power. The Plan also identifies the need protect sensitive environments.

3.2 Regional Planning Guidelines for the Border Region 2010-2022

These Guidelines provide a long term strategic planning framework for the sustainable development of the Border Region (Cavan, Donegal, Leitrim, Louth, Monaghan and Sligo). Chapter 5 sets out the key physical infrastructural needs of the region and it identifies investment in renewable energy infrastructure as a key area of priority investment and it recognises the potential that exists for the exploitation of wind energy, whilst chapter 6 emphasises the need to protect the environment and amenities of the region.

3.3 Wind Energy Development Guidelines - Guidelines for PAs, 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 in relation to the information that should be submitted with planning applications. The impacts on residential amenity, the environment, nature conservation, birds and the landscape should be addressed. It states that particular landscapes of very high sensitivity may not be appropriate for wind energy development.

3.4 Other policy documents

- EU Energy Directives and Roadmaps, and associated national targets for renewable energy by sector.
- National Climate Change Strategy.
- White Paper on Energy 2007
- National Renewable Energy Action Plan 2010
- Strategy for Renewable Energy 2012-2020
- EU Final Draft Guidance (March 2010) Wind Energy Developments and Natura 2000.
- Ireland's Transition to a Low Carbon Energy Future, DCENR, 2015-2030
- Renewable Energy Policy and Development Framework. DCENR, 2016
- Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure, DCENR, 2012
- EU Directives on Flooding and the Water Framework Directive.
- The Planning System and Flood Risk Management, 2009.

3.5 NPWS Nature Conservation designations

The Department of the Environment, Heritage and Local Government is responsible for the designation of conservation sites throughout the country and there are several SPAs, SACs and NHAs located within 15km of the site.

3.6 Appropriate Assessment Guidance for Planning Authorities, 2009.

SAC and SPA sites are subject to the requirements of Article 6(3) of the Habitats Directive in relation to screening for an Appropriate Assessment of the potential impacts of a plan or project, both on their own and/or in combination with other plans or projects in the wider area. Applicants are required to submit a Stage 1 Screening Report and then a Stage 2 Natura 2000 Impact Statement to enable the competent authority to carry out an Appropriate Assessment of the proposal.

3.7 County Donegal Development Plan 2012 - 2018

3.7.1 Renewable energy & windfarms

Objective ED-O-10 seeks to maximise the appropriate development of the county's renewable energy resources.

Policy E-P-1/9/10 seeks: - the development of grid connections; compliance with the Wind Energy Guidelines; and to facilitate the development of renewable energy.

Policy E-P-11 seeks to: -

- (1) Facilitate the development of appropriate wind energy proposals in the "Areas Open for Consideration" on Wind Energy Map No. 9, and
- (2) Not favourably consider wind energy proposals in those areas identified "Not Favoured" on Wind Energy Map No.9.

Policy E-P-16 supports the clustering of windfarms within the vicinity of existing or proposed grid connections and existing operational & approved windfarms

Policy E-P-19 requires roads are maintained/repared at the developer's expense.

Policy E-P-20 seeks to ensure the protection of natural, built & cultural heritage.

Policy E-P-21 seeks to facilitate wind energy developments in areas where there are no significant environmental, heritage or landscape constraints.

Objective E-O-1 seeks to develop a sustainably diverse renewable energy portfolio.

Objective E-O-2 seeks to facilitate the strengthening of the electrical grid.

Objective E-O-4 seeks to limit the adverse impacts associated with global warming.

Objective E-O-5 seeks compliance with the 2006 Wind Energy Guidelines.

Objective E-O-6 seeks to ensure no adverse impacts on residential amenity.

Wind Energy Strategy:

Areas Open to Consideration: have been identified having regard to a range of factors, including wind energy potential, existing grid connections, proposed grid connections, natural heritage designations, landscape sensitivity, adequate road infrastructure and natural heritage designations.

Not Favoured: have been identified due to the significant environmental, heritage and landscape constraints which include SACs, SPAs, NHAs, unspoiled areas of EHSA, Areas of FWPM, important views, & prospects, and these areas will have little or no capacity for wind energy development.

Figure 2.4 - Wind Energy Strategy Map: The site is located within an Open to Consideration Area & to the N of a 110kV substation.

Development standards: Chapter 10 contains the relevant standards for windfarms.

Variation No.2 (Wind Energy) & Section 10.6.5: requires compliance with the 2006 Guidelines and in addition must not be located within:

- (a) The zone of visual influence of the Glenveagh National park.
- (b) The zone of influence /flight path at Donegal Airport.
- (c) The 6 FWPM catchments contained in the FWPM Sub-Basin Management Plans for Clady, Eske, Glaskeelin, Leannan, Owencarrow & Owenea.
- (d) A setback distance of 10 times the tip height of proposed turbines from residential properties and other centres of human habitation.

3.7.2 Landscape & protected views

Objective NH-O-5 seeks to protect the areas of Especially High Scenic Amenity (EHSA) from intrusive and/or unsympathetic developments.

Policy NH-P-10 seeks to protect landscapes of EHSA, views & prospects, and to preserve the character of distinctive landscapes.

Policy NH-P-12 seeks to safeguard prominent skylines and ridgelines.

Policy NH-P-14 seeks to preserve the views & prospects of special amenity value & interest.....and proposals shall be considered on the basis of their importance, the integrity of the view, the degree of intrusion and material alteration of the view.

Landscape Character Area 40: Site lies within the Cashelnavern Border & Uplands.

Landscape Character Type: Mainly commercial forestry over Blanket bog.

Areas of Especially High Scenic Amenity: Located to the NW & SW of the site.

Views & Prospects: Several to W of site from along the N15 travelling NE & SW.

3.7.3 Natural heritage

Nature conservation sites: Several SACs, SPAs & NHAs within a 15km radius.

Objective NH-O-3 seeks to maintain the conservation value of all existing and/or proposed SACs, SPAs, NHAs & RAMSAR sites.

Objective NH-O-4 seeks to protect and improve the integrity and quality of Designated Shellfish Waters and FWPM basins.

Policy NH-P-1 seeks to ensure that development proposals do not damage or destroy any wildlife sites of international or national importance.

Policy NH-P-2 seeks to ensure the protection of European sites.

Policy NH-P-4 requires the consideration of FWPM & any relevant FWPM Sub-basin plans for all developments that fall within their catchment or basin.

Policy NH-P-5 requires the consideration of the impact of potential development on habitats of natural value that are key features of the ecological network.

Policy NH-P-15 seeks protect the Cro na mBraonain habitats & Grouse sanctuary.

3.7.4 Cultural heritage

No heritage features within the site but several Recorded Monuments, sites of archaeological interest, protected structures & NIAH features in the wider areas and along the delivery and grid connection routes.

3.7.5 Draft Development Plan 2018-2024

Under the Draft Development Plan (2018-2024) windfarms are Not Favoured on the site. The Material Alterations to the Draft Development Plan were the subject of a further public consultation exercise which concluded on 8th March 2018. According to Alteration No.12 windfarms would be Open for Consideration on lands to the immediate W of the subject site which only covers a small section of the site. It is possible that this may have been a drafting error as the designation covers Barnesmore Mountain which is the main focus of the Protected View of Barnesmore Gap. The Development Plan (2018-2024) is due for adoption in mid-2018.

3.8 Northern Irish Planning Policy

3.8.1 Regional Development Strategy for Northern Ireland, 2025

This document sets out the strategy for the future development of NI up to 2025. It does not outline specific wind energy policies but highlights the importance of the diversification of the rural economy and acknowledges the role of renewable energy. West Tyrone is a designated location for area based rural strategies. Policy RNI 1.1 outlines the need to utilise the environmental and cultural resources of the land in a sensitive and innovative way as a competitive asset for economic development. Economic Policy 5.1 seeks to develop a long-term investment strategy and promote a wider choice of energy supply, including the use of renewable energy sources.

3.8.2 Local Area Plans

Work on several draft Area Plans was suspended as a result of a court judgement relating to the SEAs which accompanied a number of Area Plans, and several matters have been referred to the European Court of Justice for consideration. The NI Environment Minister subsequently announced measures to bring about a reform of Northern Ireland's planning system which is ongoing.

West Tyrone Area Plan (ongoing): Issues Paper recognizes the areas potential for wind energy & the cross-border dimension to developing renewable energy.

Derry City & Strabane Local Development Plan (ongoing): Preferred Options Paper recognizes the potential for renewables as a means for securing sustainable energy and boosting the local economy whilst also protecting sensitive areas.

Fermanagh & Omagh Local Development Plan (ongoing): Preferred Options Paper recognizes the potential for renewable energy which does not adversely affect the environment, landscape quality or the amenity of an area.

Strabane Local Area Plan 1986-2001: Refers to a number of AONBs and ASSIs in the wider area with no mention of wind energy (given the date of adoption).

Omagh Area Plan 1987-2002: Refers to the rural area and wider countryside with no mention of wind energy (given the date of adoption).

4.0 COUNTY COUNCIL PLANNING AUTHORITY REPORTS

4.1 Context

This report described the site and the proposed development, set the policy context, referred to previously proposed windfarms on the site and in the surrounding area, and carried out a planning assessment of the proposed development under several headings including landscape and visual amenity, noise, shadow flicker, flora and fauna, ornithology, soils and geology, water and roads. Each section of the planning assessment contained a contextual description of the site, a list of the relevant Development Plan provisions, a summary of the information contained in the applicant's EIAR, and an assessment of the issue. The report is accompanied by recommendations of the Elected Members of the Council who convened on 19th February 2018 to consider the planning authority report.

4.2 Current policy context

The site lies within an area designated as "Open for Consideration" for wind energy in the current Development Plan 2012-2018 (as varied), it is not located within an area of Especially High Scenic Amenity or in a European site. The report concluded that the development of a windfarm at this location is acceptable in principle.

4.3 Emerging policy context

The report noted that the Development Plan is currently being reviewed, that the Draft Development Plan 2018-2024 was published in May 2017 and that this plan is currently at the Material Alterations stage and is due for adoption by mid-2018. The report stated that the Draft Plan contains several significant new objectives, policies and landscape designations related to the site of the proposed development. The site now lies within an area designated as "Not acceptable" for wind energy developments and is split between areas designated as Especially High Scenic Amenity, High Scenic Amenity and Moderate Scenic Amenity.

4.4 Planning assessment

Landscape character & visual amenity:

The development will:

- Have a low to moderate & acceptable impact on visual amenities & landscape character.
- Not have a significant impact on the area of Especially High Scenic Amenity to the W.
- Not intrude significantly and materially alter the view towards Barnsmore Gap on the N15.
- Have an adverse impact on several houses located with the 10 X the tip height set back distance, and 7 turbines (T13-T19) should be omitted.

Noise impact: will not exceed the thresholds in the 2006 Guidelines (fixed limit of 45dB(A) at any occupied dwelling & 43dB(A) at night).

Shadow flicker: will not exceed the recommended threshold of 30 hours per year and 30 minutes per day for properties within 500m.

Flora & fauna: no significant adverse impacts for flora & fauna (including Freshwater pearl mussel) or on the integrity of any European site.

Ornithology: extensive bird surveys carried out and no significant adverse impacts on key bird species predicted.

Soils & Geology: extensive Peat Stability Assessment carried out and no significant impacts on soils & geology predicted.

Water: No significant impacts on water quality of the Lough Mourne water supply augmentation scheme.

Roads: No significant impacts on the carrying capacity of the N15, nor will it give rise to traffic obstruction or compromise road safety.

Other planning considerations: No significant impacts on telecommunications, aviation, archaeology & built heritage or air & climate.

4.5 Recommended conditions

1. Seven turbines (T13 to T19 inclusive) should be omitted.
2. Bond to ensure the satisfactory reconstruction, maintenance and repair of the local road network.
3. Bond (€27,000 x by number of turbines) to ensure the satisfactory restoration of the site.
4. All works to comply with the environmental and ecological mitigation measures in the EIAR & NIS, a CEMP to be agreed with the PA and the works to be supervised by an Environmental Manager.
5. Noise limitation to Irish standards.
6. Construction hours limited to 8am to 6pm Monday to Saturday excluding Bank Holidays, working of no more than 2 borrow pits at any given time.
7. An agreement with Irish Water in relation to the scheduling of construction works relative to the Lough Mourne augmentation and intake scheme and measures to ensure the viability of same.
8. Confirmation of commissioning, decommissioning & restoration proposals.
9. Junction design & visibility to required standards.
10. Development contributions (refer to 4.7 below).
11. Community gain (refer to 4.6 below).
12. Control of duration of permission.
13. An annual monitor of bird use of the site.
14. A transport management plan.
15. Archaeology (monitoring & recording by preservation and/or protection).
16. Standard aviation & telecommunications controls.

4.6 Other matters

- The Community Gain proposal is broadly acceptable.
- The current Development Contribution Scheme should be applied.

4.7 Elected members concerns

- Seven of the proposed turbines lie within the required setback distance.
- Excessive height relative to other windfarms & visual impacts.
- Adverse impact on protected flora & fauna.
- Hen Harrier breeding confirmed in the vicinity & immediate Buffer Zone.
- Croaghonagh Bog SAC contains several rare plants & animals including GWFG & Merlin, contravention of 2006 Guidelines in relation to SACs.
- 2006 Guidelines night time noise levels exceeds WHO recommendations & the EU Environmental Noise Directive adverse health impacts.
- Scope for further and more generous community gains.
- Independent survey of peat stability & hydraulics required.
- The impacts on landowners needs to be considered.
- Potential adverse impacts on the landscape & tourism.
- Increased surface water runoff could affect water quality & fish stocks.
- Questioned the carbon saving calculations.

The members agreed that the following recommendation be made to ABP:

- Request that planning permission be refused.

5.0 SUBMISSIONS FROM PRESCRIBED BODIES

5.1 Minister for Housing, Planning & Local Government, & Minister for Arts, Heritage and the Gaeltacht

Acknowledged receipt of correspondence.

5.2 Minister for Arts, Heritage and the Gaeltacht (DAU - NPWS)

No concerns raised other than to point out that there should be no lacunae in the environmental data used to carry out the EIA and AA, and that the site is located within a non-designated special protection area for Hen Harrier.

5.3 Irish Water

- Lough Mourne is of strategic importance as it supplies 17,000 people.
- Long term plans to construct an intake from the Bunadownen River.
- Potential impact on the water quality of this river.
- There is a direct pathway between the turbines & water supply intake.
- The following likely impacts remain and need to be addressed:
 - On the raw water quality at the intake from the Bunadownen River.
 - The viability of the proposed intake in terms of available water resource due to any changes to catchment pre/post construction.
 - Potential material interference through sediments or nutrient run off to the river and lough, having regard to the significant tree felling.
 - Impact on the river catchment as a result of drainage regimes.
 - Potential polluting impact of haul routes & and new road construction to rivers and tributaries of the Bunadownen River.
 - Potential pollution as a result of construction traffic.
 - Wayleaves & ROWs purchased from Coilte and the Council should remain intact in order to serve and maintain future river extraction.
- Proposals to divert existing water services should be agreed with IW.

5.4 An Taisce

- Located within the potential zone of influence for several European sites.
- Potential impacts on several Annex 1 and Annex 11 bird species (including Hen harrier, Merlin, Golden Plover, Red Grouse Whooper swan & GWFG).
- **Hen Harrier:**
 - Rarest declining resident breeding Annex 1 bird species, both nationally and in the 6 x SPAS, as per the 2010 & 2015 surveys.
 - The site overlaps with a HH non-designated area of importance.

- The 2015 survey confirmed 1 x breeding pair from hectad H08, no records within 0-1km of the site boundary, 1 x possible breeding within 1-3km & 1 x confirmed breeding within 3-5km; and 3 x flights at potential collision risk height.
- Potential for direct impact due to collision with rotating blades.
- Research indicates that c.89% of hunting tracks were within 5km of nests and 59% of foraging taking place within 2km.
- HH have been observed during breeding bird surveys & there are confirmed breeding pairs within foraging distance of the site.
- Suitable foraging habitat within & surrounding the site, and any loss of this habitat could impact the breeding success rate of HH.
- **Greenland white fronted geese:**
 - Annex 1 species recorded on Croaghonagh Bog SAC to NW of site.
 - Intact blanket bogs which supports GWFG & Merlin.
 - The targets & attributes for Blanket Bog state that there should be “No decline in distribution or population sizes of rare, threatened or scarce species associated with the habitat.”
 - NIS concluded no adverse impacts as a result of drainage mitigation measures, however impacts on GWFG inadequately assessed with regard to collision risk, disturbance & displacement.
- **Curlew:**
 - Recorded in flight during the summer VP survey.
 - Classified on the IUCN near threatened list & in the Global Red List.
 - Breeding populations may be vulnerable to displacement.
 - A loss of foraging & breeding habitat may occur due to avoidance.

5.5 Transport Infrastructure Ireland

Official policy:

- N15 forms part of the EU TEN-T Comprehensive Network & the strategic function this road must be safeguarded.
- Spatial Planning & National Roads Guidelines (2012) seeks to avoid the creation of additional access points or generation of increased traffic from existing accesses to national road & this is reflected in the Dev. Plan.

- Access off the N15 within the 100km/hr zone conflicts with Dev. Plan policy which does not provide for access in “exceptional circumstances”.
- Access to the site should be off the local road network & alternatives exist.

Road maintenance & safety:

- **Turbine haul route:** consult with Roads Authority on any works affecting the N15/N56 & junctions; all works should comply with TII standards & be subject to a Road Safety Audit as appropriate; but no objection in principle.
- **Structures:** permit required for abnormal or heavy loads; capacity of all structures along haul route should be checked; no technical load assessment of structures in the EIAR, and this is required.
- **Cabling/trenching:** grid connection along N15 refused by DCC, currently on appeal & TII observations attached; assessment of alternatives is unclear & this is required; TII support refusal in relation to potential impacts on the national road network; cable routeing should avoid all impacts to existing TII infrastructure; & a license may be required.

5.6 Irish Aviation Authority

No objection subject to conditions related to:

- Agree an aeronautical obstacle warning light scheme.
- Provision of as-constructed coordinates along with ground and tip heights.
- Prior notification of crane erection and operation.

6.0 TRANSBOUNDARY SUBMISSIONS

6.1 Derry City & Strabane District Council

Council Members:

- Landscape character:
 - Potential for negative impacts due to cumulative impact.
 - Consider the Supplementary Planning Guidance PPS18.
 - Potential impacts on Landscape Character Area 19 (Killeter Uplands) to the E of the site.
 - Potential for transboundary impacts along the border with Donegal.

- Lough Mourne:
 - Protect Lough Mourne which feeds the Mourne Beg & Derg rivers which form part of the Foyle River system and SAC.
 - Conditions should require specific protections for these systems.
- Community gain:
 - Should include benefits to the communities close to the turbines.
- Proximity of turbines to Border:
 - T01, T02, T04, T07, T9 & T16 located close to District Council area.
 - Sterilise development potential of lands not owned by the applicant.
- Visual amenity:
 - There are only 2 x ZTV selected photomontage views from within the District Council area (VP 10 & 14).
 - The Gov of NI need to recognise the DOE Landscape Architects assessment of 2008, that W Tyrone is at capacity for wind turbines.

Environmental Health Services:

- No objections.
- Noise levels at at H253 should not exceed 35DbAL90.

6.2 Northern Ireland Water

- No objections
- Standard conditions should be applied.

6.3 Rivers Planning & Advisory Unit

- No objections.
- The NIS confirms that no routes or natural drainage features will be altered, minimal water crossing, turbines & roads will avoid natural watercourses and no direct discharges to watercourses.
- Proposal will not increase flood risk in NI.
- Consent required to carry out works that might a watercourse.

6.4 Dept. for Communities (Historic Environment Division)

- No objections.

6.5 Dept. of Infrastructure Roads

- No objections.
- Details required if works involve travel or haul routes from and within NI along with agreement on the Transport Management Plan.

6.6 RSPB

- Recommend consultation with sister organisation - Birdwatch Ireland.
- Low numbers of HH flights across the site & subsequent low collision risk.
- Habitat in vicinity of turbines should be managed as per SNH Guidance to limit the suitability of the site for HH and thus reduce the risk of collision.
- Suggested conditions:
 - Vegetation clearance shall occur outside bird breeding season.
 - A suitably qualified ornithologist shall be present on site (March to August), and works should stop if a disturbance is detected.
 - The final HH Habitat Enhancement Plan should incorporate the EIAR mitigation measures along with a monitoring programme.
 - The final Post Construction Bird Monitoring Programme should incorporate the EIAR mitigation measures.

6.7 Agriculture, Environment & Rural Affairs

- WFD requirements should be complied with as the site drains to the Mourne River system which is an important salmonid waterway.
- Most concerns have been mitigated.
- Clean stone should be used for haul roads to avoid contaminated run-off.
- Borrow pits should be avoided unless there is no practical alternative.
- Construction Method Statements should be submitted.
- Recommend the use of SUDs to deal with site drainage.
- Works affect 2 x cross border river waterbodies which are monitored & classified under WFD as Mourne Beg (Derrygoonan) & Glendorgan River.
- Mitigation measures should protect water quality in downstream rivers and the achievement of Good/High Status should not be affected.

6.8 Protected Landscapes Team

- The site adjoins the Border to the W of the Sperrin AONB.
- Potential for significant adverse landscape & visual impacts, either individually or in composite, related to additional clutter.
- Hard & urbanised intrusions into a soft natural rural landscape.

6.9 Natural Environment Division (Birds)

- No objections.
- Satisfied with EIAR survey effort and compliance with SNH Guidance.
- No significant threats to NI bird populations subject to mitigation.
- Satisfied with the bird monitoring programme over the breeding & non-breeding seasons.
- Recommend that comparable survey methods to those previously employed at the site are used.
- Recommend that carcass searched should use SNH methods & calibration tests should be carried out to estimate effects of carcass removal by scavengers & variation in detection rates among observers.
- Agree with proposed measures in the Hen Harrier Enhancement Plan.
- Query the lack of quantifiable data for cumulative impacts but satisfied that absence of local impacts indicates that cumulative impacts will not arise.

Suggested mitigation measures:

- Tree felling & vegetation removal outside of the breeding season.
- Noise from plant & equipment should be minimised.
- Breeding bird survey should be carried out prior to & during construction works within the breeding season.
- No works within 500m of any active HH nest.
- Workforce to advised of bird sensitivities in the site.
- Regular liaison with planning & conservation authorities.
- Grid connection cables should be underground and along roads.

6.10 Natural Environment Division (Designated sites)

- No objections.
- Site hydrologically connected to the River Foyle & Tributaries SAC/ASSI and adjacent to the Killeter Forest Bogs & Lakes and Croagh Bog ASSIs.
- Satisfied that the proposal is not connected with, or necessary for the management conservation management of the designated sites.

Potential impacts:

- Degradation of aquatic environment from contaminated run-off from construction & operational works, addressed by mitigation measures.
- Peat failure/slide resulting in significant mobilisation, resulting in sedimentation downstream waterbodies, addressed by mitigation.
- Sediment release can affect salmon and reduce prey for otters or damage holts, addressed by mitigation measures.
- The Fisheries Assessment states that there are no significant instream works required that restrictions on timing on construction need not apply.
- No otter breeding sites or holts on site although watercourses offer potential to traverse the site, and pre-construction surveys required.

Recommendations:

- A final CEMP & Site Drainage Plan is required before works commence.
- All works should remain within the red line boundary.
- No works until protective fencing has been erected and maintained.
- The site should be re surveyed for signs of otters before works commence, and if a new holt or couch is found within 30m of the proposed zip lines, all work must cease immediately.

6.11 Loughs Agency

- Cutting & drainage can negatively impact the attenuation properties of raised bog land, increase flood risk & increase the risk of bog bursts.
- Nearby watercourses, which contain fish spawning areas, have a high sensitivity to pollutants and changes in water chemistry.
- Regard should be had to:
 - Salmon, trout, sea, river & brook lamprey, and European eel which are all present in the Mourne Beg River & tributaries.

- The quality & quantity of the fish habitat - which is good and ranges from spawning and nursery areas to holding areas.
- Proximity to designated sites - Mourne Beg River is a tributary of the River Derg, both are part of the River Foyle & Tributaries SAC.
- Extensive investment in habitat improvement works for salmonids.
- Several tributaries of the River Finn SAC are hydrologically connected to the site.
- Timing of construction works – salmon spawning & incubation occurs from October to May so no works should be permitted; and lamprey are most sensitive from March to June.
- Year-round maintenance of silt traps & drainage measures required
- Potential impacts include:
 - Obstruction to migration
 - Disturbance to spawning beds.
 - Increased silt & sediment loads.
 - Risk of large scale peat movements.
 - Point source pollution incidents.
 - Loss of shelter, cover & food.
 - Drainage issues.
- Specific concerns:
 - The use of coffer dams to create drainage plugs after the works are completed must be avoided.
 - Welcome the introduction of a freshwater quality monitoring programme during the works (release of acidified water).
 - Request sight of any proposed culverts within the site.
 - Offence to or disturb material, including sand & gravel from the bed of any river in the Foyle system without prior approval.
 - Request sight of silt management & fuel oil management plans
 - Seek further details & assurances on the management of released acidified water from peat bogs.
 - Offence to cause pollution which is detrimental to fisheries interests.

6.12 Forest Service

- Glenderg Forest is adjacent to the site.
- Best practice to allow a minimum of 2 rotor blade diameters distance between the intervening boundary and the turbines, and 4 blades distance between existing neighbouring turbines.
- Four turbines (T01, T02, T04 & T09) lie within the minimum 2 rotor blade diameters distance of Glenderg Forest, and there should be 4.
- Request the Forestry Manager to engage with the Forest Service.
- Request to be kept informed of any changes in relation to the site boundary, turbine locations or haulage route (Refer to Drg. No. 0502-07).

7.0 SUBMISSIONS FROM INTEREST GROUPS & MEMBERS OF THE PUBLIC

7.1 Irish Wildlife Trust

- Object to proposed windfarm.
- Erecting wind turbines on peat soil for the purposes of reducing CO₂ emissions is contentious and restoring the bog would be preferable.
- 2 turbines would be placed on Blanket bog which is a Priority 1 habitat.
- Unacceptable risk to Freshwater pearl mussel and Atlantic salmon which are QIs for the Lough Eske & Ardara Wood SAC.
- Erection of more turbines would pose a further threat to the Golden Eagle.
- Proposal would contribute to further cumulative effects on the landscape and habitats, add to invasive species and the proliferation of windfarms.

7.2 Birdwatch Ireland

Birds & habitats:

Very serious concerns over the high number of Annex 1 and Red & Amber listed Bird species both on-site and in the region which have an established negative relationship with windfarms, including:

- **Hen Harrier (Annex 1):**
 - Established roost proximate to the site & breeding HH probably use the site to forage during the breeding season; site located within a regional breeding HH population of national & international importance; may result in direct, indirect & cumulative negative impacts on regional and national breeding populations.
- **Merlin (Annex 1):** evidence of breeding Merlin close to the site.
- **Golden plover (Annex 1 & Red List):** known to breed within a few kms of the site, records show that GP uses the site on passage, and studies show that GP shows high levels of turbine & windfarm avoidance.
- **Red Grouse (Annex 11 & Red List):** recorded in vicinity of site, known to be affected by construction with decreased densities at windfarms.
- **Whooper Swan & Greenland White-fronted Geese (Annex 11):** have previously resided close to the site and may overfly it, both are sensitive to wind energy in terms of disturbance, displacement & collision risk.
- **Curlew (Annex 11 & Red List):** recent records show breeding Curlew near the site but not identified in the EIAR surveys; possible significant negative impact on the regional population and known to be very sensitive to disturbance & displacement during and after construction.

Other Bird matters:

- Further information provided in relation to additional breeding & wintering bird surveys in Hectad H08 which include Peregrine, Golden Eagle, Barn owl, Bar tailed Godwit, Woodcock, Meadow pipit & Grey Wagtail.
- Presence of HH, Merlin & Peregrine close to the site & suitable foraging habitat and prey species within the site indicate its significance.
- Windfarm & GCR would be close to an area of high sensitivity for birds.
- Disagree with the applicant's assessment of the area with respect to HH.

European sites:

- Need to ensure that the windfarm does not negatively impact on the water quality status of waterbodies or the qualifying interests of the River Finn, River Foyle & Tributaries & Lough Eske & Ardnamona Wood SACs
- Avoid pollution or deterioration of habitats of interests in areas outside specifically identified protection areas.

Water quality:

- Negative impacts on water quality from sedimentation & eutrophication which may lead to a decline in water quality status of waterbodies that are hydrologically connected to the site & grid connection.
- Knock on effect on Freshwater Pearl Mussel, Atlantic salmon & Otter.
- Necessary conditions should be put in place to ensure no degradation in water quality status in the surrounding watercourse.

7.3 Irish Raptor Study Group (IRSG)

- The EIAR bird information & conclusions are inadequate and strongly object to the proposed development.
- Inter-Departmental & Ministerial HH Threat Response Plan aims to determine the threats facing the Irish HH population (including windfarms).
- Satisfied that there were nesting HH within the site boundary with a second breeding pair within 2km of the windfarm in 2017, and that the surrounding townlands all had confirmed evidence of breeding HH in 2017.
- IRSG can provide the exact locations of breeding HH and records from within the 10km squares H07, H08, H17 & H18 submitted in 2017.
- Windfarm located in S Donegal which supports up to 11 territorial pairs of breeding HH, equivalent to 7% of the national population, and within an area identified by NPWS as an important non-designated breeding area.

- Query the competence of the EIAR survey team, compliance with SNH Guidance, the validity & accuracy of baseline data, the presentation of the survey results and the inclusion of sensitive ecological maps in the report.
- Unacceptable loss of Priority 1 Blanket Bog Habitat.
- **Inappropriate habitat enhancement for HH.**
 - Enhancement is identified as using an area of forestry & managing it in short-term rotation during the windfarm operational phase.
 - This approach is flawed as afforestation & forest maturation is recognised as a primary threat to HH populations.
 - NPWS research also indicates that non-native conifer plantations have significant long-term effects on breeding HH populations.
- **Inadequate cumulative assessment of KORs:**
 - EIAR lists windfarms within a 25km radius (c.230 turbines), no details in relation to Key Ornithological Receptors, and the cumulative impact on HH has not been considered & absence of spatial data.

7.4 Donegal East Tourism

- Promote Barnesmore Gap to Finn & Lagan Valleys as a tourist destination.
- The information brochure features a spectacular image of the iconic Barnesmore Gap from the N end of Lough Mourne.
- The windfarm will destroy the huge promotional efforts made by this group.
- The proposed recreation & amenity works are a pointless exercise.

7.5 Finn Valley Group

Peat stability:

- Works involve the felling of c.74ha of trees, the excavation and management of 246,075m³ of peat, and 3 x 0.86ha borrow pits.

- Serious concerns about peat stability & expert report (Dr O Cathain, UM) which refers to the omission of any site-specific details for the borrow pits).
- Borrow Pit 1 appears to be located in the vicinity of deep peat and an area within which construction should be avoided.
- Value for cohesion is not based on site measurements, it is close to the average of 19 values found in literature, but still higher than 9 of these results, and the value for friction angle is lower than 13 of the values found in literature, which has a huge effect on the outcome of the FoS analysis.
- Reports do not refer to forestry as a risk factor, commercial forestry degrades peat, reduces strength & increases the likelihood of slope failure, & not factored into the stability analysis which invalidates the assessment.
- Reports combine qualitative & subjective measures of risk with judgement, the FoS analysis should have been augmented by other qualitative assessments, slightly different input data would achieve different results.
- The reports have failed to demonstrate that the works will not pose an unreasonable risk of soil failure and ensuing pollution to the area.

Hydrology & water quality:

- Expert report (Prof Johnston, TCD) identifies deficiencies in the application
- Notwithstanding the drainage systems, the hydrological pathways will still lead to tributaries directly discharging into the SACs/ASSIs.
- Only 4 “one-off” surface water flows were measured and no direct investigation of ground water was undertaken, even though excavation depths for the borrow pits are c.12m below ground level.
- No direct investigation of the bedrock was undertaken, thus the role of bedrock sub crop is unknown and the presence of ground water and its flow pathways under the blanket bog as not been established.

- The EIAR referred to an assessment of the hydrological regime & a water balance for the site, however the drainage system was designed with an estimated 100 year/6 hourly rainfall, as opposed to using measured data.
- Without direct discharge data for the on-site streams, any water balance cannot be validated and carries large uncertainty, the stated negligible role of storm drainage from the works remains largely unquantified.
- The EIAR single round of water quality monitoring at a few selected surface water stations is insufficient to establish a hydrological regime for the area as 1 year of monitoring water levels and quality is required.
- Blanket Bog hydrology is difficult to evaluate, especially in damaged areas under forestry and tree roots have an impact on runoff and flow pathways.
- No details in EIAR of the hydrological pathways at the base of the peat above the mineral soil which overlies bedrock.
- An analysis/assessment of the hydrological & peat stability conditions in the as built situation is also required.
- The baseline conditions of groundwater, quality & flow have not been evaluated, and given the depths of excavation at the borrow pits and turbine foundations, groundwater cannot be assumed to be unaffected.
- 2000_{m3} of tar from the grid connection works will be placed in the borrow pits, this is classified as hazardous material with high pollution potential and such dumping is not permitted under the EU Groundwater Directive.
- Environmental impact of the borrow pit works has not been fully assessed.
- The discharge points for T2 are very close to the buffer zone for the tributaries of the Glendergan SAC in NI, and this, combined with the site slope and density of infrastructure, poses a high risk to surface water.
- The in-situ shear strength measurements of peat across the site are of limited value given the areal variability and the FoS uncertainty, although

most of the peat cover is relatively thin, the steep slope in some places raise concerns about the stability of the excavations in high rainfall.

- There remain fundamental issues with this site, and the potential for environmental impact is high, given the high rainfall and proximity to designated sites on both sides of the border.

Grid connection:

- The EIAR assessed 2 underground grid connection routes.
- Noncompliance with regulations render ABP unable to carry out an EIA/AA
- In conflict with O’Grianna judgement, project splitting, and in contravention of the 2014 EIA directive due to lack of clarity in the public notice.

Hen Harrier:

- Similar concerns to previous Observers.
- Inadequate data and not possible for the Board to conclude that the project would not directly or indirectly have an adverse impact on protected species or habitats, in line with the ECJ ruling under C258/11.

Consultation:

- Inadequate public consultation with wider local community and NI.
- Variation no.2 with respect to the separation distance (10 x tip height) with house has not been applied as there are c. 6 houses in closer than this.
- Concerns about health, noise, flicker & visual impact not addressed.

Public health:

- Lough Mourne is a significant regional source of public water & of strategic importance for N Donegal & there are long term plans to augment supply.
- The development proposed under PL05.EL2039 involves raising the level of Lough Mourne by c.4.5m by way of 2 dams and diverting flows from Bunadownen River to Lough Mourne to facilitate increased abstraction.

- The potential impact of the windfarm on water quality in the Bunadownen River and public health should be assessed by the Board.

7.6 Glenties Windfarm Information Group

- County Donegal has 36 operational windfarms with a generating capacity of 392MW and a total of 600MW has been granted permission.
- Even though the County has 74 European sites and a landscape that is a major part of the tourism industry, Donegal still makes a significant contribution to national renewable energy targets.
- Wind does not provide a predictable energy supply and windfarms do not make a significant or sustainable contribution to the local economy.
- Landscape is the main tourist attraction & not the proposed amenity area.
- Adverse impacts on health and residential amenity regardless of separation distances, which are difficult for the Board to adjudicate on.
- Proposal does not adequately deal with the previous reasons for refusal and the environmental impact on receptors, including cumulative impacts.
- Query site suitability, close proximity to several European sites, and concerns remain in relation to peat stability, water quality and birds.

7.7 Glenfin Cable Action Group

- Proposal has a twin application under PL05E.248796 for a 35km grid connection route from Cark Mountains to Clogher Substation.
- Adverse impact on visual amenity, undeveloped rural landscape & wilderness quality of the area; excessive height & scale relative to surrounding structures & shadow flicker along local roads.
- Adverse impacts on protected sites, habitats, flora & fauna.
- Adverse impacts on tourism, related employment and the local economy.

- Adverse health effects from low frequency sound, infrasound, wind turbine signature & discrete low frequency amplitude modulated signals; copy of a presentation & report by Dr Alves-Pereira attached.
- Project splitting is taking place as the proposed c.35km underground grid connection is been dealt with under PL05E.248796, in contravention of O’Grianna judgement, and it will serve several windfarm projects.

7.8 Red Grouse Sanctuary

- Inadequate regard given to Pettigo Plateau Reserve & Lough Nillan Bog SPAs with respect to Whooper swan & GWFG and the need to establish commuting corridors; the SPAs are screened out as impact zones & GWFG is not considered KOR.

Pettigo Plateau Reserve SPA:

- Must have due regard for the COs of this site which seeks to maintain or restore the favourable conservation condition of the listed bird species.
- Recent NPWS GWFG surveys identified c.82 birds at this SPA, & that this species moves c.15km to feed, which exceeds the SNH range of 5-8km.

Lough Nillan Bog SPA:

- EIAR also states that this site is located beyond core foraging distances.
- This site has several other QIs including Merlin, Golden Plover & Dunlin.
- It was concluded under PA0040 that there was no reasonable scientific basis to screen out Pettigo Plateau Reserve & Lough Nillan Bog SPAs.
- The SPA sites should not have been screened out this time round.

Migratory paths & VP surveys:

- No mention of the WS & GWFG flyway that exists between the various nationally and internationally important GWFG sites in Donegal & Wexford.
- There is a flightpath along Barnsmore Gap for WS & GWFG.

- Much of the EIAR data is desktop in origin & not from VP surveys.
- The hours for the VP studies do not add up as per SNH Guidance and continued lack of required survey effort.

Hen Harrier:

- Similar to previous concerns raised by other Observers.

Golden Eagle:

- No consultations with the Golden Eagle Trust or NI Raptor Study Group.
- Much of the EIAR bird data is pre-2015 which ABP found to be inadequate in 2016 and only 1x recent sighting recorded.
- GE can be observed daily commuting between Glenveagh & the Bluestacks, and pairs can be found all over Donegal as a result of the reintroduction projects managed by the Golden Eagle Trust.

Other raptors:

- Peregrine, Merlin & Buzzards are known to inhabit the area and there have been some very recent sightings of these species.

7.9 Members of the public

Submissions were received from the following members of the public

- James Conaghan
- Francie Gallen
- George Sproule
- Kay Harvey
- Kevin Doherty
- Patrick Gallen
- Carl Scanlon
- James & Sharon Conaghan
- Mary & Darren Laverty
- Anne McMenamin

- Charlene McClintock
- Brendan Gallagher
- Delia McGinity & Others
- Joe & Marian Gallagher
- Laurence & Bernie Conaghan
- Michael McGlinchey
- Eileen Hynes
- John Crombie
- Stephen & Patricia Bradley
- Peter Crossan
- Ann Conaghan
- Anne & Basil McCrea
- Patrick Melaugh
- John Conaghan
- Mark Cannon
- Mat Browne
- Edward & Kathleen Byrne

Their collective concerns are summarised below.

- Windfarm located close several houses in Counties Tyrone & Donegal; adverse impacts on residential amenity by way of shadow flicker, visual intrusion, noise disturbance and related health effects; and research concludes that turbines should be 2km from houses.
- Excessive height & industrial scale; adverse visual impacts on Barnesmore Gap, the Bluestack Mountains and the surrounding rural area, and on identified areas of Especially High Scenic Amenity and Protected Views, and from along the N15 and surrounding local road network.
- Adverse impact on tourism (wilderness, tranquillity, recreation, attractions, jobs, films etc) and the local economy and revenue from tourism.

- Adverse impact on the environment, ecology, European sites, habitats (including blanket bog), flora, fauna and several species of bird including Hen Harrier, Merlin & Golden Eagle, and Bats.
- Adverse impact on the Cashelnavern Landscape Character Area which also contains several SACs, SPA, NHAs & pNHAs by way of visual intrusion, and loss of or damage to habitats, flora and fauna.
- Large scale loss of trees, extensive peat excavations, loss of carbon sink, peat instability, impacts on hydrology & hydrogeology, and risk of bog burst & landslides (several references to Derrybrien).
- Adverse impact on water quality, aquatic ecology & fisheries; and pollution of public water supplies (including Lough Mourne) with resultant adverse impacts for the public and agri-businesses.
- Intensification of site access off the N15, inadequate sightlines, traffic hazard, contravention of NRA guidance & no Road Safety Audit submitted.
- Separate assessment of grid connection and project splitting.
- Social displacement of families, property devaluation, electromagnetic interference & inappropriate location for an amenity area; and query economic benefits, job creation potential and security of energy supply.
- Proliferation of windfarms along either side of the Border and precedent for future developments in the area.
- Inadequacies in the EIAR which contains a large amount of highly technical and poorly presented technical information which the public finds difficult to assimilate.
- Inadequate assessment of cumulative impacts in the NIS, no assessment of the in-combination effects of the planned Lough Mourne Impoundment works, no reference to Ireland's largest windfarm at Meenadreen c.6km to the S which has brought 38 turbines with a 95MW capacity into service.

- No assessment carried out of fire risk at turbines, radon gases & uranium levels, or risk of lightning strikes.
- Conflict of interest for Council and Coillte, non-compliance with Development Plan policies and unsatisfactory public consultations.
- Inaccuracies in site layout map (Drg. No. 0502-02) in relation to landowners' consent, not all of the areas within the blue line boundary have consent and in particular the owner of DL78302F has not given his consent for access to the site off the N15.

Carl Scanlon's Observation was accompanied by an Ecologist's report which raised the following concerns:

- **Inadequate qualifications:** only 1 of the 13 CVs in Appendix 7.5 stated that they are an accredited and registered Ecologist with CIEEM
- **Inadequate bird surveys:** HH was identified as a concern to applicant in Feb 2017 who was shown data from 2015. Breeding Raptor Survey done at 5km buffer, Vantage Points not stated, SNH recommend that HH & Merlin surveys be conducted 2km from the site boundary, but the Vantage Points were within the 500m buffer.
- **Inadequate bat surveys:** BCI Guidance states that static surveys be carried out at multiple turbine sites, but the Static Detectors were only placed at 1 turbine site for September & October, heavy bias in transects to periods of lower bat activity in open habitats during autumn months, most authorities recommend a 4-season approach of 3 to 5 survey periods, with the main focus between April to October.
- **Inadequate botanical assessments:** turbines that will result in the loss of & damage to protected habitat should have been relocated, c.6% of the footprint corresponds to Annex 1 habitat, & no Table for Impact Characterisation for Ecological Reception for Blanket Bog/Wet heath.

8.0 APPLICANT'S RESPONSE SUBMISSION

8.1 Planning policy & procedure:

- PA accepted that the principle & location complied with Dev. Plan policies.
- Note that the recommended omission of 7 turbines is in line with Variation no.2, however this is in contravention of National Guidelines.
- Design provides for a 10 x tip height separation with all third party houses (as per Variation No.2) which are not consenting properties.
- Application supported by relevant documentary requirements & consents.
- The Open to Consideration for wind energy was incorrectly mapped in the Material Alterations stage of the Draft Dev. Plan (to the W of the site), however the PA have concluded that the site is suitable for a windfarm.

8.2 Community gain:

- Project will provide employment for 80 people, including 60 during construction and most workers & materials will be sourced locally.
- The Community Gain proposal will provide E6,250/MW on commissioning (E415, 625), with a further E1,250/MW paid into a fund annually (E2.5m over 30 years), with the allocation decided by a local committee.
- A public amenity & recreational area will be created.

8.3 Grid connection to Clogher substation:

- Two options proposed which are both located within the red line boundary which allow for an EIA & AA to be carried out by the Board:
 - (a) Via currently proposed underground cable from Dromahough substation to the existing grid connection node at Clogher.
 - (b) Standalone GC between the currently proposed substation & Clogher.
- Note concerns about “project splitting” however this is a standalone project

8.4 Human beings & human health:

- No houses located within 750m of any turbine and the nearest house (other than consenting property owners) is located 1.62km away.
- Effects of shadow flicker, noise, visual amenity, traffic & dust have been addressed in the EIAR, with no adverse impacts predicted.
- Impacts related to health, safety & vulnerability to natural disasters (fire & flood) are addressed in the EIAR, with no adverse impacts predicted.
- No published credible scientific evidence to positively link wind turbines with adverse health effects.

8.5 Shadow flicker:

- Potential for this to occur at non-consenting properties is slight to negligible, and separation distances comply with the 2006 Guidelines.

8.6 Tourism:

- Tourism surveys conclude that windfarms do adversely affect tourism.
- Proposed amenity & recreation area will make a positive contribution.
- PA concluded that the visual impact will be low to moderate & acceptable.
- Bord Failte had no objections during the scoping exercise.

8.7 Ecology & ornithology:

Survey methodology & assessment:

- All surveys undertaken in accordance with SNH Guidance.
- Vantage Point surveys were undertaken at the windfarm site between 2015 & 2017, and the 36 hours per VP discrete season was achieved.
- The VP surveys comprised a series of watches from a fixed location and the surveys extended 50m beyond the site boundary.

- Breeding raptor surveys conducted in the study area & 2km beyond site boundary in accordance with accepted methodologies & SNH Guidance.

Validity of data used to inform the EIAR

- Surveys were undertaken between April 2015 & September 2017 in accordance with SNH Guidance (2014).
- Surveys provided the information necessary to allow a complete, comprehensive & robust assessment of the potential impacts on birds.
- The work was undertaken by suitably qualified and experienced staff & the result were reviewed by Dr Tom Gittings who was satisfied the exercise.
- The survey duration & scope was satisfactory with regard to:
 - The conifer plantation does not provide optimal habitat.
 - The findings of previous surveys corroborate the recent findings.
 - The VPs covered the study area in line with SNH Guidance.
 - No evidence that the site is important for breeding birds of conservation concern.
 - No evidence that the site is on a migratory or commuting route for birds therefore no night surveys were required.

Suitably qualified experts:

- All experts have the required qualifications, experience & competence.

Presentation of data:

- VP survey data in Appendix 7.2 of the EIAR is detailed & demonstrates the comprehensive nature of the survey work.
- Summary VP information provided in Table 7.1 & Table 1 of Appendix 7-3.
- Data reviewed by Dr Tom Gittings who was satisfied with the exercise.

Breeding Hen harrier:

- Concerns raised by IRSG in relation to presence of nesting HH within the site boundary & a breeding pair within 2km of the proposal in 2017.
- Site previously supported breeding HH in 2014 but it has not been recorded breeding within or in close proximity to the site in recent surveys.
- Surveys undertaken between 04/15 & 09/17 in line with SNH Guidelines and included the study area and 2km beyond the site boundary.
- Raptor surveys comprised walked transects on a monthly basis during the core breeding season with no HH breeding activity recorded.
- The survey effort was increased in 2017 to include transects & VP watches with no HH breeding activity recorded.
- The scoping document sent to IRSG and the group did not provide any records of HH breeding activity or raise any concerns about the project.
- No NPWS records for breeding HH activity in 2016 or 2017.

HH Habitat Enhancement:

- In credit of the historic significance of the study area to HH, a foraging enhancement plan has been prepared, which is not a mitigation strategy.
- Agree that afforestation & forest maturation is a primary threat to HH.
- Proposed HEP has been designed to enhance areas of maturing forestry which would otherwise be closed canopy and not suitable for HH, and it connects with the S Donegal non-designated area for HH.
- The NI Environment Agency (CS) are satisfied with the HEP.

Cumulative impact assessment:

- Note concerns raised in relation to HH and cumulative assessment.

- Project on its own will not result in any significant effects on any Key Ornithological Receptors (KORs) including HH, with no significant effects on receptors of international, national or county importance identified.
- No important migratory routes for any species were identified in the studies, therefore no significant cumulative barrier effects are predicted.
- No potentially significant cumulative disturbance, displacement or habitat loss effects on any KORs has been identified.
- NI Environment Agency (CS) content there would be no cumulative effects
- No potential for impact on SPAs was identified and the potential for impacts on SACs were considered in detail.

Loss of Priority Annex 1 habitats:

- Note IRSG concerns related to the omission of an impact characterisation of Peatland habitats from s.6.4.4.1 of the EIAR, however this information is contained in EIAR Table 6.25 of s.6.4.4.1.7.
- Designed to minimise effects on peatland habitats, most of the project is located within existing conifer plantations and there will be a direct loss of 0.89ha of peatland habitat which is classified as National Importance.
- There is potential for indirect drainage effects, this is addressed by a mitigation strategy which has informed the drainage design which limits the extent of impacts outside the immediate footprint of the works.
- Loss of peatland habitats will be compensated for by felling an equivalent area of land where conifers have failed to thrive on blanket bog & heath habitat, and implementing a bog restoration programme in line with EU, Coilte and SNH Guidelines.

Water quality & impact to aquatic habitats & species (including FWPM):

- No significant residual effects on aquatic Key Ecological Receptor (KERs) are predicted post mitigation with regard to a reduction in water quality.

- Designed to avoid all instream works & direct works in watercourses, there will be 50m buffer zones, & the EIAR contains a detailed Drainage Plan.
- The design (& mitigation measures) seeks to minimise surface water runoff and control & manage sediment laden surface water runoff, and to ensure that the hydrological function of site & catchment is not affected.
- Drainage Plan covers all aspects of the project & the CEMP contains a detailed surface water monitoring programme.
- The drainage plan, construction & operational method statements and best practice will effectively block the pathway for effect on aquatic habitats and species, and the monitoring will ensure that the measures are effective.

8.8 Soils & geology (Appendix 2):

- The PA were satisfied that the project would not have a significant impact on soils & geology and not result in peat instability or failure.

Peat Stability Assessment report:

- Used Peat Landslide Hazard & Risk Assessment: Best Practice Guide for Proposed Electricity Generation Developments (Scottish Executive, 2007) which provides best practice methods to identify, mitigate & manage peat slide hazards & associated risks.
- Results show that the site has an acceptable margin of safety and the site is suitable subject to the control measures for works in peatlands, the assessment was carried out over the entire site to determine slope stability & identify the most suitable location for development.
- The site contains mainly shallow peat with deeper areas on flatter ground ranging from 0 to 5.8m with an average depth of 1.7m; a grid of up to 5 probes undertaken at each turbine location, with equally spaces probes along the access tracks and other project elements.
- Peat Stability assessment also included a deterministic (factor of safety) and a qualitative risk assessment (quality of peat, bog pools, slope etc.).

- Based on the stability assessment carried out on the peat slopes the FoS for peat instability are acceptable, localised areas of deep peat may require specific construction methods but are not a peat slide risk.

Peat & Spoil Management Plan & borrow pits:

- Describes how peat & spoil will be excavated, safely handled & adequately stored along with recommendations for good construction practice.
- Peat & spoil will be permanently placed in the borrow pits or alongside excavated access roads, excavated rock will be used for foundations etc.
- Borrow pits will be developed to allow the excavated peat & spoil to be contained in cells below ground level with no risk of instability or runoff.
- Where buttresses are used to retain the excavated materials in the borrow pits, they will act as earth retaining structures designed to BS 8002:1994.
- Design & construction guidelines are contained in s.7.4 of the PSMP & Appendix 4-2 to the EIAR, plan & cross section drawings of the borrow pits were included within the planning drawings (0502-32 to 34).

Risk from radon & uranium:

- Minimal risk from radon gases at nearby houses, deepest excavation is c.10-20m & a typical domestic well depth is 80-100m, the underlying rock has poor permeability and large separation with nearest houses.
- The GSI database indicates that there are no metallic minerals in the area, however a ground investigation & testing will be carried out to identify the presence of any such minerals as a precautionary measure.

Response to Third Party submissions:

- The applicant's response is summarised in a table (p.5-17), it mainly clarifies that the site investigations & assessments were carried out in accordance with established guidance, that the results & conclusions are robust and that the works will be to best construction practice.

8.9 Water (Appendix 3):

Lough Mourne public water supply:

- No works within any surface water catchments that drain into the Lough & the Mourne Beg River drains out of the Lough (and not in to it).
- Small section of works (upgrade/widening of existing access track & GCR cabling) located within the catchment feeding proposed Bunadowan River intake which may be used to supplement the Lough in the future.
- No adverse impacts on raw water quality at proposed intake or downstream of the Lough, subject to mitigation & control measures.

Surface water quality:

- No works within any surface water catchments of the River Finn.
- Works within the Lowreymore River catchment area limited to a c.9km section of GCR mainly along the N15 with no adverse impacts predicted subject to mitigation & control measures, and directional drilling will avoid in-stream works where a river crossing is required.
- Majority of works located in the River Mourne catchment, the potential for surface water impacts exists & a detailed drainage management plan is proposed & a process flow diagram is provided (p.5).

Tree felling/peat instability/land movement & water quality

- Peat stability within the site has been comprehensively assessed.
- There is a negligible risk of land instability as a result of forestry removal causing impacts to surface water & drinking water supplies.

Response to Irish Water:

- Main works not be located within the Bunadowan intake catchment, no impact on viability of intake, both projects can occur simultaneously & works will not impeded access rights to the intake location.

Response to Paul Crossan & the Finn Valley Action Group:

- Note the content of Paul Johnston's report.
- Only small amount of works located in the Bunadowan Intake catchment.
- Works located in a hydrologically altered & drained forestry plantation.
- No development within the River Finn & Lough Mourne catchments.
- EIAR assessments are based on field data & site-specific knowledge and are without ambiguity.
- Drainage design proposals & rainfall return period are more than adequate for the risks posed during the relatively short construction period.
- No evidence that the mineral soil-bedrock interface is a significant pathway for water movement in the site.
- Site is undesignated and relatively benign in terms of groundwater and the surface water regime is relatively straightforward.
- EIAR assessment is conservative & realistic, comprehensive & adequate.
- The use of borrow pits complies with normal standard practice.
- Works account for 2.8% of the total study area.

8.10 Carbon loss & savings:

- Over the 30-year lifetime c.2,798,370 tonnes of CO₂ will be displaced from traditional carbon-based electricity generation.
- The project will result in the loss of c.125,678 tonnes of CO₂ due to changes in the peat environment as a result of the works.
- This represents 4.5% of the total CO₂ emissions offset by the project which will in turn be offset in c.16 months of operation.

8.11 Forestry:

- A comprehensive assessment of replanting was carried out as part of the overall project, which identified the need to replace 46.1ha of forestry.
- This can occur anywhere in the state subject to licence and 4 potential locations were assessed in the EIAR (c.48.35ha), with no project splitting.

8.12 Noise (Appendix 1):

Assessment guidelines:

- All relevant Irish & UK guidance was considered and adopted to establish appropriate noise criteria in the EIAR.

Amplitude modulation:

- This issue is addressed in EIAR s.11.4.2.2.
- Not possible to predict the occurrence of AM.
- Recent UK research concludes that aerodynamic modulation was only considered an issue at 4 of 133 operational windfarm sites, and that the conditions associated with AM might occur between 7 & 15% of the time.
- In the unlikely event that AM occurs, a detailed investigation should be undertaken in line with 2016 Institute of Acoustics Guidelines.

Health concerns & sleep disturbance:

- This issue is addressed in EIAR s.11.4.2.2.
- The relevant guidance covered as part of this assessment were developed with regard to the WHO guidelines.

Infrasound & low frequency noise:

- This issue is addressed in EIAR s.11.4.2.2.
- EPA Guidance Note for Noise Assessment of Wind Turbine Operations at EPA Licenced Sites notes there is no significant infrasound from turbines.

- The WHO is satisfied that there is no reliable evidence that infrasound below the hearing threshold has physiological/psychological effects.
- In the unlikely event that low frequency noise occurs, a detailed investigation should be undertaken in line with the 2011 EPA Guidelines.
- Health concerns raised by Dr Mariana Alves-Pereira lack supporting physical, medical & post mortem evidence and empirical data.

Wind turbine Syndrome:

- The claim that wind turbine noise can impact on health also lacks supporting physical and medical evidence and empirical data.
- The relevant guidance covered as part of this assessment were developed with regard to the WHO guidelines.

Conclusion:

- The noise impact assessment is robust and has been carried out in line with current standards and best practice guidelines.
- Issues related to low frequency noise, infrasound, amplitude modulation and noise related impacts on human health have been discussed.
- Project can operate within the noise criteria in relevant guidance.

8.13 Landscape:

- PA is satisfied that the project would have a low to moderate & acceptable impact on visual amenities & landscape character, it would not intrude on Protected Views or the EHSA, it would have some peripheral impact on the view of Barnesmore Gap, and would be in accordance with policy.
- The visual impact of the turbines when viewed from nearby houses would not be obtrusive, and would be mitigated by distance, orientation of the houses, presence of screening & the relationship with the landscape.
- Moderate/minor effect on the LCA 40 Cashelnavern Border & Uplands.

8.14 Traffic (Appendix 4):

Transport Infrastructure Ireland:

- The slight to moderate impact on existing road users during construction will be minimised by the mitigation measures (Traffic Management Plan).
- Imperceptible impacts during operational phase.
- Stage 1, 2 & 3 Road Safety Audits will be undertaken at appropriate times.
- Adequate sightlines at access junction, horizontal visibility splays along the N15 for the 100kmp speed limit are 220m from a 3m setback in line with TII requirements (subject to remedial works) & vertical cross section shows that to the NE the vertical alignment is clear up to 220m in accordance with TII revised height requirements.
- The improved N15/quarry access junction, including the implementation of the EIAR remedial works & traffic management measures will provide a safe access for all traffic during the construction & operational phases.
- Consent of the landowner has been secured (Donegal County Council).
- PA satisfied with the Traffic Assessment including visibility splays, carrying capacity of the N15 and traffic safety, with no long-term intensification of the use of the access junction post construction.

Telecommunications:

- Project designed to ensure that impacts will not arise in relation to telecommunications, and the operator will enter into protocol agreements with 2RN to ensure that interference does not arise.

9.0 REVIEW OF ISSUES AND ASSESSMENT

Details of the previously proposed wind farm under PA0040 are set out in section 1.3.1 above and the main differences between the previously refused and currently proposed windfarms relate to:

- The omission of the NE section (Lismullyduff) to take account of Variation No.2 of the Development Plan (a 10 x the rotor blade height separation distance between turbines and nearby houses is required.)
- A corresponding reduction in the scale of the development:
 - Turbines reduced from 49 to 19
 - Met masts reduced from 2 to 1
 - Substations reduced from 2 to 1
 - Borrow pits reduced from 9 to 3
- Avoidance of the Lough Mourne water abstraction catchment.

The main issues arising in this case are:

1. Compliance with renewable energy & planning policy
 2. Visual impact
 3. Movement & access
 4. Residential amenity
 5. Peat stability
 6. Aquatic ecology & water quality
 7. Terrestrial ecology (excluding birds)
 8. Terrestrial ecology (including birds)
 9. Cultural heritage, tourism & material assets
 10. Other issues
- Section 10 of this report deals with Environmental Impact Assessment.
 - Section 11 of this report deals with Appropriate Assessment.

9.1 Compliance with renewable energy and planning policy

The proposed windfarm would be compatible with European, national and regional planning and renewable energy policy as set out in section 2.0 above and it would contribute to the achievement of European and national renewable energy targets. The 2006 Wind Energy Development 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. Projects should not adversely affect the integrity of European sites or have an adverse impact on birds or give rise peat instability. Projects should not have a significant adverse impact on drainage patterns, cultural heritage, sensitive landscapes, the local road network or residential amenity as a result of noise, shadow flicker or general disturbance. These issues will be addressed in more detail in the following sections.

The proposal would be compatible with the wind energy policies and objectives of the current Donegal County Development Plans and Renewable Energy Strategies as it would be located within an area that is Open for Consideration for appropriate wind energy proposals in the current Development Plan.

It is noted that Variation No.2 (d) of the current Development Plan requires a setback distance of 10 times the tip height of proposed turbines from residential properties and other centres of human habitation in the interests of residential amenity. The proposed turbines would be c.156m and a 1.56km separation distance would therefore be required. This is at variance with National Policy as set out in the 2006 Guidelines which recommends a 500m separation from nearby houses. It is also noted that the Draft Approach to Wind Energy, 2017 states that the 'preferred draft approach' proposed for visual amenity comprises a setback distance, of 4 times the tip height between a wind turbine and the nearest point of the curtilage of any residential property, subject to a mandatory minimum setback of 500 metres.

It is also noted that the emerging land use policy for the subject site and environs is different to what currently applies. Under the Draft Development Plan (2018-2024), windfarms are Not Favoured on the site and the site is split between an Especially High Scenic Amenity Area, a High Scenic Amenity Area and a Moderate Scenic

Amenity Area. The Material Alterations to the Draft Development Plan (2018-2024) were the subject of a further public consultation exercise which concluded on 8th March 2018. According to Alteration No.12 windfarms would be Open for Consideration on lands to the immediate W of the subject site. This designation covers a small section of the subject site within which the access road off the N15 would be located. However, this could be a drafting error as this designation covers Barnesmore Mountain which forms the focal point to a Protected View. The Development Plan (2018-2024) is due for adoption in mid-2018.

9.2 Visual Impact

9.2.1 Project description

The proposed development would be located within an attractive and remote upland rural area which is mainly occupied by commercial forestry plantations in various stages of growth. The windfarm project would comprise the construction of 19 turbines, a met mast, 2 temporary construction compounds, a substation, borrow pits, access tracks, bridges and an amenity area, along with associated road works at the site entrance off the N15. The turbines would be mainly located in the central and eastern sections of the site and they would be relatively evenly distributed throughout this area. The main access road off the N15, the substation and one of the construction compounds would be located in the W section, the met mast would be located in the central section whilst the amenity area and second construction compound would be located in the N section, and the 3 borrow pits would be spread within the site. Almost all of the turbines would be located with the forestry plantations except for 2 that would be located on open land outside the plantation.

9.2.2 Locational context

The c.990ha. elevated site occupies an attractive scenic location to the NE of Donegal Town and SE of Ballybofey/Stranorlar, and it is located to the immediate W of the Border with Northern Ireland and to the W of Castlederg town. The site is located to the E of the N15 which traverses Barnesmore Gap which is flanked on

either side by mountains, and to the S of Croaghonagh Bog and Lough Mourne. The site mostly comprises commercial forestry plantations and the lands mainly slope down in a NW direction from c.330mOD to c.180mOD. There are several existing operational windfarms in the wider area which have been granted permission on both sides of the Border with NI. Several dispersed houses and farmsteads are located to the NE of the site along the local roads to the N which are also located both sides of the Border.

9.2.3 Environmental Impact Assessment Report

Section 12 of the EIAR dealt with landscape and potential visual impacts. Baseline conditions were described and a visibility analysis was undertaken for a 20km radius of the site. The analysis included the establishment of a Zone of Theoretical Visibility (ZTV), a Viewpoint Assessment Summary, an Assessment of Landscape and Visual Effects. A total of 14 viewpoints were assessed and these represented views from Protected Views and Prospects, Areas of Especially High Scenic Amenity and sensitive Landscape Character Areas, in addition to the nearest houses, main transport routes, scenic routes, walking and cycle routes, recreational areas and the wider rural environment. Cumulative Landscape and Visual Effects Assessments were also undertaken which included several other operational windfarms in the within the 20km radius, the Areas of Especially High Scenic Amenity and the Protected View from along the N15 towards Barnesmore Gap across Lough Mourne.

The EIAR stated that the windfarm has been designed to minimise landscape and visual effects as far as possible. The Viewpoint Assessment Summary concluded that the scale of visual change would mainly range from Large close to the site, Medium to Large within c.2km to c.3km of the site, Medium to Small within c.3km to c.6.5km and Negligible for most sites beyond c.6.5km.

Direct changes to the landscape would only occur within the site boundary and the effects on the LCA 40 Cashelnavern Border & Uplands would be moderate and not significant. The Blue Stack Mountain Especially High Scenic Amenity (EHSA) Area to the W would not be adversely affected. The separation between the Protected View from along the N15 across Lough Mourne taken in conjunction with the siting

and location of the turbines would not detract from the view along Barnesmore Gap. The EIAR predicted minor visual impacts on the area to the NE of the site within which a number of houses are located, although the impact would be mitigated by the distance, the orientation of the houses, the presence of screening, the relationship between the turbines and the expansive scale of the landscape.

The EIAR concluded that no significant effects would occur for road users or users of recreational routes in the wider area, that there would be no significant cumulative effects, that the main area of visual impact would be from the within the site itself, and it did not predict any significant adverse impacts on the wider area. It is noted that any effects are ultimately reversible.

9.2.4 Previously proposed wind farm

The Board previously refused planning permission in 2016 for a larger 49 turbine windfarm on the subject site at Meenbog and a nearby site at Lismullyduff to the NE. The details of PA.0040 are summarised in section 1.3.1 above and the main differences are set out in section 9.0 above. The Inspector raised concerns in relation to the visual impact of the proposed development on both sides of the Border with NI. However, the Board did not share these concerns and concluded that the site is located outside of the areas of especially high scenic value in a part of the county where wind developments are open for consideration.

Planning permission is now being sought to erect 19 turbines on the SW section of the site at Meenbog and the comparative dimensions for this are summarised below.

	Turbines	Height	Separation	N15 setback	Borrow pits
Previous	20	156.6m	500m	c. 2.2km	4
Current	19	156.6m	400-600m	c. 3.0km	3

The turbines would be located further to the E of the N15 and the Bunadowan Intake/Lough Mourne water abstraction catchment when compared to the previously proposed locations under PA0040. There would be a greater range in separation

distances between the proposed turbines than under the previous proposal and there would be some variations in site levels. However, any minor differences in turbine position and site level would have a negligible impact on visual amenity when compared to the previous proposal, having regard to the large scale of the landscape within which they would be located.

9.2.5 Policy context

In relation to the current County Donegal Development Plan, the site and environs lie within LCA40 which comprises the Cashelnavern Border & Uplands and the Landscape Character Type is described as Mainly Commercial Forestry over Blanket Bog. Objective NH-O-5 seeks to protect areas of Especially High Scenic Amenity from intrusive and/or unsympathetic developments, Policies NH-P-10 and 12 seek to protect high scenic amenity and other distinctive landscapes, views and prospects, and to safeguard prominent skylines and ridgelines from inappropriate development. Policy NH-P-14 sets criteria for the consideration of development proposals in such areas (related to their importance, recent developments in the area, significance of intrusion and whether the view would be materially altered by the development).

The site is also located to the E of the N15 which traverses the dramatic Barnesmore Gap that is flanked on either side by mountains (Barnesmore and the Blue Stacks) and the Lowerymore River runs parallel to the N15 through Barnesmore Gap. The lands to the NW and SW of the N15 are designated as Especially High Scenic Amenity Areas and there are several Protected Views and Prospects from along the N15 to W of the site. These include a Protected View from a point to the NW of Lough Mourne towards Barnesmore Gap and it extends across the Lough and the low lying Croaghonagh Bog SAC towards the subject site which is captured on the periphery of this View. There is a second Protected View from along the N15 to the SW of the site towards Barnesmore Gap and the surrounding upland areas.

In relation to Northern Ireland, there are several Scenic Routes and protected views located within a 30km radius of the windfarm and the Sperrin AONB is to the E.

9.2.6 Assessment

I surveyed the wind farm site, the surrounding area and the wider regional and local road network in County Donegal and Northern Ireland over a 3-day period in March 2018. I had regard to the EIA visual impact studies which are summarised in section 9.2.2 above. I also had regard to the concerns raised by the Observers which are summarised in sections 4.0 to 7.0 above. The Observers included Donegal County Council, Prescribed Bodies, various NI agencies, Donegal Tourism, Finn Valley Group, Glenties Windfarm Information Group, Glenfin Cable Action Group and members of the public. The concerns raised in relation to visual amenity related to the potential adverse impacts on protected views, landscapes, scenic amenity, recreational routes and tourism. I also had regard to the earlier decision by the Board in relation to the previously refused wind farm for the subject site.

Wind turbines, by virtue of their nature, height and scale, will have an impact on the landscape. The proposed windfarm would be located within a remote upland area that is far removed from any built-up areas, the settlement pattern of one-off houses to the NE is mainly dispersed and low density and the mountains themselves provide for a high degree of natural screening. The proposed turbines would be dispersed throughout the site to take account of the topographical features of the landscape and they mainly avoid ridgelines.

NE of Barnesmore Gap:

EIA Viewpoint nos. 3, 4, 5, 6 and 7 deals with views from along, and in the vicinity of the N15 Donegal to Ballybofey Road to the NE of Barnesmore Gap towards the site of the proposed windfarm. The Blue Stack Mountains EHSA Area is located to the W of the N15 whist Lough Mourne and Croaghonagh Bog are located between the N15 and the windfarm site. The view from the NE corner of Lough Mourne along the N15 is a Protected View SW towards Barnesmore Gap and the windfarm site is located on the outer periphery of this View.

The proposed turbines would not be highly visible when viewed from the Protected View (Viewpoint 7) at the N tip of Lough Mourne along the N15 in the townland of Meenacrumlin, when travelling SW towards Barnesmore Gap, as the site and the turbines are mainly screened from view by the topography of the area. Although

some of the blade tips would be visible from this location, the impact on visual amenity would not be significant and the Protected View would not be adversely affected.

The turbines would become more visible from along the N15 when travelling SW towards Barnesmore Gap (Viewpoint 6) where 14 of the 19 turbines would be visible from along this road where it runs parallel to the middle section of Lough Mourne in the townland of Cashelnavean. None of the views along this section of the N15 are protected and although several of the turbines would be highly visible, there would be no significant adverse impacts on the view of Barnesmore Gap.

The turbines would be highly visible from along the N15 when travelling further SW towards Barnesmore Gap (Viewpoint 5). All 19 turbines would be visible from along this section of the N15 in the vicinity of Red Burn Bridge in the townland of Cashelnavean, close to the SW corner of Lough Mourne. None of the views along this section of the road are protected and although turbines would be visible across Croaghonagh Bog, there would be no significant adverse impacts on the view of Barnesmore Gap.

The turbines would be highly visible from along the N15 when travelling further SW towards Barnesmore Gap (Viewpoint 3) at the junction with Castlederg Road in the townland of Croghanagh. This road runs to the N of the site and through the low lying Croaghonagh Bog. All 19 turbines would be visible from this location however none of the views are protected and although the turbines would be highly visible across the Bog, there would be no significant adverse impacts on the view of Barnesmore Gap.

The turbines would be almost imperceptible from the site entrance off the N15 when travelling further SW towards Barnesmore Gap (Viewpoint 4) in the townland of Croghanagh as only the rotor blades of 2 turbines would be visible from this location and there would be no significant adverse impacts on the view of Barnesmore Gap.

The proposed turbines would have no significant adverse effect on the visual amenities, scenic amenity or landscape character of the Blue Stack Mountains EHSA Area to the W and NW of the N15. Although the turbines would be

occasionally visible when viewed from within the mountain range looking SE towards the site, the amenity value of the EHSA Area would not be adversely affected.

In conclusion, the proposed turbines would not be highly visible from the Protected Views or scenic routes through the Blue Stacks EHSA Area to the N and NW of the site because of the mountainous topography which would conceal most of the site and turbines from view. Any views into the site from the Protected View at the N tip of Lough Mourne would be restricted to the blade tips at the most. The various views of turbines from along the N15 when travelling SW towards Barnesmore Gap are considered acceptable as they would not interfere with the character and setting of the Gap to any significant extent, and they would not seriously injure the visual amenities of the wider area.

SW of Barnesmore Gap:

EIAR Viewpoint no.12 deals with a view to the W of the N15 Donegal to Ballybofey Road and to the SW of Barnesmore Gap towards the site of the proposed windfarm site, and I examined several other potential viewpoints along this section of the N15 towards Barnesmore Gap and the site. The Blue Stack Mountains are located to the W and SW of the N15. There are several Protected Views from along the SW section of the N15 towards Barnesmore Gap and the Blue Stack Mountains, however the windfarm site is not located within any of these views. The proposed turbines would not be highly visible from any scenic routes in the wider area because of the mountainous topography which would conceal most of the turbines from view.

N and NE of site:

EIAR Viewpoint nos. 1, 2, 8, 9 and 10 deals with views from the N of site and from along the local road that runs E off the N15 towards Castlederg in NI, and I examined several other potential viewpoints in the surrounding area towards the windfarm site. The low-lying Lough Mourne and Croaghonagh Bog are located to the NW of the site whilst the lands to the N and NE of the windfarm site and the local road rise up to more mountainous terrain, and they are characterised by commercial forestry plantations and farmland. There are also several dispersed houses located along the local roads to the NE of the site. There are no Protected Views or EHSA Areas in the surrounding area.

The proposed windfarm would be highly visible from the local roads to the N and NE of the site and from several houses in the vicinity as indicated by Viewpoint 1 in the Townland of Meebbog to the immediate NE of the site and by Viewpoint 2 along a local road that runs N to higher ground in the townland of Taughboy. The turbines would be less visible from Viewpoint No.8 and 9 in the townlands of Kinletter and Tievecloghoge to the NE of the site. The views from the low lying areas at Deevoge Bridge and other bridges located along the Mourne Beg River and Castlederg Road to the E of the site would be largely imperceptible and mainly restricted to a small number of blade tips.

All of the houses are located outside the 500m buffer zone as recommended by the 2006 Wind Energy Guidelines and any houses located within c.1000m of the nearest turbines belong to consenting landowners or are derelict. Several other houses which occupy elevated positions along the local roads to the N would also lie outside the enlarged buffer zone required by Variation No.2(d) of the current Development Plan. This requires set back distance of 10 times the tip height of the turbines which would be c.1, 560m in this case, however, it is noted that Variation no.2 (d) is incompatible with National Planning Policy.

There is some potential for in-combination visual effects from Viewpoint no.2 at Taughboy where several houses are located, and from the surrounding upland areas at Kinletter and (Viewpoint 8) with regard to existing operational windfarms to the S of the site. However, the combined impact would not be significant because of the separation distances between the existing and proposed windfarms, and the existing operational turbines are not dominant features on the landscape when viewed from these locations.

E, SE & S of site:

The EIAR did not deal with views from the E, SE and S of site to any great extent, however I examined the potential for views in the surrounding area towards the windfarm site and from along the local roads that run in a southerly direction to the E and then S of the site which are located in NI and County Donegal. It is noted that the NI agencies raised some specific concerns in relation to the potential visual impacts on the nearby Sperrin and Killiter Uplands AONBs. These lands rise up to more mountainous terrain and they are characterised by a mix of commercial

forestry plantations and open peatland, and there are a number of windfarms located further S in the upland areas. There are no protected views or prospects toward the windfarm site or any other sites covered by sensitive heritage designations, and although the turbines would be visible from the E and intermittingly from the SE, the visual impact would not be significant.

Walking & cycle routes:

Some of the turbines would be visible from along a number of walking and cycling routes in the wider area. However, the visual impact would not be significant having regard to the topography of the area which would only afford intermittent views of the turbines, and the separation distances are such that many of the views would be almost imperceptible.

Cumulative impacts:

There are several operational and permitted windfarms in the wider area and EIAR Viewpoint nos. 11, 12, 13 & 14 deal with long distance views from 4 locations to the NW, SW, N and E of the site, the potential for in-combination effects with operational and permitted windfarms has been examined, and I also visited several other locations to assess the potential visual impacts on the wider area.

The proposed turbines would be visible from an elevated area to the NW of the site in the townland of Altnapaste to the E of Ballybofey (Viewpoint 11) however they would not dominate the landscape. The neighbouring windfarm at Lough Golagh would be barely perceptible on the horizon as it would be screened from view by the topography of the area and coniferous forestry plantations, with no cumulative impacts anticipated.

The proposed turbines would be slightly visible from an elevated area to the SW of the site from along the Blue Stacks Way which is located to the W of Lough Eske in the townland of Greenan (Viewpoint 12). However, any views across Lough Eske towards the site would be restricted to the blade tips at the most, and the separation distance is such that the view of the turbines would be almost imperceptible, with no cumulative impacts anticipated.

The proposed turbines would be slightly visible from an elevated area to the N of the site in the townland of Magheravall to the N of Ballybofey (Viewpoint 13) however they would not form a dominant feature because of the separation distance. However, the panoramic view S from this location encompasses several other operational and permitted windfarms that are located at various distances from the proposed development. The most prominent windfarms comprise 4 turbines at Meenagrauv to the E and 5 turbines at Meenanilta I & II to the W. Although there is some potential for in-combination effects, they are not expected to be significant given the separation distance between Viewpoint 13 and the Meenbog site. Furthermore, the windfarms at Lough Golagh to the W and Churchill, Bin Mountain and Lough Hill II to the E are barely perceptible on the horizon with no cumulative impacts anticipated.

The proposed turbines would be slightly visible from an elevated area to the E along the B72 to the S of Castlederg in NI (Viewpoint 14) however they would not form a dominant feature because of the separation distance. However, the panoramic view W from this location encompasses several other operational and permitted windfarms that are located at various distances from the proposed development although none of them are dominant features on the horizon. They comprise the Churchill and Crighshane windfarms to the far S and the Lough Golagh to the near S which are barely perceptible on the horizon with no in-combination effects anticipated.

In conclusion, the proposed turbines would not be highly visible from any elevated scenic locations in the wider surrounding area because of the mountainous topography, the coniferous plantations and the separation distances between the viewpoint locations and the Meenbog site, and also between the proposed and existing developments (permitted and operational). As such, most of the turbines would be mainly concealed from long distance views with no significant in-combination visual impacts anticipated.

9.2.7 Conclusions:

Having regard to all of the above, I am satisfied that the most significant visual impact would be from within the site itself, and then from along the local road to the N and the dispersed houses to the NE, and from along sections of the N15 to the NE

of Barnesmore Gap. The proposed development would not adversely affect the visual amenities of the area or interfere with any protected views, prospects or scenic routes in the surrounding area, to any significant extent. The proposed development would not give rise to any significant adverse cumulative impacts with other windfarms in the wider area. The height and rotor blade dimensions of the proposed turbines would not give rise to a significant adverse visual impact having regard to the overall scale of the site and the high degree of natural screening from the surrounding mountain ranges. Regard has also been had the Boards position on the issue of visual impact during its consideration of the previous windfarm proposal for this site under PA0040, and the reduction in the number of turbine from 49 to 19 under the current proposal.

9.3 Movement and access

9.3.1 Project description and location

The windfarm project would be located in SE Donegal with direct access off the N15 National Primary Road between Donegal Town and Ballybofey, and it includes four main elements of infrastructure:

- Minor works along the road network (N56 & N15) to facilitate the delivery of wind turbine components.
- Works to the existing site entrance off the N15.
- Works to the entrance to the public amenity area off the L6554 to the N.
- The upgrade of existing internal access tracks and the creation of new tracks (Refer to sections 9.5 and 9.6 below).

9.3.2 Environmental Impact Assessment Report

Section 14 of the EIAR dealt with the traffic effects of the proposed windfarm on the local road network during the construction and operational phases. The optimum route from Killybegs Port was identified to be along the N56 National Secondary Road to Donegal Town, and then along the N15 National Primary Road to the site

entrance c.15km to the NE of Donegal Town. The EIAR assessed the impact of traffic generation and the capacity of the road network to accommodate abnormally large vehicles, and it highlighted the extent of the remedial works required along the haul route and at the site access with the N15.

During the construction phase, traffic volumes will increase by 5.2% on the N15 over 19 days when the concrete foundations are poured and volumes will increase by 1.1% over 365 days for the remainder of the works. Components will be delivered over 34 non-consecutive days with 5 abnormal loads (at night time) and a further 129 days when an additional 60 PCUs will be generated, when traffic volumes along the N15 will increase marginally by (c.0.8% to 2%). The works at the site entrances to the windfarm and the public amenity area would have a negligible effect on traffic volumes. The laying of underground grid connection cables along the N15 would require additional HGV movements, although this would part of a separate project.

During the operational phase the increase in traffic will be limited to 2 employees and a Traffic Management Plan will be prepared for the future decommissioning state.

The EIAR concluded that only short-term temporary impacts during the construction phase are predicted and that the mitigation measures (which include a Traffic Management Plan & Coordinator, Delivery Programme, information for locals, a pre- & post Construction Survey, liaison with the County Council, travel plans for construction workers and temporary traffic signs) will minimise the impacts on the local road network during the construction phase. No adverse impacts are predicted during the operational or decommissioning phases.

9.3.3 Previously proposed wind farm

Details of the larger 49 turbine windfarm (PA.0040) on the subject site at Meenbog and a nearby site at Lismullyduff to the NE are summarised in section 1.3.1 above and it is noted that the Board did not have concerns in relation to this issue.

9.3.4 Assessment

As previously stated, I surveyed the wind farm site, the surrounding area and the wider road network in County Donegal and Northern Ireland over a 3-day period in March 2018. I had regard to the relevant EIAR traffic and movement studies which are summarised in section 9.3.2 above and the concerns raised by the Observers (Transport Infrastructure Ireland, Donegal County Council and several members of the public) which are summarised in sections 4.0 to 7.0 above. I also had regard to national, regional and local planning policy and to the earlier decision by the Board in relation to the previous wind farm proposal for the subject site.

TII raised concerns in relation to the proposed access off the N15 National Primary Road which would be located within the 100km/hr zone and non-compliance with National Policy, and it also had road maintenance and traffic safety concerns. The County Council had no objections to the proposed arrangements subject to compliance with conditions related to the satisfactory reconstruction, maintenance and repair of the local road network, and that the junction design and visibility splays are to required standards. The NI agencies had no objection to the proposed movement and access arrangements as the delivery route would entirely located within County Donegal. Several members of the public raised concerns in relation to the intensification of the vehicular access off the N15, inadequate sightlines, traffic hazard and legal interest.

Upgraded site entrance:

The upgraded vehicular entrance off the N15 would serve the existing quarry and proposed windfarm. This entrance is located along a section of the N15 that is defined by a solid white line, within the 100km/hour zone and there are bends in the road to the NE and SW of the entrance, albeit at a substantial distance. As stated above, TII raised concerns in relation to the location of the access directly off a National Primary Route and several members of the public are concerned about the intensified use of the entrance, traffic generation and traffic safety.

The vehicular access off the N15 would be a short term temporary arrangement during the construction phase only and any adverse impacts would be correspondingly short term and temporary. Any traffic risks associated with the use of this section of the N15 and the upgrade of the site entrance would be managed by the EIAR mitigation measures which are outlined above. These include a traffic management plan and temporary traffic controls which should be put in place for the duration of the works with the agreement of the County Council. No significant impacts on traffic volumes or road safety are anticipated and I am satisfied that the access arrangements would not give rise to a traffic hazard or endanger the safety of other road users. I am also satisfied that any deviation from national policy with regard to the national road network would be short term and temporary in nature. Notwithstanding the above, any maintenance works to the public road arising from the proposed development in the vicinity of the upgraded entrance should be at the developer's expense. The concerns in relation to legal interest are noted, however this is a civil matter which is outside the jurisdiction of the Board.

Delivery route:

The proposed use of the N56 and N15 from Killybegs Port via Donegal Town to the site is an acceptable delivery route. However, some works may be required along these roads and at their junctions to accommodate the abnormally wide and heavy loads. The heavy loads could also have a physical impact on the road network and cause disturbance to local communities during the construction phase.

TII had no objection in principle to the proposed delivery route, however it raised concerns in relation to road maintenance and traffic safety and requested that the developer consult with the Roads Authority in relation to any works that may affect the road network and road junctions. TII also requested that all works should comply with TII standards and be subject to a Road Safety Audit as appropriate, and that permits may be required for abnormal or heavy loads. TII noted that the capacity of all structures along the delivery route should be checked and that a technical load assessment is required. The County Council did not object to the proposed arrangements, however any works to the road network and junctions should be at the at the developer's expense following completion of the project. These outstanding concerns could be addressed way of planning conditions.

Potential adverse impacts to the road network would be mainly managed by way of the EIA mitigation measures which are outlined above, and which include a Traffic Management Plan and a range of temporary traffic control measures which should be put in place with the agreement of the County Council. It is also noted that abnormally large loads would be delivered during the night when traffic volumes are low, with no significant impacts on traffic volumes or road safety anticipated. The use of the road network also has potential to cause disturbance to local communities along the delivery route and the developer should ensure that local people are notified in advance of any plans to transport large loads to the site.

I am satisfied that the proposed delivery arrangements would not give rise to a traffic hazard or endanger the safety of other road users and that any disturbance to local communities along the route would be short term and temporary in nature. However, temporary traffic management measures should be put in place for the entire duration of the works in order to avoid a traffic hazard along the N15, and during the delivery stage of the project along the N56.

Access to public amenity area:

The proposed access to the public amenity area off the local road to the NW of the site is considered acceptable as it would not give rise to a traffic hazard or endanger the safety of other road users.

Internal access tracks:

The proposed network of tracks and river crossings would provide access to and between the proposed turbines and other project elements which is acceptable. Issues related to peat stability, water quality and ecology will be addressed in the following sections of this report.

9.3.5 Conclusions:

Having regard to all of the above, I am satisfied that the proposed development would not give rise to a traffic hazard or endanger the safety of other road users,

subject to the full implementation of the EIAR mitigation measures and compliance with the recommended planning conditions. The proposed development would not give rise to any significant adverse cumulative traffic impacts in-combination with other windfarms, the grid connection route or plans and projects in the area.

9.4 Residential amenity

9.4.1 Project description:

The project would comprise the construction of 19 turbines, 3 borrow pits, a met mast, substation and 2 temporary construction compounds along with access tracks and associated site works. The visual impacts have been assessed in section 9.2 above and the traffic impacts have been assessed in section 9.3. This section will deal the potential impacts of noise, vibration, shadow flicker and dust on the of residential amenities of properties in the vicinity with respect to human beings, population and human health.

9.4.2 Locational context

As previously stated, the windfarm site occupies an upland rural location to the E of the N15 which connects Donegal Town to Ballybofey, and to the W of an upland rural area in NI. The surrounding rural area is sparsely populated and there are several detached houses to the NE of the site on both sides of the Border. The delivery route from Killybegs Port would travel along the N56 to Donegal Town and then along the N15 to the site entrance, and the grid connection route would extend SW along the N15 towards the Clogher substation. The surrounding rural area along these routes is also sparsely populated with farms and detached houses located along both roads, with increasing residential densities along the approach roads to Donegal Town and Killybegs.

9.4.3 Environmental Impact Assessment Report

Sections 5, 10, 11,12 & 14 of the EIAR dealt with the human environment including human health, shadow flicker, air and climate, noise and vibration, tourism and traffic, and these sections identified the potential impacts on residential amenity and the wider population during the construction and operational phases.

Section 5 of the EIAR dealt with **human beings, population and human health**. It described the population, employment, economic activity, land uses, services and tourist attractions in the surrounding area, it described public perceptions of windfarms and it dealt with the impacts of wind farms on health and property values. The EIAR concluded that following the implementation of mitigation measures (related to noise, shadow flicker) and the use of best construction practices, and ongoing monitoring, the proposed windfarm would not result in any significant effects on human beings in the surrounding area.

Section 5.6 of the EIAR dealt with **shadow flicker**. The computer modelling examined the potential for shadow flicker occurrence at 4 houses (H254, H255, H256 & H257) within 1.26km (10 x rotor diameters) of the nearest turbines (T13 & T15-T19). T19 would be located within 750m to 900m of these houses, 3 of which were occupied and 1 was derelict (H254). The EIAR concluded that there was potential for some level of shadow flicker at all 4 houses in excess of the 2006 Guideline of 30 minutes per day under the worst-case scenario of 100% sunshine where the shadow of the turbine passes over the house. It stated that this would be an extremely rare occurrence and that the 3 occupied properties belong to consenting landowners. Under the worst case scenario, it predicted that only 1 of the 4 houses would experience daily shadow flicker in excess of the guideline threshold of 30 minutes per day, and when the regional sunshine average of 30% is taken into account, the number of houses which exceed the 30-hour annual guideline would remain at 1, and that this house is owned by a consenting landowner. The EIAR did not predict any adverse shadow flicker impacts subject to mitigation measures (including monitoring, logging public complaints and the use of a turbine control system to prevent operation at times when shadow flicker might cause a disturbance).

Section 10 of the EIAR dealt with **air and climate**. It stated that there would be no emissions from the wind farm project, and given the non-industrial nature of the project, there would be no adverse impacts on residential amenity or air quality. It stated that there could be short term impacts on air quality by way of dust during the construction phase with regard to construction vehicles, excavations and construction. However, there would be a loss of carbon sequestration as a result of

the excavation works and tree removal from within the site which would be balanced by the lack of carbon emissions from the project over its 30-year lifespan. The EIAR did not predict any adverse impacts on air and climate subject to mitigation measures (including maintenance of construction vehicles, use of best practice and the localised extraction of aggregates from the on-site borrow pits).

Sections 5, 10, 12 and 14 of the EIAR did not predict any significant adverse impacts on human beings, population and human health as a result of shadow flicker, dust emissions, visual intrusion or traffic movements, subject to the implementation of the aforementioned mitigation measures.

Section 11 of the EIAR dealt with **noise and vibration** and it concluded that there would be minimal disturbance from construction and operational noise at noise sensitive locations. The assessment included desk top and field studies and had regard to existing guidelines. The EIAR delineated a Noise Assessment Study Area around the entire site which comprised a 2.5km buffer of the turbine locations and it identified all existing houses within this area on both sides of the Border. The unattended sound level meters were placed at 2 representative house locations to the NE of the site at H255 & H256 which are located just over 800m from the nearest turbine (T19). Background measurements were recorded over a 2-week period in October 2014, and a variety of wind speeds and wind shear formed part of the (indicative) prediction model for day and night time noise during the construction and operational phases.

Construction phase

Windfarm construction: noise levels were predicted for activities (including HGV movements, excavators, piledriving and general construction) within 10m of an activity and at 750m at the nearest house. The predicted noise levels for general construction ranged from 70dBL_{Aeq} to 88 dBL_{Aeq} at 10m and from 28dBL_{Aeq} to 45 dBL_{Aeq} at 750m (H247).

Blasting and rock breaking: activities at the borrow pits were predicted at 14 houses in the Study Area under 2 scenarios, it was acknowledged that blast events would be loud but controlled, and the general results range from:

- **Borrow Pit 1:** From 13dB_{LAeq} to 38dB_{LAeq} at all the houses in the study area, and from 27dB_{LAeq} to 38dB_{LAeq} at H257 to the N, and from 16dB_{LAeq} to 26dB_{LAeq} at H154/5/6 to the NE.
- **Borrow Pit 2:** From 15dB_{LAeq} to 48dB_{LAeq} at all the houses in the study area, and from 36dB_{LAeq} to 48dB_{LAeq} at H257 to the N, and from 20dB_{LAeq} to 232dB_{LAeq} at H154/5/6 to the NE.
- **Borrow Pit 3:** From 19dB_{LAeq} to 47dB_{LAeq} at all the houses in the study area, and from 36dB_{LAeq} to 47dB_{LAeq} at H257 to the N, and from 24dB_{LAeq} to 36dB_{LAeq} at H154/5/6 to the NE.

Delivery & GCR: minimal changes to background noise predicted along the delivery routes and that noise levels would diminish with distance over 20m to 100m for the grid connection works.

Vibration: minimal impacts predicted because of the distance between the pile driving locations and the nearest noise sensitive locations.

The EIAR did not predict any adverse noise or vibration impacts during the construction phase subject to mitigation measures (including best construction practice, vehicle & plant equipment maintenance, use of exhaust silencers & acoustic covers/screens, shutting down equipment when not in use, compliance with construction standards, operational hours; blasting restrictions, compliance with regulations, public notification, complaints record, trial blasts & monitoring; and limiting vibration to acceptable levels). No mitigation of pile driving because of the distances involved.

Operational Phase:

Operational noise levels were predicted at 14 houses for the proposed windfarm and cumulatively with other windfarms in the wider area for worst case scenarios. The overall results for the proposed windfarm at the 14 houses indicate that the noise levels range from 16.4dB_L at H252 under low wind conditions to the E of the site to 42.7dB_L at H247 under high wind conditions to the N of the site. It identified the most noise sensitive locations to be at 9 houses including H001/2/3 and H311/2 to the N of the site, H254/5/6 to the NE and H247 to the immediate N. The EIAR results also indicate that there would be minimal cumulative effects in-combination with other

windfarms in the wider area, with the most noticeable in-combination effects identified at H252 to the E where the levels would rise by approximately 4-5dBL over various wind speeds. The EIAR predicted that noise levels would not exceed the accepted criteria for day and night time noise at any of the 9 houses to any significant extent. The EIAR stated that all 9 houses are either derelict (3) or involved with the windfarm project (6) and that the most significant impact would be at H247 to the immediate N of the site.

The EIAR did not predict any significant adverse noise impacts under a range of wind speeds during the operational phase with no mitigation measures proposed. However, noise monitoring will be undertaken and a turbine curtailment strategy will be devised as a mitigation measure in the event that noise limits are exceeded.

9.4.4 Previously proposed wind farm

Details of the larger 49 turbine windfarm (PA.0040) on the subject site at Meenbog (Carrickaduff) and a nearby site at Lismullyduff to the NE are summarised in section 1.3.1 above, and it is noted that the Board did not have any substantive concerns in relation to these issues.

9.4.5 Assessment

As previously stated, I surveyed the wind farm site, the surrounding area and the wider regional and local road network in County Donegal and Northern Ireland over a 3-day period in March 2018. I had regard to the relevant EIAR shadow flicker, air quality and noise studies which are summarised in section 9.4.2 above. I had regard to the concerns raised by the Observers which are summarised in sections 4.0 to 7.0 above which included Donegal County Council, the Members of Donegal County Council, Derry and Strabane District Council and local residents. Their concerns related to impacts on residential amenity, visual intrusion, shadow flicker, noise and vibration, traffic, human health, property values and tourism. I also had regard to national, regional and local planning policies, and the earlier decision by the Board in relation to the previously refused wind farm for the subject site.

The proposed windfarm will provide significant employment opportunities during the construction phase although post construction employment would be limited to 2 positions related to ongoing maintenance. The project will give rise to financial benefits by way of commercial rates and community gain benefits. The potential impacts on residential amenity arising from the construction and operational phases are assessed below. Issues related to visual impact and traffic have been assessed in section 9.2 and 9.3 above.

Shadow flicker:

The 2006 Wind Energy Guidelines require an assessment of the effects of shadow flicker on houses and community buildings located within 500m of the nearest turbine. The Guidelines recommend that shadow flicker should not exceed 30 hours per year or 30 minutes per day, and state that at distances of greater than 10 rotor diameters the potential for shadow flicker is very low. Variation no.2 (d) of the current Development Plan requires a setback distance of 10 times the tip height of proposed turbines from residential properties and other centres of human habitation (c.1,560m), although it is also noted that this requirement is not consistent with current or emerging National planning policy.

The EIAR computer model assessed the effect of shadow flicker on 4 houses located within 10 rotor diameters (c.1,260m). The 4 houses (H254, H245, H246 & H257) are located to the NE and N of the windfarm site boundaries and within the 1,260m buffer zone. None of the houses are located within 500m of the nearest turbine, although they are located between c.750m and c.900m of the nearest turbine at T19 and within c.1,400m of T13, T15, T16, T17 and T18.

Based on the EIAR computer modelling, only 1 of the houses (H257) is likely to be significantly affected by shadow flicker in the morning and evening at certain times of the year, given its orientation to the NW and NE of the turbines (T16-19 and T18 respectively). Although the 4 houses would experience some minor level of shadow flicker, only 1 would experience flicker in excess of 30 minutes per day and an annual shadow flicker in excess of 30 hours, under the worst-case scenario. However, it is acknowledged that when the regional sunshine average is factored into the equation, the level of annual impact would be reduced. It is also noted that

this house along with the other two occupied houses are owned by consenting landowners and that one is derelict (H254). Notwithstanding the conclusions of the EIAR modelling exercise it is noted that all of the houses are located well outside the 500m buffer as per the 2006 Wind Energy Guidelines.

I noticed another house close to the NE site boundary, to the W of H256 and within the EIAR 1,260m buffer zone. It would be set back c.500m from T19 to the direct S of the house and it is unlikely to be affected by shadow flicker as the sun would be behind T19 in the middle part of the day, and not the morning or evening. The house would be set back c.1000m from T16 and the relationship between the house and T16 would be similar to the relationship with T19, with no adverse shadow flicker effects anticipated. The house would be set back c.900m from T17 which would be located to the SW of the house and there may be some potential for shadow flicker effects in the evening. However, the set back is twice that recommended in the 2006 Guideline and the conclusions reached in the EIAR computer modelling with respect to the 4 houses within the 10 rotor diameters zone would be applicable.

Notwithstanding the above, there is still some potential for the houses to be affected by daily shadow flicker in the mornings and evenings at certain times of the year. The applicant should be required to use a control system to pre-programme the turbines to prevent them operating at times of the day and year when shadow flicker could cause a nuisance. This could be addressed by way of a planning condition.

It is noted that Donegal County Council accepted that the predicted shadow flicker would not exceed the recommended threshold of 30 hours per year or 30 minutes per day for properties within 500m of the turbines, and that there would be no undue impact on residential amenities. The concerns raised in relation to shadow flicker by the Members of Donegal County Council, Derry and Strabane District Council and several members of the public who live in the surrounding area on both sides of the Border are noted.

Having regard to all of the above, I am satisfied that the proposed turbines would not seriously injure the residential amenities of any houses in the surrounding by way of shadow flicker, subject to compliance with the EIAR mitigation measures and the recommended planning conditions.

Dust emissions:

The proposed excavation and construction works, and the work associated with the junction and road upgrades could also give rise to dust emissions. However, it is not anticipated that this would have an adverse impact on residential amenity having regard to the separation distances between the proposed works and neighbouring houses to the NE. However, the full implementation of the mitigation measures and stringent compliance with best construction practices would minimise any potential impacts on nearby houses.

Noise and disturbance – construction phase:

Given the nature and scale of the proposed development, the proposed windfarm will give rise to noise disturbance during the construction phase. This disturbance would mainly relate to the delivery of large components along the local road network, road works which include junction upgrades. It would also include excavation and construction works within the site, and the construction of access tracks throughout the site. Although these works would be short term and temporary, they have the potential to adversely affect residential amenities in nearby houses along the local roads to the N, NE and E of the site and along the grid connection and delivery routes to the SW. It is noted that the proposed works along the grid connection route could also give rise to disturbance although most of the route is sparsely populated.

It is noted that the surrounding area is not densely populated, there are approximately 14 houses located within a 2.5km radius of the project and 9 are located within a 1.5km of a turbine location. There are substantial separation distances between most of the proposed works and the neighbouring houses with the nearest houses located 750 to 900m from the closest turbine. The construction work impacts would also be short term and temporary. The EIAR noise control and monitoring measures are considered adequate and noise concerns could be addressed by way of conditions which place restrictions of delivery times and hours of construction. Local residents should be notified in advance of any major construction works including any blasting or mechanical extraction that may take place at the borrow pits, and of the transport of large pieces of plant and equipment along the local road network.

Noise and vibration - Operational phase:

The concerns raised by nearby home owners in relation to the noise assessment and conclusions are noted, as is the applicant's response to the issues raised. There are no dwellings located within 500m of the proposed turbines and the nearest dwelling is located c.750m away. The EIAR operational noise assessment does not predict any significant exceedance of acceptable noise limits at any of the houses however the a curtailment strategy should be put in place in the event that noise levels are exceeded. This strategy should ensure that turbines operate in noise reduced mode to reduce levels at any affected houses, particularly under extreme weather conditions. A night time curtailment strategy should also be put in place for the turbines in the N section of the site whereby the turbines would either operate at noise reduced modes or be shut down completely at night to mitigate the effects in the surrounding area. This could be addressed by a planning condition.

I am also satisfied that any cumulative noise impacts during the operational phase when taken in combination with other windfarms, plans and projects in the surrounding area would be minimal in extent.

9.4.6 Conclusions:

Having regard to all of the above, I am satisfied that the proposed development would not adversely affect residential amenities (human beings, population, human health) to any significant extent as a result of noise and vibration, shadow flicker or dust emissions, subject to the full implementation of the mitigation measures and any recommended planning conditions. The recommended omission of 7 turbines by Donegal County Council to ensure compliance with Variation no.2 (d) with respect to residential amenity is not warranted as this requirement is incompatible with national planning policy. The proposed development would not give rise to any significant adverse cumulative impacts on residential amenity, in-combination with other windfarms, the grid connection route or plans and projects in the area.

9.5 Peat stability

9.5.1 Project description

The proposed windfarm project would comprise extensive excavation works associated with the construction of the turbines, borrow pits, met mast, substation and access tracks within an afforested upland peat environment.

9.5.2 Environmental Impact Assessment Report

Section 8 of the EIAR dealt with soils and geology, Appendix 8.1 contains a Peat Stability Assessment Report, Appendix 4.2 contains a Peat and Spoil Management Plan, and Appendix 4.4 contains a Construction and Environmental Management Plan. The EIAR stated that there is no evidence of bog slides or peat instability within the site and that Barnesmore Gap to the W is a Geological Heritage site. Several desktop studies, field surveys and site suitability tests were undertaken. The other relevant sections of the EIAR (9 and 6) which deal with hydrology, hydrogeology, water quality and aquatic ecology are assessed in section 9.6 below.

The EIAR described the ground conditions as consisting of peat over bedrock, weathered bedrock or very thin subsoils, with bedrock directly underneath a small number of the 19 turbine locations. The survey works included c.540 peat probes and the results indicate that peat depths vary across the site from 0 to 4.7m and that most of the peat depths vary between 0.5m and 2m. The peat depths at 17 the turbine locations had an average depth of 1.3m, whilst the depths at T3 and T5 in the SW section were c.2.8-4.6m and 3.9-4.7m respectively, although the EIAR noted that both of these sites had shallow slope angles (1 degree). Peat depths at the existing and proposed access tracks are mainly less than 2m and 1.5m respectively (with some localised depths of 3.5m and 1.5m), between 1.3-2.6m at the substation, and between 1.0-1.5m at the met mast. The slope angles at 17 of the turbine locations were mainly between 1 and 5 degrees, whilst the slope angles at T6 and T9 were 15 and 9 degrees, but with an average peat depth of 0.1m and 0.4m respectively.

The EIAR stated that the works will give rise to 247,075m³ of peat and 84,747m³ of spoil (including 2,280m³ of tar from along the GCR) and that the Borrow Pits will yield 307,801m³ of stone. It stated that the excavation of bedrock and peat would have a permanent direct impact on soils and geology but that impacts on the environment would not be adverse subject to mitigation (including locating most of the turbines in shallow peat, using existing forestry tracks & new floating roads, re-using peat within the site for bunds, landscaping and to infill the borrow pits). It also stated that excavated tar from along the GCR would be sent to a waste facility.

The EIAR stated that contamination of bedrock, peat and soils could arise from leakages, spillages and geochemical soil alterations but with no significant adverse impacts subject to mitigation measures (including banded storage of chemicals & fuels, appropriate storm drainage with oil interceptors; minimal refuelling, and maintenance of plant & equipment; and an emergency plan and spill kits).

The EIAR stated that erosion of exposed subsoils and peat could arise during the tree felling and construction works from vehicle movements, surface water runoff and wind action, but with no significant adverse impacts subject to mitigation measures (including re-using peat to refill the borrow pits and landscaping).

The EIAR Peat Stability Assessment Report determined the stability (Factor of Safety) of the peat slopes where works are proposed and peat depth measurements and shear strength testing were undertaken. The peat shear strengths values range from 5kPa to 50kPa, with an average of 16kPa, which is above the risk value the 2.5kPa. The Factor of Safety under undrained conditions varied across the site from 1.67 at T6 to 14.33 at T1, and under drained conditions from 2.78 to 24.82 at the same turbine locations, which indicates a low risk of peat instability (1.30 or below represents a risk). The EIAR concluded that the site has an acceptable margin of safety subject to general construction control measures (including site supervision, allocation sufficient time for the works, no undercutting slopes, maintenance of the drainage system & monitoring) and site-specific mitigation measures for each of the turbine and road locations (including maintaining hydrological conditions, installation of interceptor drains, regular inspections & the use of bog mats in deep peat).

The EIAR did not predict any significant adverse in-combination impacts or during the operational or decommissioning phases subject to the implementation of similar construction phase mitigation measure during decommissioning.

9.5.3 Previously proposed wind farm

Details of the larger 49 turbine windfarm (PA0040) on the subject site at Meenbog and a nearby site at Lismullyduff to the NE are summarised in section 1.3.1 above and it is noted that the Board did not have concerns in relation to peat stability.

9.5.4 Assessment

As previously stated, I surveyed the wind farm site and the surrounding area in County Donegal and Northern Ireland over a 3-day period in March 2018. I had regard to the relevant EIAR studies which are summarised in section 9.5.2 above. I also had regard to the concerns raised by the Observers which are summarised in sections 4.0 to 7.0 above. The Observers included Donegal County Council, NI Department of Agriculture, Environment & Rural Affairs, NI Natural Environment Division (Designated sites), the Loughs Agency, the Finn Valley Group (with a Peat Stability report), and members of the public. The concerns related to peat stability, slippage risk and bog bursts, the quality of the PSA report and FoS analysis, and the need to avoid the use borrow pits. I had regard to the applicant's response to these concerns. I also had regard to national, regional and local policy and the earlier decision by the Board in relation to the previously refused wind farm for the site.

The proposed windfarm would be located within an upland area which mainly comprises coniferous plantations on blanket bog. The lands mainly slope down NW towards the Bunadowan River although the S section slopes SE towards the NI Border and the Glendergan River. Most of the proposed turbines would be located within the forestry plantations although two turbines (T16 & T19) would be located on open peatland in the NE section of the site. The site elevations vary between 180m and 310m OD and the turbines would be located at levels that vary between 184mOD (T14, T15 & T17 in the N section) and 300mOD (T4, T5 & T6 in the S section).

Average peat depths across most of the site are generally less than 2m but with some localised deeper pockets of up to 5.5m to the W, in the vicinity of the Bunadowan River where no development is proposed. The peat is mainly underlain by bedrock and some of the turbines would be located within areas where the peat depth is very shallow, between 0.1m and 0.2m (T6, T13, T15 & T19) across the central and N sections of the site, whilst two of the turbines (T3 & T5) would be located in deep peat, between 3.5m and 4.3m in the SW section.

Site gradients across the site vary between 1 degree (T1-T5) to 15 degrees (T6) however 13 of the 19 turbines would be located on shallow slopes of between 1 and 3 degrees, 4 would be located on moderate slopes of between 4 and 6 degrees, and 1 would be located at steeper slope of 9 degrees along the E site boundary with NI (T9). The met mast and substation would be located on moderate slopes of between 3 and 4 degrees and the conditions at the access tracts would be somewhat similar.

It is noted that there is no recent history of landslides or peat slippages in the area and that none of the windfarms in the wider area have given rise to peat slippages.

The proposed works would require the excavation and movement of substantial quantities of stone (c.307, 810m³) from 3 borrow pits and peat (c. 247,075m³) from across the entire site. The stone would be used during the construction phase and the peat would eventually be stored in the borrow pits and used to re-instate the landscape. The proposed borrow pits would be excavated into the slope in order to minimise their impact and extent which is acceptable in principal subject to compliance with mitigation measures and recommended conditions related to noise, vibration and water quality (refer to section 9.3 above and section 9.6 below). Furthermore, the peat excavation and movement works have the potential to affect peat hydrology and drainage patterns in the area (refer to section 9.6 below). The unregulated excavation and construction works, particularly on steep slopes, N facing slopes, and in areas of deep peat could also give rise to peat instability and slippage, with resultant serious adverse impacts on the environment.

An extensive range of site suitability tests were undertaken at the site of the various project elements under both drained and undrained conditions, and over 500 bore holes were excavated. As previously stated, the results indicate a relatively shallow peat depth across the entire site, except for 2 locations in the SW section. Peat depths at the 19 turbines were recorded as less than 1m at 7 locations, less than 2m at 15 locations and less than 2.5m at 17 locations. The average peat depths at T3 and T5 in the SW section is c.3.5m and 4.3m however the slope is 1 degree and the aspect is SE facing.

Peat depths at the access track locations were recorded as less than 2m for over half the site and less than 2.5m for almost the entire site, with a few small exceptions along the main access route from the W off the N15 and the SW section of the site along the tracks leading to T3, T5 and Borrow Pit 1. There are also two pockets of deep peat in the W and SW sections of the site where depths of between 4.5m and 5.5m were recorded to the W of T10, where no works are proposed, and in the vicinity of T5 and S of Borrow Pit 1 where depths of 4.5m were recorded.

The Peat Stability Assessment report (PSAR which was based on the Scottish Executive document (Peat Landslide Hazard and Risk Assessments: Best Practice for Proposed Electricity Generation Development, 2007) which rates the risk of instability with reference to four categories which range from Insignificant, Significant, Substantial to Serious. The PSAR assessed the risk of instability by reference to several accumulated factors including peat depth, slope angle, slope orientation, vegetation cover and proximity to watercourses. The Factor of Safety analysis and the PSAR results indicate a zero to negligible risk of instability at all of the project elements including the turbine locations, met mask, borrow pits, substation and access tracks.

Although T3, T5 and Borrow Pit 1 would be located in areas of deep peat, it is noted that the slope angle is very low at 1 degree and the aspect is SE facing which would further reduce the risk of instability and slippage. However, additional site-specific mitigation measures have been proposed for these locations which would further reduce the risk rating. The suite of EIAR mitigation measures include detailed design and construction measures (in the Construction and Environmental Management

Plan) for all project elements across the entire site including general and site-specific mitigation measures, and a Spoil Management Strategy to manage peat storage and prevent erosion and peat slides. The proposed arrangements are considered acceptable in terms of mitigating the risk of peat instability and slippage. However, the mitigation measures should be applied at the preliminary design stage, detailed design stage and construction stage, and be subject to ongoing monitoring throughout the construction and operational phases. This could be addressed by way of a planning condition.

Donegal County Council was satisfied with the results of the PSAR report and concluded that the proposed works would not give rise to peat instability or a risk of landslides. This is subject to a condition requiring the implementation of the mitigation measures and the recommendations contained in the Peat & Spoil Management Plans and the Construction and Environmental Management Plan.

The concerns raised by the Dr. O Cathain in relation to the quality of the EIAR PSAR and Factor of Safety analysis, and Professor Johnston in relation to the EIAR hydrology and water quality assessments are also noted. However, I am satisfied that the site survey, data analysis and the overall results as presented in the EIAR, which have been carried out in accordance with the 2007 Scottish Executive Guidance and other relevant international guidance are robust. I am satisfied that the proposed peat and water quality mitigation measures are appropriate to the scale and upland location of the proposed development. With respect to other matters raised in relation to water quality in Lough Mourne, the borrow pits and the disposal of excavated tar from along the road network, it is noted that Lough Mourne drains S towards the site, adequate borrow pit details have been provided, and the tar will be disposed of at a licenced waste treatment facility.

I am satisfied that the applicant carried out an extensive range of site suitability tests which were used to inform the location of the proposed turbines, met mast, borrow pits, substation and access tracks. I am satisfied that the results of the PSAR (including the Factor of Safety analysis) are robust and that the proposed works would not give rise to peat instability or slippage, subject to the stringent

implementation of the EIAR mitigation measures, any recommended conditions, on-going site inspections and monitoring for the lifespan of the windfarm project.

9.5.5 Conclusions

Having regard to all of the above, I am satisfied that the proposed development would not have a significant adverse effect on land, soils, geology or peat stability subject to the full implementation of the mitigation measures and any recommended conditions. The proposed development would not give rise to any significant adverse cumulative impacts in-combination with other windfarms, the grid connection route, or plans and projects in the wider area.

9.6 Aquatic ecology and water quality

9.6.1 Project description

The proposed development would comprise extensive tree felling (c.74ha) and excavation works associated with the site clearance and construction of the 19 turbines, access tracks, borrow pits, bridges and met mast within the site, as well as underground cabling works along the grid connection route and minor road works along the delivery route.

9.6.2 Locational context

The site and environs are located within the North-Western River Basin District (RoI) and the North-Eastern River Basin District (NI). At regional level the windfarm site is entirely located within the Mourne River Catchment whilst a section of the grid connection route (GCR) is located within the Lough Eske Catchment. At a local level, the site is mainly located within the Mourne Beg River Catchment although a small section to the S is located within the Glendergan River Catchment, and the GCR is located within the Lowerymore River Catchment to the SW.

The site is drained by several streams and a network of man-made forestry drains that discharge into watercourses in both the RoI and NI. These watercourses flow NE and SE into NI and ultimately discharge to Lough Foyle to the N of the site which straddles the RoI and NI Border. Most of the site drains NW towards the Bunadowan River which in turn flows in a NE direction through the site towards the Mourne Beg River, the E section drains to the Shruhingarve Stream which in turn flows N to also join the Mourne Beg River, and Mourne Beg River forms part of the River Finn SAC. The S section drains SE toward the Glendergan River in NI and eventually to the River Finn SAC. These watercourses eventually merge at two separate locations to the NE and SE of the site in NI to form part of the River Foyle and Tributaries SAC.

The GCR would be located along the N15 and the Lowerymore River which drains into Lough Eske to the SW and forms part of the Lough Eske and Ardnamona Wood SAC. A small section of the Croaghonagh Bog SAC/NHA are located within the NW windfarm site boundary along the access road off the N15, and some sections of the GCR would skirt the Cashelnavean Bog NHA along the N15.

There are several SPAs, SACs, NHAs and ASSIs within a 15km radius of the windfarm site. Atlantic salmon, European eel, River lamprey, Brook lamprey, Brown trout and Stone loach exist in many of the watercourses, and Freshwater pearl mussel is present at several locations along the Lowerymore River.

The GSI has classified the underlying bedrock as a Poor Aquifer and generally unproductive except for local zones (PI). Groundwater movement is localised and reflects the topography of the area. The vulnerability of the aquifer varies between Moderate to High and the WFD status for the local ground waterbodies is Good Status in terms of water quality. According to the GIS there are no Groundwater Protection Zones or mapped wells within the windfarm site or immediate environs, although there are several houses located to the NE of the site, which may depend on wells for their water supply.

The EPA Water Quality Monitoring Q-rating Values indicate Poor Status for the Bunadowan and Mourne Beg Rivers (Q2-3) in the immediate vicinity of the site. The WFD River Water Quality status for the Bunadowan and Lowerymore Rivers is Poor

and High respectively close to site, and both are rated as being At Risk. The status for the Mourne Beg and Glendergan Rivers is Moderate and both are rated as being At Risk.

According to the OPW's river and coastal flood maps and the NI Strategic Flood Maps, there have been no recurring flood incidents within the windfarm site or the surrounding area in recent decades, and the 1 in 100-year flood zones around the river network are mainly confined to the area surrounding the stream channels. The windfarm site is located to the S of Lough Mourne and the W section of the site is partly located within the Bunadowan River water abstraction catchment. Donegal County Council proposes to abstract surface water from this river and pump it to the Lough Mourne Reservoir under the Supplementary Intake Catchment scheme.

9.6.3 Environmental Impact Assessment Report

Sections 9 and parts of section 6 of the EIAR dealt with hydrogeology, hydrology, water quality and aquatic ecology, and several desktop studies and field surveys were undertaken. Section 8 of the EIAR which dealt with geology, soils, land and peat stability is summarised in section 9.5.2 above.

Windfarm site:

The EIAR describes the site as being located within the North-Western RBD (RoI) and the North-Eastern RBD (NI), it is mainly drained by the Bunadowan River to the N and the Glendergan River to the S via a network of on-site streams and forestry drains watercourses. These rivers flow NE and SE from the site to eventually form part of the River Foyle and Tributaries SAC, c.15km to the E of the site. The windfarm site is not covered by any sensitive heritage designations however there are several sensitive aquatic sites within a 15km radius. The EIAR had regard to the EPA and WFD water quality reports and studies, the OPW river and coastal flood maps and to NI Strategic Flood Maps, and the GSI groundwater database.

A range of investigations were undertaken including a hydrological walkover survey and detailed drainage mapping; biological, chemical and electrofishing surveys;

habitat and ecological assessments for fisheries, aquatic invertebrates and Freshwater pearl mussel; an identification of flood risk; and an assessment of groundwater quality, flow paths and wells.

The EIAR stated that most the water quality in the watercourses in the vicinity of the site is of Poor to Moderate Status with an At-Risk rating however the surveys identified the presence a higher water quality status along the wider riparian network. Several fish species were identified along with suitable spawning habitat for Atlantic salmon and several Freshwater pearl mussel populations were identified downstream of the GCR works along the Lowerymore River to the SW of the site. The EIAR stated that ground water quality was High with localised flow paths.

The EIAR stated that the project works will occupy 2.8% of the overall area (990ha) with a predicted increase in runoff over baseline conditions of c.1% which it does not consider to be significant. It predicts that there is potential for water pollution during the construction phases from suspended solids as a result of the tree felling and excavations, with possible significant long term effects on aquatic wildlife including invertebrates and fisheries.

The EIAR proposes a range of mitigation, avoidance, inspection and monitoring measures as part of a Construction and Environment Management Plan, Peat and Spoil Management Plan and Drainage Management Plan, adherence to best practice and compliance with NRA and SNH Guidelines in relation to river crossing and windfarm construction. It states that the erosion and sediment control measures will be in place to prevent the transportation of silt laden water or pollutants from entering the wider aquatic environment downstream of the works which include a 50m buffer zone around water courses (except for the river crossings) and the utilisation of the existing on-site forestry drainage network. The potential impacts and proposed mitigation measures are summarised in the table below.

Grid connection and delivery routes:

The EIAR states that minor works may be required along the delivery route from Killybegs to the windfarm site. The GCR would extend W from the site along the

access road, SW along the N15 to Barnesmore and then SE to the Clogher substation. It would be located parallel to and traverse the Lowerymore River which forms part of the Lough Eske and Ardnamona Woods SAC, and there are several Freshwater pearl mussel populations locations in the SW section of the river before it enters Lough Eske downstream of the GCR. The EIAR field surveys examined water and habitat quality along the Lowerymore River at the proposed GCR crossings, it identified potential impacts on water quality and ecology as a result of the construction works and proposed several mitigation measures which are summarised in the table below.

Lough Mourne Reservoir:

The windfarm site is located to the S of Lough Mourne and the W section of the site is partly located within the Bunadowan River water abstraction catchment. Donegal County Council proposes to abstract surface water from this river and pump it to the Lough Mourne Reservoir under the Supplementary Intake Catchment Scheme. The EIAR states that no development (other than a small section of the GCR) would be located with this catchment and no adverse impacts are predicted.

Potential impacts and mitigation measures:

The EIAR identified 12 potential impacts during the construction phase (windfarm and GCR) and 2 potential impacts during the operational phase that will require the implementation of mitigation measures, and the details are summarised below.

Construction	Potential impacts	Mitigation measures
Tree felling (74ha)	Suspended solids Sediment laden water Nutrient release	Avoidance. 50m buffer around streams. Design (including sediment traps, collector drains, silt fencing, brush mats, straw bale & check dams. Regular inspections.

		Liaise with Forestry Services Water quality monitoring.
Earthworks (excavations & stock piling)	Suspended solids Sediment laden water	Avoidance. 50m buffer around streams. Design (as above) Treatment systems (including sumps & attenuation ponds). No direct discharge to drains. Pre-emptive management. Management of stockpiles. Manage runoff along GCR. Timing of works. Monitoring & management.
Rock excavation (turbines & borrow pits)	Dewatering (unlikely) Groundwater pollution	Excavation will travel horizontally into the outcropping bedrock. Ground levels 200 - 300m OD. Shallow depths relative to hill. Monitoring & management.
Excavations	Additional volumes of water to be treated by run-off management system	Design (as above) Interceptor drainage. Attenuation ponds. No direct discharge Daily monitoring. Mobile silt buster
Refuelling/spillages	Toxic to humans. Toxic to flora & fauna. Nutrient supply (to microorganisms & oxygen depletion).	Design (as above). Controlled refuelling (fuel bowser). Minimal fuel storage in bunds. Inspection of plant & machinery. Emergency plans & spill kits.
Wastewater	Ground & surface water pollution	Avoidance (port a loo). Management of water supplies. No discharges on site.
Cement	Water quality & pH	Avoidance.

	Fish (burning skin & blocking gills).	No wet cement works on site. No washing out of plant. Pre-emptive management.
Watercourse & drainage patterns (5 x new stream crossings & c.19 upgrades)	Morphological changes (diversion, culverting & road/GCR crossings). Water quality & flows	No diversions proposed. Design (including bottomless culverts, suspended ducting for the GCR, directional drilling, seasonal works, silt fences & buffers). Compliance with OPW & IFI.
Designated sites River Foyle (WF) Lough Eske (GCR)	Water quality Suspended solids Sediment laden water	All the above measures to protect water quality including buffer zones & drainage control.
Lough Mourne Surface water abstraction catchment	Water quality Suspended solids Sediment laden water Reduced capacity.	Design & layout. Avoidance of works in catchment. All the above measures to protect water quality.
Upland Blanket bog T16 & T19	Hydrological impacts	Thin peat directly over bedrock. Located just inside the Intact Bog. Short access tracks.
Directional Drilling GCR (Lowerymore River)	Water quality Sediment release Suspended solids Release of drilling fluid	Trenchless technology under bed. Seasonal work (July to Sept). 15m buffer zone with no storage. Design measures (as above). No direct discharge, or work during heavy rainfall no refuelling. Plant maintenance & monitoring. Contingency plans and spill kits.
Operational	Potential impacts	Mitigation measures
Less permeable surfaces	Surface water runoff. Increased hydraulic loading during storms. Watercourse erosion &	Design (including interceptor drains, swales, check dams & settlement ponds).

	aquatic ecosystems.	
Human health	Public & private & water supplies. Flood risk	No mapped ground water protection zones in vicinity. Avoidance of Lough Mourne abstraction catchment. FRA indicates low risk of downstream flooding (subject to the above drainage measures)

The EIAR concluded that, subject to the implementation of the mitigation measures, there would be no significant residual adverse impacts on surface or ground water quality, aquatic ecology (including fisheries, aquatic invertebrates and designated sites) or any public or private water supplies (including the Lough Mourne water abstraction catchment, group water schemes and private wells), and that the proposed development would not give rise to a downstream flood risk.

The EIAR did not predict any significant adverse cumulative impacts during the operational or decommissioning phases subject to the implementation of similar construction phase mitigation measure during decommissioning.

9.6.4 Previously proposed wind farm

Details of the larger 49 turbine windfarm (PA.0040) on the subject site at Meenbog (Carrickaduff) and a nearby site at Lismullyduff to the NE are summarised in section 1.3.1 above. The Inspector raised concerns in relation to the potential impact of the proposed development on the Lough Mourne public water supply and the broader aquatic environment. However, the Board considered that these matters could effectively be addressed by way of conditions requiring the employment of the proposed mitigation measures and established best construction practice.

9.6.5 Assessment

As previously stated, I surveyed the wind farm site, the surrounding area and the wider riparian environment in County Donegal and Northern Ireland over a 3-day period in March 2018. I had regard to the relevant EIAR studies and field

investigations which are summarised in section 9.6.2 above. I also had regard to the concerns raised by the Observers which are summarised in sections 4.0 to 7.0 above. The Observers included the local councils, Irish Water, NI agencies, the Loughs Agency, Irish Wildlife Trust, Birdwatch Ireland, Finn Valley Group and members of the public, and I had regard to the Applicants' response to these concerns. I also had regard to the earlier decision by the Board in relation to the previously proposed wind farm for the subject site.

Donegal County Council and several NI agencies (including NI Water, River Planning & Advisory Unit and Natural Environment Division-Designated sites) had no objection to the proposed development subject to compliance with the EIAR mitigation measures and best construction practice. It was requested that the final CEMP and Site Drainage Plan should be agreed with the planning authority and that the site should be re-surveyed for signs of otters, before works commence.

The Elected Members of Donegal County and Derry City & Strabane District Councils, Irish Water, the Loughs Agency, NI Agriculture, Environment & Rural Affairs, Irish Wildlife Trust, Birdwatch Ireland and the Finn Valley Group raised general and specific concerns. The general concerns related to the impact of the windfarm and GCR works on water quality, aquatic ecology, fish stocks and otters in and along the Bunadowan, Mourne Beg and Lowerymore Rivers (and respective tributaries), Lough Foyle SAC/ASSI and Lough Eske SAC, as well as the Freshwater pearl mussel populations in the Lowerymore River downstream of the GCR works. The Finn Valley Group also raised concerns in relation to the quality of the EIAR survey data and subsequent analysis, and the veracity of the conclusions.

Council Members and Irish Water raised specific concerns in relation to water quality in the Bunadowan River and the resultant impact on the Lough Mourne public water supply. Irish Water also requested that wayleaves and rights of way should remain intact to serve and maintain future water extraction from the Bunadowan River.

Discussion:

The excavation and movement of large quantities of peat around the site has the potential to release fine sediments into the network of streams and forestry drains that traverse the site via surface water runoff, and these watercourses drain to larger waterways in the surrounding area on both sides of the NI Border.

The unregulated release of sediments could have an adverse long-term impact on water quality and aquatic ecology, including fisheries, aquatic invertebrates, otter and the Freshwater pearl mussel populations downstream of the proposed GCR works. Accidental fuel spillages from storage areas, machinery, vehicles and directional drilling equipment also have the potential to contaminate surface and groundwater. The underground cabling works for the GCR and any road improvement works along the delivery route also have the potential to release sediments into nearby watercourses and cause disturbance to wildlife.

The potential impact of the proposed works on geology, soils and peat stability are dealt with in section 9.5 above.

The EIAR proposes a comprehensive suite of mitigation measures to control and manage the release of fine sediments and hydrocarbons into surface and ground water to prevent pollution of nearby water courses and underlying groundwater bodies. These measures are summarised in section 9.6.3 above they mainly include design features (including silt traps, swales, brush mats, sediment ponds and a 50m buffer zones around watercourses), a series of avoidance measures as part of a Construction Environmental Management Plan (CEMP), and a detailed Drainage Management Plan, along with ongoing site inspections and water quality monitoring.

The mitigation measures are considered acceptable as they will prevent any serious long-term damage to water quality, aquatic ecology, fisheries, Freshwater pearl mussel populations and foraging otters in and along the surrounding watercourses, and the further afield designated sites (including Lough Foyle SAC & ASSI and Lough Eske SAC) that the watercourses ultimately discharge to. However, the EIAR erosion and sediment control measures should be operational before construction

works commence and the entire works should be monitored by an on-site Ecologist on a regular basis. These issues could be addressed by way planning conditions.

Donegal County Council and the relevant NI Agencies were satisfied that the proposed measures would minimise sediment and contaminant run off during the construction phase, and that the measures are adequate to ensure the maintenance of existing water quality within the various river catchments including the Bunadowan River which feeds the Lough Mourne public water supply, subject to the EIAR mitigation measures.

It is noted that the applicant has undertaken extensive ecological surveys of the overall windfarm site and surrounding watercourses and that the on-site drainage arrangements and water quality will be subject to ongoing inspections and monitoring. The EIAR surveys did not record the presence of any sensitive species in the on-site streams and forestry drains or in the sections of watercourses close to the proposed works. However, the surveys did record the presence of several species of fish (including salmon, trout, loach, lampreys and European eel) along with suitable spawning and nursery habitat downstream of the proposed windfarm.

The surveys also recorded evidence of foraging otters along some streams, and several populations of FWPM in the Lowerymore River downstream of the proposed GCR works but within the area covered by the FWPM Sub-basin Management Plan. I am satisfied that the potential impacts on water quality and aquatic ecology have been identified, assessed and addressed through avoidance and detailed mitigation measures in the EIAR. I am also satisfied that the various EIAR studies were undertaken in accordance with the relevant national and international guidance for such works.

Having regard to the current use of almost the entire site as a commercial coniferous forestry plantation, the separation distance between the windfarm site, the GCR and delivery route from the nearest recorded locations of sensitive aquatic species (fisheries, FWPM and otter), the layout and siting of the project elements which would be mainly set back at least 50m from all watercourses (except for river crossings), and subject to the stringent implementation of the EIAR mitigation

measures, including ongoing inspections and monitoring, in combination with any recommended conditions for the construction and operational phases, I am satisfied that the proposed works would not have a significant adverse impact water quality, sensitive aquatic species, the food supply for otters, or any designated ecological sites in the surrounding and wider area.

I am also satisfied that the proposed windfarm would not have an adverse impact on the quality of the Lough Mourne public water supply or prejudice any future plans to abstract water from the Bunadowan River to feed the reservoir. This would be subject to the protection of existing rights of way through the site which could be addressed by way of a planning condition.

Finally, having regard to the characteristics of the underlying bedrock, which is relatively impermeable, and the relatively unproductive nature of the Aquifer, I am satisfied that the proposed works would not have an adverse impact on groundwater quality or any wells in the vicinity, subject to the stringent implementation of the EIAR mitigation measures for the construction and operation phases of the project.

9.6.6 Conclusions

Having regard to all of the above, I am satisfied that the proposed development, including the windfarm, infrastructure and the grid connection would not have a significant adverse effect on water quality, aquatic ecology, protected species, any designated sites, public water supplies or groundwater reserves, subject to the full implementation of the EIAR mitigation measures, any recommended conditions, and adherence to all relevant guidance and best construction practice. The proposed development would not give rise to any significant adverse cumulative impacts in combination with other windfarms, grid connections, plans or projects in the wider area.

9.7 Terrestrial ecology (excluding birds)

9.7.1 Project description

The proposed project would comprise excavation works associated with the construction of the 19 turbines, a met mast, substation, construction compound, access tracks and borrow pits within the site, as well the junction improvements at the entrance and works along the grid connection routes.

9.7.2 Locational context

As previously stated, the site occupies a remote upland location along the NI Border, the surrounding area is characterised by a mix of commercial coniferous forestry plantations and peatlands, and there are several designated sites located within a 15-20km radius of the site. The site mainly comprises coniferous forestry in various stages of growth, it is traversed by a series of drains and watercourses, and it is hydrologically connected to the River Foyle and Tributaries SAC and the River Finn SAC via the on and off-site watercourses. The GCR would be mainly located along the N15 in close proximity to the Lowerymore River which is hydrologically linked to the Lough Eske and Ardnamona Woods SAC to the SW. Issues related to water quality and aquatic ecology are assessed in section 9.6 above and issues related to birds are assessed in section 9.8 below.

9.7.3 Environmental Impact Assessment Report

Section 6 of the EIAR dealt with terrestrial ecology within the windfarm site, the surrounding area and along the grid connection route. It states that desktop studies, walk over surveys and detailed field surveys were undertaken between 2013 and 2017 which were used to inform the conclusions of the EIAR and NIS. It identified designated sites located within a 15km to 20km radius of the site, it mapped habitats and identified plant species, and it conducted field surveys for mammals, reptiles and invertebrates. The EIAR proposed several mitigation measures and concluded that there would be no adverse residual or cumulative impacts post mitigation.

Designated sites:

The EIAR stated that the site is not located within a European site although there are aquatic connections to the Lough Eske and Ardnamona Woods SAC via the GCR along the Lowerymore River, and the Lough Foyle and Tributaries SAC and ASSI via the on and off-site watercourses. These sites are designated for their importance to Freshwater pearl mussel (Lough Eske) and Ranunculus vegetation, Atlantic salmon and Otter (Lough Foyle & Tributaries). It states that the site adjoins the Croaghonagh Bog SAC, and that it is within c.550m of the Croagh Bog and Kileter Forest, Bogs & Lakes ASSIs in NI. The site is also located in close proximity to several NHAs and pNHAs including Cashelnavean Bog, Barnesmore Bog and Croaghonagh Bog.

Habitats and flora:

The EIAR stated that the windfarm site is mainly in commercial forestry use (c.91%), with 2 x areas of Upland blanket bog/Wet heath (c.6.5%) to the NE where T16 and T19 would be located and in the central part of the site between T6 and T7, and it also contains Cutover blanket bog along the access track to the W, 4 x small areas of Wet heath in the E section, and a small Dystrophic lake in the S central section at Carrickaduff Lough to the SE and upgradient of T5, T6 and Borrow Pit 1. It states that the lands on either side of the GCR along the N15 and Lowerymore River mainly comprise riparian, grass and scrub land habitats.

The EIAR states that none of the plant species recorded are listed in Annex 11 of the EU Habitats Directive or the Flora (Protection) Order and that Globe flower and Irish ladies' tresses are not present within the site. Two invasive plant species were recorded (Rhododendron & Himalayan Knotweed) in small patches in the site and along the public road. The surveys indicate that the Upland blanket bog/Wet heath, Cutover blanket bog and Dystrophic Lake habitats within the site are viable and of National Importance, whilst the Lough Eske Annex 1 Lacustrine habitat to the SW of the GCR and the downstream Ranunculus habitat in the Lough Foyle & Tributaries SAC are of International Significance.

The EIAR concluded that there would be a marginal loss of Annex 1 Upland blanket bog/Wet heath Priority habitat, and it did not predict any adverse impacts on any of

the above habitats subject to the mitigation measures summarised in sections 9.5 and 9.6 above with respect to water quality, aquatic ecology and peat stability.

Bats:

The EIAR Bat Surveys were conducted over 4 x seasons between 2014 and 2017 and comprised a desktop study, habitat and landscape assessments, roost inspections, manual activity surveys and static detector surveys at ground level and height. The EIAR identified the presence of bats in the wider area but concluded that the site is not used for roosting although the forestry tracks have potential for foraging and commuting bats, with higher activity in forestry edge habitats. The EIAR did not predict any adverse impacts subject to the mitigation measures.

Other mammals:

The EIAR surveys recorded the presence of Red Fox, Red Squirrel, Pine Martin and Red Deer on the windfarm site and it states that Badger, Otter, Hedgehog, Stoat and Pygmy shrew are likely to be present. Otter is a qualifying interest for the River Foyle & Tributaries SAC & ASSI and it is a species of International Importance, although the EIAR did not record any breeding or resting sites, it states that it is likely that Otter commutes along the on-site watercourses. The EIAR did not predict any adverse impacts for Otter subject to the mitigation measures summarised in sections 9.5 and 9.6 above with respect to water quality, aquatic ecology and peat stability.

Reptiles:

The EIAR recorded the presence of Common frog and Smooth newt within the site and it states that the Common lizard is likely to be present, however it did not predict any loss of habitat or adverse impacts for these species.

Invertebrates:

The EIAR surveys indicated that there is no suitable habitat for Marsh Fritillary.

Mitigation measures:

The EIAR identified the potential impacts during the construction, operation and decommissioning phases and concluded that there would be no adverse residual impact on any designated sites, a minimal impact of habitats (other than the conifer

plantations and a small section of the Annex 1 Upland blanket bog/Wet heath) in terms of habitat loss or fragmentation, or disturbance to terrestrial fauna (mammals, reptiles & invertebrates).

This would be subject to the implementation of mitigation measures (including avoidance, buffer zones, the water quality & peat stability measures previously outlined), the use of best construction practices, carrying out of a pre-construction mammal survey, and avoidance measures to protect bats around the operational turbines). The EIAR concluded that there would be no adverse impacts on plants subject to mitigation measures (including removal of vegetation and the replacement of the lost Annex 1 Blanket bog/Wet heath habitat through an enhancement project), and an Invasive Species Management Plan is contained in section 4 of the CEMP.

The EIAR concluded that there would be no adverse residual or cumulative impacts in-combination with other plans, projects or windfarms in the wider area.

9.7.4 Previously proposed wind farm

The Board previously refused planning permission in 2016 for a larger 49 turbine windfarm on the subject site at Meenbog and a nearby site at Lismullyduff to the NE. The details of PA.0040 are summarised in section 1.3.1 above and the Board did not have any significant concerns in relation to terrestrial ecology (excluding birds).

9.7.5 Assessment

As previously stated, I surveyed the wind farm site, the surrounding area and the wider regional and local road network in County Donegal and Northern Ireland over a 3-day period in March 2018. I had regard to the relevant EIAR ecological studies which are summarised in section 9.8.2 above and the concerns raised by the Observers which are summarised in sections 4.0 to 7.0 above. The Observers included An Taisce, NI Natural Environment Division (Designated Sites), NI Forest Service, Irish Wildlife Trust, Irish Raptor Study Group, Glenties Windfarm Information Group, Glenfin Cable Action Group and members of the public. The concerns raised related to European sites, Annex 1 habitats, protected species, compliance with regulations (flora & fauna), loss of wilderness, proximity to Glenderg Forest (NI) and

data presentation, and I had regard to the Applicant's response to the issues raised. I also had regard to the earlier decision by the Board in relation to the previously refused wind farm for the subject site.

The windfarm site is not covered any sensitive ecological designations, it mainly comprises commercial forestry plantation with a small section to the NE designated as Blanket Bog/Wet Heath which is an Annex 1 Priority habitat. The predominant land use and habitat type at the windfarm site is coniferous forestry and the grid connection route would mainly run along local roads although would cross the Lowerymore River. The proposed excavation and construction works would result in the inevitable loss of a proportion of these habitats. There are several SACs, SPAs, NHAs and ASSIs within a 15km to 20km radius of the site and there is an aquatic connection to two of these sites, the windfarm site and environs are used by several species of mammal and it has foraging potential for bats. The proposed works have the potential to affect several protected habitats and species during the construction and operational phases.

Designated sites: Potential impacts on the Lough Eske and Ardnamona Woods SAC and the Lough Foyle and Tributaries SAC & ASSI are assessed in section 9.6 above, and the potential impacts on the other sites that have been designated for their importance to birds will be assessed in section 9.8 below.

Habitats and flora:

Blanket Bog/Wet heath habitat: Two of the proposed turbines (T16 & T19) would be located within a section of Priority 1 Blanket Bog/Wet heath habitat which is located to the NE of the site and the construction works would result in the inevitable loss of a small section of this habitat. It is noted that the proposed turbines would be located within a shallow section of intact peatland on the NW edge of the habitat in close proximity to the boundary with the forestry plantation. Although the works would have a localised negative impact on a small section of this habitat, I am satisfied that there would be no significant adverse impacts on the overall habitat or peat hydrology subject to the implementation of the mitigation measures outlined in sections 9.5 and 9.6 above. It is also possible that the Blanket Bog/Wet heath habitat could be

restored in the future after the decommissioning phase. I am satisfied that the proposed restoration of an equal area of conifer plantation to Blanket Bog/Wet heath habitat would compensate for the loss of habitat.

Blanket Bog/Wet heath habitat: There is another fragmented area of Upland blanket bog/Wet heath habitat located in the central section of the site and T6 and Borrow Pit 1 would be located to the W and T7 would be located to the E. I am satisfied that there would be no loss of habitat as a result of the construction works and there would be no significant adverse impacts on peat hydrology subject to the implementation of the mitigation measures outlined in sections 9.5 and 9.6 above. It was also noted during my site inspection and from aerial images that the larger rectangular section of this habitat may have been used as a forestry plantation.

Dystrophic lake: Carrickaduff Lough is a Dystrophic lake which is located to the SW of the previously referred to Upland blanket bog/Wet heath habitat and to the S of T6 and a proposed amenity track. It would not be directly affected by the proposed works, and given that it is located upgradient of the turbines there would be no adverse impacts on the hydrology.

Wet Heath: The small areas of Wet heath which are dotted along the E section of the site would not be directly affected by the proposed works and there would be no significant adverse impacts on peat hydrology subject to the implementation of the mitigation measures outlined in sections 9.5 and 9.6 above.

Upland blanket bog: The existing access track off the N15 to the W is located within a small 500m long section of Upland blanket bog habitat which forms part of the much larger Croaghonagh Bog SAC to the immediate N of the site. A small sliver of this Qualifying Interest habitat could be marginally affected by the proposed access road works during construction. However, having regard to the peripheral location, the very small proportion of the overall habitat that could be affected, and the regenerative properties of the bog, I am satisfied that there would be no significant adverse impacts on the overall habitat or peat hydrology subject to the implementation of the mitigations measures outlined in sections 9.5 and 9.6 above. It

was also noted during my site inspection that this section of the habitat did not appear to be in good condition, having regard to its position relative to the road.

Other habitats: There is a myriad of habitats located in the small W section of the site in the vicinity of the entrance off the N15 which include Wet heath, Wet grassland Upland blanket bog, Upland blanket bog/Wet heath, Cutover bog and Scrub. Most of these habitats would be affected by the proposed infrastructure and grid connection works. However, given their location, fragmented nature and small size, I am satisfied that the scale of loss, fragmentation and damage to these habitats would be unavoidable but acceptable relative to the scale of the development and site area.

Flora: No protected species were identified within the site during the EIAR surveys. However, a final pre-construction survey for Globeflower and Irish lady's tresses should be undertaken before works commence. This could be addressed by a planning condition.

Bats: The site mainly comprises coniferous forestry plantations which have limited potential for bats, and no maternity roosts or suitable habitats were recorded in the EIAR surveys although several species use the forest access tracks for commuting and foraging. The proposed windfarm would undoubtedly cause a temporary disturbance to bats during the construction phase. The managed absence of trees and shrubbery around the turbine bases would deter foraging activity in the vicinity of the turbines, the rotor blades would be positioned well above the flight paths of foraging bats with minimal risk of collision, and there would be little or no artificial lighting at night during the operational phase. I am satisfied that bats would gradually habituate to the works after the construction and operational phases with no significant adverse long-term impacts anticipated. The concerns raised by Carl Scanlon in relation to the adequacy of EIAR bat surveys are noted however. However, I am satisfied that the surveys were substantially carried out in accordance with relevant guidance whilst also taking account of site specific locational considerations related to the existing presence of dense conifer plantations at the sites of most the proposed turbines.

Other mammals and reptiles: The several species of mammal and reptile that frequent the windfarm site would be disturbed during the construction works, however there would be no significant loss of foraging grounds and it is likely they will habituate to the windfarm after the works are completed, and no significant adverse impacts are anticipated. Although it is possible that Otter commutes across the site via the on-site watercourses, there is no physical evidence that they use the site on a regular basis, and given that the watercourses would not be affected by the proposed works (other than at the river crossing), no significant adverse impacts are anticipated for this species. Notwithstanding this conclusion, a pre-construction survey for mammals should be carried out before works commence on the site.

Fisheries & aquatic species: Potential impacts are assessed in section 9.6 above.

Invasive species: The contents of the Invasive Species Management Plan are noted and appropriate measures should be put in place to prevent the spread of Invasive species. This could be addressed by way of a planning condition.

9.7.6 Conclusions

Having regard to the foregoing, I am satisfied that the proposed development, including the windfarm, infrastructure works and grid connection route, would not have any significant, adverse, long term residual impacts on any designated sites, habitats, flora or fauna in the area, subject to the full implementation of the EIAR mitigation measures, any recommended conditions and adherence to all relevant guidance and best construction practice. The proposed development would not give rise to any significant adverse cumulative impacts in-combination with other windfarms, grid connections, plans or projects in the wider area.

9.8 Terrestrial Ecology (Birds)

9.8.1 Project description:

The proposed project would comprise excavation works associated with the construction of the 19 turbines, a met mast, substation, construction compound, access tracks and borrow pits within the site, as well the junction improvements at the entrance and works along the grid connection route.

9.8.2 Locational context

As previously stated, the site occupies a remote upland location along the NI Border, the surrounding area is characterised by a mix of commercial coniferous forestry plantations and peatlands, and the wider area is frequented by several bird species including raptors and wintering birds. There are several European sites located within a 15km radius of the site which have been designated for their conservation importance for birds. The site is located within a large NPWS non-designated special protection area for Hen Harrier. There are almost 40 lakes of varying sizes located within 15km of the site (including Lough Mourne to the N, Lough Eske to the SW and Lough Derg to the SE) and Donegal Bay is located to the SW.

9.8.3 Environmental Impact Assessment Report

Section 7 of the EIAR dealt with birds within the windfarm site, its environs and the wider area. Several desktop studies, scoping exercises with relevant agencies, walk over surveys and detailed seasonal field surveys were undertaken between 2013 and 2017. The relevant designated sites (for birds) within a 15km radius of the site were identified. The extensive bird surveys were used to identify the extent to which various species frequent and/or flyover the site and to inform the Collision Risk and Displacement Effect Models for several target species. The EIAR predicted the effects of the works on these species, and a Hen Harrier Habitat Enhancement Plan was prepared. The EIAR also took account of the concerns raised by the Board in relation to the previous reason for refusal for a windfarm on the site with respect to the adequacy of the survey data and subsequent analysis.

The EIAR carried out seasonal dawn and dusk bird surveys of the site and surrounding area between April 2015 and September 2017 in accordance with the Scottish Natural Heritage Guidance (2014) and other relevant species-specific guidance. A total of 5 x fixed point Vantage Point surveys were utilised, bird observations and flight activity was recorded within a 2km radius of each VP for 6 x hours per month during the breeding and non-breeding seasons, and within defined flight band heights. A Viewshed Analysis was carried out for each of the VPs to inform coverage of the study area and inform the Collision Risk Model, and a 500m buffer was applied to the outermost turbines.

The EIAR **survey effort** is summarised below:

- 4 x walk-over breeding bird surveys between April and July of each breeding season.
- Quadrat surveys of suitable habitat for raptors, other ground nesting terrestrial species and waterbirds along with transect surveys of forested areas.
- 4 x transect surveys on non-breeding birds in non-forested areas between October 2016 & March 2017.
- Specific surveys for breeding raptors within a 2km radius of the site monthly between April and July 2015 to 2016.
- Species specific surveys for Red-throated Diver, Red Grouse, Goshawk & Woodcock also carried out.
- 4 x Vantage Point observations of flight activity (particularly raptors) between April 2015 and April 2016 with an additional VP between May 2016 & September 2017 (particularly Hen Harrier).
- Surveys of wintering waterbirds were undertaken at 37 waterbodies within 10km radius of site to determine evidence of connectivity.
- Winter Transect Surveys were conducted within the 500m buffer of the site boundary and covered different habitat types between the VP locations.

EIAR survey effort for **Hen Harrier**:

- Circumstantial evidence suggests that HH probably nested within the site in 2015, bred occasionally on the site in previous years, but no nests found within 2km radius during the survey years up to and including late 2017.

- Recorded for most of the year in wider area with 78 sightings.
- 5 x observations across all seasons (2015-17), 3 at Collision Risk height.
- Breeding 3km & nesting 2.2km from site boundary.
- Winter roost (3 birds) 2.5km from the boundary in 2016.
- Surveys suggest infrequent use of the site, no evidence of breeding and indicates that site is not an important foraging area.
- Estimated Collision Risk for HH is less than 1 over 30 years.

EIAR survey effort for **Other Raptors** (excluding Buzzard):

- Surveys suggest infrequent use of the site.
- **Merlin** - 3 x observation at the site, pair suspected of holding territory c.1.7km from the site; sightings below Collision Risk height; no observations during breeding season; no records of nests in the area.
- **Sparrowhawk** - 18 x flights observed from VPs and no conclusive evidence of breeding on site.
- **Kestrel** - 10 x flights observed from VPs with 6 at Collision Risk height, and 1 x flight within the site during breeding season.
- **Goshawk** - observed once above Collision Risk height
- **Golden eagle** - observed on one occasion outside Collision Risk zone.
- **Peregrine** – observed on 1x occasion & no indication of breeding.
- Estimated Collision Risk for all these species is 1 over 30 years.

EIAR survey effort for **Buzzard**:

- 40 x flights recorded in the site (2015-17) with 17 at Collision Risk height.
- Observations relate to breeding season with no evidence of breeding on site and no winter records.
- Estimated Collision Risk is 7.2 over 30 years.
- No adverse impacts on local breeding population predicted.

EIAR survey effort for **Red Grouse**:

- None detected within the site in any season.
- Closest record c.500m away.

- No suitable habitat within the site or adjacent lands.
- No adverse impacts on wider breeding populations.

ElAR survey effort for **Woodcock**:

- 5 x visits between May & June 2016, and 6 x visits in June 2016.
- 3 x records from VPs during the breeding season.
- 3 x records during winter with incidental observations in site & buffer zone.
- No flights at Collision Risk height.

ElAR survey effort for **Golden Plover**:

- Recorded intermittently within the site and buffer zone in small numbers.
- No evidence of breeding in the vicinity.
- A single flock of 30 was recorded from VPs.
- Total time spent at Collision Risk height was 750 bird seconds.
- Estimated Collision Risk is 1.87 over 30 years.
- A flock of 30 was observed within the survey area during the breeding season in early 2017 (which were probably passage birds).
- None within the site boundary in winter & small groups in the buffer zone.

ElAR survey effort for **waterbirds & migratory waterfowl**:

- Conducted within a 10km radius of the study area.
- **Whooper swan**: 1 x flight over the survey area (1 x bird) & no records of roosting or feeding in area.
- **Snipe**: 2 x observed within the site & buffer zone; 2 x records during the breeding season and 2 x winter records of 2 birds.
- **Lesser black headed gull**: 1 x observation.
- **Wigeon**: 1 x observation.
- **Other species**: (Greenland white fronted goose, Common gull, Herring gull, Tufted duck, Lapwing & Great northern diver, Red throated diver & Curlew) not recorded inside the site boundary or buffer zone.
- No connectivity found between the populations of these species on c.37 waterbodies and the site.

- Cormorant, Grey heron, Mallard, Teal and the Lesser and Great Black-backed Gulls were observed flying over the site in small numbers.

EIAR survey effort for **Other Species**:

- 42 x other species recorded within the site and 500m buffer zone.
- 4 x Red listed species (Grey wagtail, Meadow pipit, Twite, Yellowhammer)
- 11 x Amber listed species (Swift, Skylark, House Martin, Robin, Stonechat, Wheatear, Mistle Thrush, Goldcrest, Starling & Linnet).
- Additional NI Priority species (Cuckoo, Dunnock, Fieldfare, Song Thrush, Redwing, Lesser Redpoll, Bullfinch, Common Crossbill and Reed Bunting).
- No adverse impacts predicted on wider populations.

The EIAR identified several species as Key Ornithological Receptors (KORs) (including Golden plover, Merlin, Hen Harrier, Red grouse, Woodcock, Buzzard, Sparrowhawk and Kestrel) which would require further assessment. This included an assessment of Direct Habitat Loss, Displacement or Barrier Effect and Collision Risk. It concluded that the effects would range from No Effect to Short Term Slight Negative and Long Term Slight Negative Effects. Long Term Slight Negative effects because of Collision Risk were identified for Golden Plover, Hen Harrier, Woodcock, Buzzard, Kestrel and Sparrowhawk although the risks were calculated to be very low over the 30-year period.

The EIAR also considered in-combination effects and it listed 33 other windfarms within a 20km radius of the site and 5 other projects, it concluded that the project will not contribute to a barrier effect as none of the projects are regularly used as migratory corridors for any bird species.

EIAR Mitigation measures:

The EIAR did not predict any adverse residual or in-combination impacts subject to the implementation of the following mitigation measures:

- Design:
 - Avoidance & Layout

- Management of the construction & decommissioning stages:
 - Removal of vegetation outside of breeding season
 - Noise limits & control of operational hours
 - Noise & time controls on plant & equipment
 - Ecological Clerk of Works

- HH Management Plan (EIAR Appendix 7.7)
 - 2km to NW of site on forestry lands within core foraging range
 - Ensure open canopy to enable foraging
 - Pre-mature felling of closed canopy forestry
 - Extended fallow periods
 - No fertiliser application
 - Re-felling & re-planting
 - Habitat enhancement & maintenance
 - Monitoring

- Pre-Construction Monitoring:
 - Commence works outside the bird nesting season
 - Subsequent pre-construction HH surveys during breeding season
 - No works within 500m buffer of any identified nest.

- Post-Construction Monitoring (EIAR Appendix 7.8):
 - Measure parameters associated with collision, displacement/barrier effects & habituation during Years 1, 2, 3, 5, 10 & 15.
 - Surveys to include:
 - Breeding Bird Surveys (Focus on HH)
 - HH roost surveys
 - VP surveys (focus on migratory waterfowl)
 - Targeted bird collision surveys (corpse searches)

EIAR conclusion:

The EIAR concluded that site does not contain suitable nesting or roosting sites for any species of conservation interest, the site is rarely used or overflowed by species of conservation interest for the European sites, and that the Collision Risk is low for all species. It concluded that no potentially significant disturbance, displacement or habitat loss effects on any of the KORs has been identified, and no residual, additive, antagonistic or synergistic effects have been identified with regard to habitat loss, displacement or collision mortality. The EIAR did not predict any adverse impacts for any European sites which are designated from their conservation value for birds or for any birds which frequent the windfarm site and the surrounding area.

9.8.4 Previously proposed wind farm and SID pre-application**Previous planning application:**

The Board previously refused planning permission in 2016 for a larger 49 turbine windfarm on the subject site at Meenbog and a nearby site at Lismullyduff to the NE. The details of PA.0040 are summarised in section 1.3.1 above as is the Boards reason for refusal. The Board was not satisfied that the information contained in the EIS and NIS was adequate to enable a comprehensive assessment of the potential impact of the proposed development to be undertaken on populations of birds listed in Annex 1 of the EU Habitats.

Pre-application consultations:

The Board's position is summarised in section 1.2 above. The applicant was advised of the need for robust data in light of the previous reason for refusal, and appropriate timeframes having regard to the deficiencies as identified in the consultant ecologists report in respect of the previous application, and the consideration of survey data for an additional summer breeding season (2017) to demonstrate the presence or absence of Hen harrier.

Concerns raised by Board:

The Board's concerns in relation to the previous application and details of the applicant's survey effort are summarised in the following table.

Board's concerns	Applicant's survey effort
Viewshed analysis of vantage points.	Carried out for VPs 1, 2, 3, 4 & 18 using Resoft Wind Farm ZTV with Mapinfo Professional.
Systematic VP surveys at the key times of dusk & dawn in order to identify commuting corridors for species such as WS & GWFG.	April 2015 to Sept 2017. 5 x Fixed Point VPs x 6 hours/month. Dawn & dusk watches. Included WS & GWFG. Windfarm not on a commuting route. Barnesmore Gap provides a route.
Survey water bodies outside the survey area but within the 15km buffer zone, which may be utilised by species such as WS & GWFG in order to identify any potential flight paths between these water bodies.	37 x Wetlands within 15km. Monthly counts over winter season. Dawn & before dusk. No connectivity with windfarm site. Connectivity between wetlands. No flight paths over windfarm site.
Identify potential bird mortality associated with turbine collision.	Collision risk assessments include mortality estimates.
Address secondary habitat loss/disturbance for birds associated with avoidance.	Direct habitat loss assessment (mainly conifer plantations). Displacement effect assessment (disturbance & barrier effects)
Potential cumulative impacts through a "barrier effect"	None identified, no important migratory routes in vicinity.

<p>Survey data for an additional summer HH breeding season (2017) to demonstrate the presence or absence of Hen Harrier.</p>	<p>VP surveys, Breeding bird surveys, Breeding raptor surveys, HH Roost survey & incidental records. No HH recorded during breeding season (Mid May to June).</p>
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9.8.5 Assessment:

As previously stated, I surveyed the wind farm site and the surrounding area in County Donegal and Northern Ireland over a 3-day period in March 2018. I had regard to the relevant EIAR ornithology studies which are summarised in section 9.8.2 above. I also had regard to the concerns raised by the Observers which are summarised in sections 4.0 to 7.0 above. The Observers included the Elected Members of Donegal County Council, Donegal County Council, various NI agencies, NPWS, An Taisce, RSPB, Birdwatch Ireland, Irish Raptor Study Group, Red Grouse Sanctuary, Finn Valley Group, Glenties Windfarm Information Group, Glenfin Cable Action Group and members of the public.

The concerns raised related to the potential adverse impacts on the wider European sites, nearby NHAs, the non-designated special protection area for Hen Harrier and the Red Grouse Sanctuary; impacts on several protected species of bird (including Golden eagle, Hen Harrier, Merlin, Curlew, Greenland white fronted goose and Red grouse); the quality of the EIAR survey data, analysis, presentation of results and conclusions; and the absence of quantitative data in the cumulative impact assessment. I also had regard to the applicant's response to these issues.

It is noted that Donegal County Council and the NI Natural Environment Division were satisfied with the survey effort and conclusions reached. The NI agency was also satisfied that the project would not have an adverse effect on any breeding of nesting birds in NI and that it would not have any adverse in-combination or barrier effects given the lack of any local impacts on birds. The NPWS had no objection to the proposed development, noted the location of the site within a non-designated special protection area for Hen Harrier, but did not comment on the relevant EIAR technical appendices.

I also had regard to the earlier decision by the Board in relation to the previously refused wind farm for the subject site, particularly in relation to the inadequacy of the bird surveys, and to the advice given by the Board to the applicant after the SID pre-application discussions which are summarised in section 9.5.5 above.

The site, which mainly comprises commercial forestry plantations in various stages of growth, is not covered any sensitive statutory ecological designations although it lies within a non-statutory special protection area of Hen Harrier. There are several European sites and NHAs within a 15km to 20km radius of the site which are designated for their importance to birds (including raptors, migratory and wintering birds and waterbirds). The windfarm site is also frequented or overflowed by several species of bird.

The proposed works have the potential to affect several bird species during the construction and operational phases through loss or fragmentation of habitat, noise disturbance, displacement/barrier effect and turbine collision risk. The windfarm also has the potential to contribute to cumulative barrier effects in combination with other windfarms, plans and projects in the wider area.

The EIAR carried out extensive seasonal bird surveys over a period of 3 years within the site and within a 500m and 2km buffer zone, and it surveyed almost 40 lakes within a 10km to 15km radius of the site. The results are summarised in section 9.5.2 above and I am satisfied that the survey effort accords with the SNH Guidance (2014) and other relevant site and species-specific guidelines.

The relatively closed canopy coniferous forestry plantations do not offer optimum conditions for foraging or nesting birds although several species were recorded in the vicinity of the site. This includes several species of raptor, and many other species either fly over the site or use the surrounding lands for foraging although no recent breeding activity or nests were identified within a 2km radius of the site.

The proposed windfarm will undoubtedly cause a disturbance during the construction phase and some temporary species displacement may occur.

Raptors (excluding Hen Harrier): Raptors rarely use the site as it does not contain good nesting or foraging habitat although the EIAR bird surveys noted the occasional presence of Golden Eagle, Merlin, Peregrine and Sparrowhawk, along with more

frequent sightings of Buzzard which I also observed hovering over the NE section of the site on 2 of my 3-day site inspection. The EIAR Collision Risk modelling for these species indicates that there is a negligible risk of collision with turbines during the operational phase over the 30-year lifespan of the windfarm, although it would be slightly higher for Buzzard (7 in 30 years). Having regard to the small numbers of each species recorded during the surveys and the height at which they usually fly, I am satisfied that the proposed development would not pose a significant threat to most Raptors. Having regard to the EIAR survey results and collision risk estimates for Buzzard, a specific monitoring programme should be put in place for this species during the construction and operational phases. This could be addressed by way of a planning condition.

Hen Harrier: The site is located within an extensive NPWS non-designated special protection area for Hen Harrier and this species has an historical association with the site and the surrounding elevated peatland area. However, the character of the site and surrounding area has been significantly altered by the commercial coniferous forestry plantations and it no longer contains optimum habitat. The EIAR bird surveys (including the additional 2017 surveys requested by the Board) did not record any breeding activity or nests within the site or surrounding area, and the site has limited foraging potential because of the relatively closed nature of the canopy. The EIAR mitigation measures provide for on-going surveys and monitoring during and after construction and the creation of a 500m buffer around any identified nests within the site during the works, whilst the Habitat Enhancement Plan for forested areas to the NW of the site would provide a more open canopy for foraging birds. These measures, which also include the appointment of an on-site Ecological Clerk of Works, are considered acceptable in terms of site management, species protection and habitat enhancement. I am satisfied that the project would not have any adverse effects on Hen Harriers at the site or within the surrounding area. However, having regard to the protected status of this species and the historic importance of the area for Hen Harrier, a specific monitoring programme should be put in place for this species during the construction and operational phases. This could be addressed by way of a planning condition.

Wintering & migratory water birds and designated sites:

There are several European sites located close to the site and in the wider area which are designated because of their conservation importance to wintering and migratory waterbirds.

The nearby designated sites include Croaghonagh Bog SAC to the N of the site, Barnesmore Bog NHA to the S and Cashenavean Bog NHA to the W. These sites have been designated by NPWS because of their importance as Peatland and Blanket bog habitats and they are also frequented by several species of bird. This includes Greenland white fronted goose, Merlin, Kestrel and Red Grouse at Croaghonagh Bog, Red Grouse, Peregrine Falcon and Golden plover at Barnesmore Bog, and Red Grouse and Snipe at Cashenavean Bog.

The wider designated sites include the Dunragh Loughs/Pettigo Plateau SAC, Pettigo Plateau Nature Reserve SPA and Lough Derg SPA to the S, and Lough Nillan Bog SPA to the SE. These sites have been designated because of their importance to wintering and migratory waterbirds of conservation interest and some of the smaller Raptors. The Pettigo Plateau Nature reserve SPA is of importance to a nationally important flock of Greenland White-fronted geese which feed on the site. The Lough Nillan Bog SPA is also used by several species of conservation interest including Greenland White-fronted goose, Merlin, Golden Plover and Dunlin. The neighbouring Lough Derg SPA is designated for its importance to Lesser Black-backed Gull and Herring Gull. This SPA was previously used by GWFG however they have moved W to the Pettigo Plateau Nature Reserve SPA and coastal grasslands to the W. According to the NPWS Site Synopsis, wintering waterfowl are scarce at Lough Derg due to the oligotrophic character of the system.

The EIAR surveyed bird activity within c.37 lakes located within a 10km to 15km radius in the site including the designated sites and concluded that the windfarm site is not regularly overflowed by the bird species associated with any of these European sites. It concluded that the main commuting and migratory route is located to the W of the site through Barnesmore Gap. It also concluded that the site lies outside the normal commuting range for GWFG (as per SNH Guidelines) which utilise the Pettigo Plateau to the S of the sites. The bird survey results were used to calculate the collision risk with the proposed turbines and I am satisfied that the risk would be

minimal and that it would represent only a small fraction of the overall bird populations for which the European sites are designated.

Red grouse: the aforementioned designated sites and elevated peatlands also provide a suitable habitat for the resident Red Grouse, and the presence of a Red Grouse Sanctuary to the S of the site is noted. The EIAR surveys did not record the on-site presence of this species during any season and the closest record was c.500m away at Croaghonagh Bog SAC and Barnesmore Gap to the W was identified as the main commuting route. I am satisfied that the windfarm site and environs do not contain suitable breeding, nesting or foraging habitat because of the afforested character of the lands, and that the proposed windfarm would not have any significant adverse effects on breeding populations of Red Grouse in the wider area.

Other species: most other species will gradually habituate to the works after the construction phase is completed and the windfarm is operational and no significant adverse long-term impacts are anticipated.

NI bird populations: No adverse impacts on NI bird populations anticipated.

Barrier & cumulative effects: There are several operational, permitted and planned windfarms within a 20km radius of the site on both side of the NI Border, and several infrastructure projects are planned for the surrounding area. The EIAR concludes that there would be no cumulative impacts or barriers to movement as a result of in-combination effects. It is noted that this conclusion is not supported by reference to specific survey data. However, the survey results do indicate that the windfarm would not be located along a migratory or commuting route and I would concur with the conclusion of the NI agencies that given the lack on any local impacts on birds, it is unlikely that the windfarm would contribute to cumulative impacts in the wider area in combination with other projects. It is also noted that the EIAR does not deal with barriers to movement between nesting or roosting sites and foraging areas, however I am satisfied, having regard to the afforested character of the area and for the aforementioned reasons, that the windfarm would not have an adverse impact on such movements. Furthermore, the Pettigo Plateau Nature Reserve SPA to the S of the site forms part of a network of lakes from E to W of the SPA (including Lough

Nillan SPA), and it is likely that GWFG travel between these lakes and forage on the intervening peatlands.

9.8.6 Conclusions

Having regard to the foregoing, I am satisfied that the proposed development would not have any significant, adverse, long term or permanent impacts on the several species of bird which are conservation interests for the surrounding European sites and the non-designated special protection area for Hen Harrier, or any other bird species of conservation interest in the wider area. This is subject to the full implementation of the EIAR mitigation measures, any recommended conditions and adherence to all relevant guidance and best construction practice. Furthermore, the proposed development would not give rise to any significant adverse cumulative impacts in-combination with other windfarms, grid connections, plans or projects in the wider area.

9.9 Cultural Heritage, Tourism and Material Assets

9.9.1 Project description and location

The proposed windfarm would comprise excavation and construction works associated with the turbines, access tracks, borrow pits, met mast, substation and construction compounds within the site, along with minor works along the delivery and grid connection routes to the SW.

9.9.2 Project location

The windfarm would occupy a scenic upland location in SE Donegal along the NI Border and the lands mainly comprise commercial forestry over peatland. The windfarm would be located to the E of a major tourist route which extends from Donegal Town to Ballybofey through the dramatic Barnesmore Gap and parallel to Lough Mourne, and to the W of the Sperrin Mountains in NI. There are several high amenity areas, protected views, cultural heritage features, walking routes and

cycleways in the wider area on both sides of the Border and there are several dispersed houses and farms to the NE of the site. Donegal Airport is located to the far NW of the site.

9.9.3 Environmental Impact Assessment Report

Section 13 of the EIAR dealt with archaeology and cultural heritage and several desktop and field studies were undertaken, including a walkover survey of the site. The EIAR did not identify any National Monuments, Recorded Monuments or sites of archaeological or heritage interest within the site or the surrounding area, although it was noted that bogs have archaeological potential.

The EIAR identified several National Monuments that are located between c.15km and 21km of the proposed turbines on both sides of the Border (Donegal Castle, Donegal Friary, 2 x Standing Stones and 2 x Megalithic Tombs). Several more Recorded Monuments were identified within a 5km radius of the turbines (Ringforts, Megalithic Tombs and Standing Stones). The closest features are located c.1.5 and c. 2.2km to the SW of the T3 and T1 (Crannog and Holy Well). A further 2 x Recorded Monuments were identified along the proposed grid connection route to the Clogher substation to the SW of the site (Megalithic structure and Kiln). The EIAR concluded that no sites of archaeological interest would be adversely affected by the proposed works subject to mitigation measures (archaeological monitoring during construction, preservation by record, avoidance and protection).

The EIAR did not identify any Protected Structures or NIAH sites within the site or environs. It identified several Protected Structures (RoI) and Listed Buildings (NI) to the far NE, SE and SW of the site. The nearest feature comprises a Listed Building (Thatched Cottage) c.5km to the E of T9. It identified several NIAH sites between c.0.5km and 5km of the site (3 x bridges, barracks, school and chapel). The nearest feature comprises Meenbog Bridge c.700m to the NE of T17. It did not identify any Protected Structures located along the grid connection route although the cable would extend over an NIAH site (Keadew Bridge). The EIAR concluded that proposed works would not have an adverse impact on any of these features subject

to mitigation measures (including monitoring of groundworks and protection of features during construction).

Parts of Sections 5 and 12 of the EIAR dealt with Tourism with regard to attractions, high amenity areas, landscapes, views, walking routes and cycleways (Refer to Section 9.2 above). The EIAR stated that research indicates that that windfarms do not have an adverse effect on tourism and concludes that the tourism potential of the area would not be affected by the proposed turbines.

Section 14.2 of the EIAR dealt with material assets with respect to telecommunications and aviation and concluded that the wind farm will not interfere with air traffic and no electromagnetic interference is expected.

The EIAR did not predict any adverse impacts on cultural heritage, tourism or material assets, subject to mitigation measures with no residual or cumulative impacts predicted.

9.9.4 Previously proposed wind farm

Details of the larger 49 turbine windfarm (PA.0040) on the subject site at Meenbog (Carrickaduff) and a nearby site at Lismullyduff to the NE are summarised in section 1.3.1 above, and it is noted that the Board did not have any significant concerns in relation to these issues.

9.9.5 Assessment

As previously stated, I surveyed the wind farm site and the surrounding area over a 3-day period in March 2018. I had regard to the relevant EIAR archaeological, cultural heritage, tourism and material assets studies which are summarised in section 9.8.3 above. I had regard to the concerns raised by the Observers (Donegal County Council, Irish Aviation Authority, NI agencies, Donegal East Tourism, Glenties Windfarm Information Group, Glenfin Cable Action Group and several members of the public) which are summarised in sections 4.0 to 7.0. I had regard to the applicant's response to these concerns. I also had regard to national, regional

and local planning policy and to the earlier decision by the Board in relation to the previous wind farm proposal for the subject site.

Archaeology:

There are no National Monuments, Recorded Monuments or sites of archaeological interest located within the windfarm site or the surrounding area, however it is possible that the peatland site may contain as yet undiscovered artefacts. A condition should therefore be attached to ensure that the groundworks are monitored during the construction phase and that any discoveries are recorded and preserved by record. The Recorded Monuments in the vicinity of the GCR along the N15 should be protected during the construction works and the groundworks should also be monitored as above. It is noted that Donegal County Council and the NI Agencies did not raise any concerns in relation to archaeology or monuments, subject to the attachment of standard planning conditions.

Protected structures & NIAH:

There are no Protected Structures or NIAH sites located within the windfarm site although there are several interesting features in the surrounding area including a Thatched Cottage (LB) to the E and Meenbog Bridge (NIAH) to the NE. Keadew Bridge (NIAH) to the SW of the site would be affected along the GCR as the cable would extend over it. There are also several features of interest located along the delivery route (N56 and N15) and care should be taken to ensure that no damage occurs to buildings and structures in the wider area. It is noted that Donegal County Council and the NI Agencies did not raise any concerns in relation to cultural heritage subject to the attachment of standard planning conditions.

Tourism:

The concerns raised by the Observers including Donegal East Tourism, Glenties Windfarm Information Group, Glenfin Cable Action Group, some of the NI Agencies and several members of the public are noted in relation to the potential impact of the proposal on the landscape and the promotion of tourism. And in particular, the concerns raised by Donegal East Tourism, in relation to the promotion of Barnesmore Gap and Lough Mourne to the Finn and Lagan Valleys, as a major tourist destination are noted.

The main issues relate to the visual impact of the proposed windfarm on the surrounding high amenity landscapes and protected views along with the consequent impact on tourism and recreation (including mountaineering, hillwalking and cycling). These issues have been mainly addressed in section 9.2 above. It is noted that recent research on the impact of windfarms on tourism and upland recreational activities is varied and inconclusive. However, having regard to the conclusions reached in section 9.2 above, I am satisfied that the proposed development would not have a significant impact on tourism or the tourist potential of the area. Furthermore, the proposed windfarm would not interfere with the character or setting of any heritage features which form part of the tourism offer of the county because of the separation distances between the windfarm and these features.

Material assets:

The proposed windfarm would not have a significant impact on aviation, having regard to the separation distance and subject to compliance with standard aviation conditions and it is noted that the IAA had no objections subject to its standard visibility requirements. There would be no significant impacts from electromagnetic interference given the sparsely populated nature of the area. The operational windfarm project will contribute to the provision of renewable energy and contribute to a reduction in greenhouse gas emissions, although it is noted that this would be weighed against the loss of peatland which functions as a carbon sink. It is also noted that Donegal County Council did not raise any concerns in relation to telecommunications or aviation subject to the attachment of standard conditions.

9.9.6 Conclusions

Having regard to the above, I am satisfied that the proposed development would not adversely affect cultural heritage, tourism or material assets to any significant extent, subject to the full implementation of the EIAR mitigation measures and any recommended planning conditions. The proposed development would not give rise to any significant adverse cumulative impacts in-combination with other windfarms, the grid connection routes, or plans and projects in the area.

9.10 Other issues

Grid connection: The applicant has submitted sufficient information with the planning application, EIAR and NIS to enable the Board to undertake a cumulative impact assessment of any impacts on the environment, and likely significant effects on European sites, of the overall windfarm development in-combination with the two grid connection route options, other windfarms, and plans or projects in the vicinity.

Competency: I am satisfied that the EIAR surveys and data analysis have been undertaken by suitably qualified experts in their relevant fields.

Environmental services: The sanitary arrangements are considered acceptable.

Flood risk: This issues has been addressed in relation to the windfarm site, the delivery and the two grid connection route options, and the proposed development would not give rise to a flood risk.

Suggested conditions: The conditions suggested by the County Council and other agencies have been addressed in the relevant sections of this report.

Community benefit: The proposed financial contribution and public amenity area is considered acceptable the management of the fund should be agreed with the PA.

Carbon savings: I am satisfied that there would be significant savings over the 30-year lifespan of the project

Radon and uranium: I am satisfied that there would not be a problem having regard to the geological character of the area.

Financial contributions and bonds: The standard development contribution and bond conditions should be attached.

10.0 ENVIRONMENTAL IMPACT ASSESSMENT

10.1 Compliance legislative requirements

This application was submitted after 16th May 2017, the date for transposition of Directive 2014/52/EU amending the 2011 EIA Directive. The Directive has not, however, been transposed into Irish legislation to date. In accordance with the advice on administrative provisions in advance of transposition contained in Circular letter PL1/2017, it is proposed to apply the requirements of Directive 2014/52/EU.

The application is accompanied by an EIAR, as required for any application made under Section 37A. The EIAR is laid out as follows:

- Non-Technical Summary
- Main Statement
- Photomontages
- Technical Appendices

I am satisfied that the information contained in the EIAR complies with article 94 of the Planning and Development Regulations 2000, as amended, and the provisions of Article 5 of the EIA Directive 2014.

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 results of the submissions made by the planning authority, prescribed bodies and observers has been set out at Sections 4.0 to 7.0 of this report.

The EIAR describes the proposed development, including information on the site and the project size and design. A description of the main alternatives studied by the developer and alternative locations considered, is provided and the reasons for the preferred choice. The impact of the proposed development was assessed under all the relevant headings with respect to population and human health; noise, shadow flicker, air and climate; biodiversity; landscape; land, geology and soils; hydrology and hydrogeology; roads and traffic; material assets and cultural heritage;

interactions of impacts; and the suggested mitigation measures are set out at the end of each chapter. The content and scope of the EIAR is considered to be acceptable and in compliance with Planning Regulations. No likely significant adverse impacts were identified in the EIAR.

With regard to the requirements of Article 111 of the regulations, I consider that the submissions are generally in accordance with the requirements of Article 94 of the Planning and Development Regulations 2001, as amended. Cumulative impacts with other plans and projects in the area are not considered likely to be significant.

10.2 Likely significant effects arising from the proposed development

Section 9.0 of this report identifies, describes and assesses the main planning issues arising from the proposed development and section 9.0 should be considered in conjunction with the following environmental impact assessment (EIA). The EIA identifies and summarises the likely significant effects of the proposed development on the environment with respect to a number of factors. It identifies the main mitigation measures and residual impacts following mitigation, it assesses cumulative impacts and it reaches a conclusion with respect to each of the factors. The EIA also considers the risks associated with major accidents and/or disasters.

Population & human health	Mitigation measures
<p>Noise: Potential for negative noise impacts on residential amenities from construction activities and minor intrusion during operational phase.</p> <p>Dust: Dust & air quality issues from the construction phase.</p> <p>Traffic emissions: Traffic volumes during construction have the potential for local air quality impacts.</p>	<p>Compliance with guidance for noise & dust control during construction & operation; and noise & dust monitoring.</p> <p>Phasing & timing of construction works.</p> <p>Compliance with best construction management measures.</p> <p>Prior notification of work, traffic management & phased delivery of components.</p>

<p>Shadow flicker: Potential minor disturbance at some houses.</p> <p>Electromagnetic interference: Minor potential for impacts on TV reception.</p> <p>Visual intrusion: Potential for visual impacts on house and tourism.</p> <p>Health & safety: Potential for on-site accidents.</p>	<p>Maximum feasible distance from houses, shadow flicker monitoring & turbine pre-programming.</p> <p>On-going monitoring.</p> <p>Layout and siting c.750m away from nearest non-consenting property owner.</p> <p>Compliance with all relevant health & safety legislation & security fencing during works.</p>
<p>Residual Effects: There will be some increase in noise, dust & traffic emissions during the construction and operational phases however predicted levels are within guidance limit values. Residual impacts are not predicted to be significant.</p>	
<p>Cumulative Impacts: None predicted.</p>	
<p>Conclusion: I have considered all the written submissions made in relation to population and human health, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and that no significant adverse effect is likely to arise.</p>	

Air & Climate	Mitigation measures
<p>Dust: Dust & air quality issues from the construction phase.</p> <p>Traffic emissions: Traffic volumes during construction have the potential</p>	<p>Compliance with guidance for dust control during construction & operation; and noise monitoring.</p> <p>Phasing & timing of construction works.</p> <p>Compliance with best construction</p>

for local air quality impacts.	management measures. Prior notification of work, traffic management & phased delivery of components.
Residual Effects: There will be some increase in dust & traffic emissions during the construction phase however predicted levels are within guidance limit values and residual impacts are not predicted to be significant.	
Cumulative Impacts: None predicted.	
Conclusion: I have considered all the written submissions made in relation to population and human health, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and that no significant adverse effect is likely to arise.	

Landscape	Mitigation measures
<p>Scale, height & extent of visibility: The turbines will be visible from a number of locations</p> <p>Impact on protected views & landscape character: Potential impacts when viewed from outside the immediate area to the NW & NE and minor impacts when viewed from inside or nearby.</p>	<p>No realistic measures given the scale & height of the turbines and their location on an elevated upland site.</p> <p>As above</p>
Residual Effects: Impacts predicted to be moderate to the SW and NE.	
Cumulative Impacts: Some impacts predicted but not considered to be significant.	
Conclusion: I have considered all the written submissions made in relation to landscape, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and that no significant adverse effect is likely to arise.	

Biodiversity	Mitigation Measures
<p>Habitats:</p> <p>Permanent loss of Priority 1 Blanket bog habitat in NE section (not within a European site).</p> <p>Permanent loss of 74ha forestry.</p> <p>Fisheries & aquatic life:</p> <p>Potential pollution of watercourses by suspended solids & building materials released during construction, from potential peat slippage during and after construction.</p> <p>Potential pollution of watercourses by suspended solids during grid connection cabling works.</p> <p>Birds:</p> <p>Potential effect on European site species, loss of habitat, disturbance during construction & operation, collision impacts & mortality, and potential displacement & barrier effects.</p>	<p>Habitat Restoration Plan.</p> <p>Reforestation plan for 4 areas.</p> <p>Suite of measures including timing and sequencing of works; on-site drainage; buffer zones, silt traps, interceptors & settlement ponds; water treatment; approved storage & disposal sites.</p> <p>Adherence to best construction practice methodologies; peat & spoil management plan; ongoing inspection & monitoring.</p> <p>Timing of works, seasonality, Ecological Clerk of Works.</p> <p>Compliance with EU, EPA, NRA & IFI standards for water quality, construction practice methodologies, and monitoring.</p> <p>Adherence to best construction practice.</p> <p>Timing of works & seasonality.</p> <p>Ecological Clerk of Works.</p> <p>HH Habitat Enhancement Plan.</p> <p>HH buffer zones around nests (if found).</p> <p>Ongoing inspections & monitoring.</p> <p>Regular visual inspections (construction &</p>

<p>Bats: Potential effects on foraging species during construction & operation.</p> <p>Other species: Potential disturbance during construction to mammals (including otter), reptiles & invertebrates,</p>	<p>operational phases).</p> <p>Vegetation free buffers at turbine bases. Minimal artificial lighting. Timing of works & seasonality. Regular inspections & monitoring. Ecological Clerk of Works.</p> <p>Buffer zones around watercourses (otter) Timing of works & seasonality. Regular inspections & monitoring. Ecological Clerk of Works.</p>
<p>Residual Effects: None predicted following mitigation but some minor localised loss of Priority 1 Blanket Bog Habitat (Non SAC/SPA).</p>	
<p>Cumulative Impacts: None predicted.</p>	
<p>Conclusion: I have considered all the written submissions made in relation to biodiversity, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and that no significant adverse effect is likely to arise.</p>	

Land, soil & water	Mitigation Measures
<p><i>Excavations:</i> of turbine bases, access tracks & borrow pits, and the disposal of a significant amount of peat could have potential impacts on water quality, fisheries and aquatic life and site stability (peat slippage).</p>	<p>Suite of measures including timing and sequencing of works; on-site drainage; buffer zones, silt traps, interceptors & settlement ponds; water treatment; approved storage & disposal sites; best construction practice methodologies; adherence to peat management plan; & ongoing inspection & monitoring.</p>

<p><i>Ground and surface water contamination:</i> Leakage & spillages from construction vehicles and fuel stores & peat storage areas.</p>	<p>Buffer zones around watercourses; suite of measures as above; bunding; & adherence to best construction practices</p>
<p>Residual Effects: Residual impacts not predicted to be significant subject to the implementation of mitigation measures.</p>	
<p>Cumulative Impacts: None predicted.</p>	
<p>Conclusion: I have considered all the written submissions made in relation to land, soil & water, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and that no significant adverse effect is likely to arise.</p>	

Material assets & cultural heritage	Mitigation measures
<p><i>Impact on local road network:</i> Potential for short term disruption during road & junction upgrades, and during construction and deliveries.</p>	<p>Compliance with Council and TII requirements in relation to road improvements, permits and licences.</p>
<p><i>Road safety:</i> Potential for short term disruption during construction.</p>	<p>Consult with local community prior to turbine delivery; sequencing & timing of deliveries; use of appropriate vehicles.</p>
<p><i>Forestry:</i> Potential impacts related to clear felling on surface water runoff, water quality and wildlife (aquatic life & fisheries)</p>	<p>Refer to previous tables for ecology and land, soils & water. Compliance with relevant guidelines.</p>
<p><i>Features of heritage interest:</i> Potential impacts on unrecorded artefacts within the site.</p>	<p>Advance testing, appointment of archaeological consultant & on-going monitoring.</p>

Residual Effects: Residual impacts are not predicted to be significant.

Cumulative Impacts: None predicted

Conclusion: I have considered all the written submissions made in relation to material assets and cultural heritage, in addition to those specifically identified in this section of the report. I am satisfied that they have been appropriately addressed in terms of the application and that no significant adverse effect is likely to arise.

Summary of Interactions & Interrelationships

I have also considered the interrelationships between factors and whether this might as a whole affect the environment, even though the effects may be acceptable when considered on an individual basis. In particular the potential arises for the following interactions and interrelationships.

Population & human health:

- Noise, dust & shadow flicker
- Air Quality & climate
- Landscape & visual amenity
- Material Assets (electromagnetic interference)
- Road and traffic (safety & disturbance)

Air & climate

- Noise & dust
- Roads & traffic (emissions)
- Population & human health

Landscape

- Population & human health (visual amenity)
- Material Assets & Cultural Heritage (tourism & recreation)

Biodiversity:

- Hydrology (water quality & fisheries)
- Population & human health (water quality)
- Material assets (tree felling)
- Landscape (visual amenity)
- Soils & geology (siltation & water quality)
- Land

Land, Soil & water:

- Air quality
- Biodiversity (terrestrial & aquatic)
- Population & human health

Material Assets & Cultural Heritage:

- Population & human health
- Land
- Landscape (visual)
- Roads and traffic (disturbance & safety)

In conclusion, I am satisfied that any such impacts can be avoided, managed and mitigated by the measures which form part of the proposed development and the aforementioned conditions, as recommended in section 9.0 above.

Consideration of cumulative impacts

The following existing or permitted plans and projects are located within a 20km radius of the proposed development on both sides of the NI Border:

- Ballybofey Stranorlor N15 Bypass
- N15 Blackburn Bridge Re-Alignment Scheme
- Clogher substation
- Stone quarry
- Operational and permitted windfarms within 5km (57 turbines)
- Proposed and appealed windfarms within 5km (11 turbines)
- Operational and permitted windfarms within 5-10km (76 turbines)
- Proposed and appealed windfarms within 5-10km (15 turbines)
- Operational and permitted windfarms within 10-15km (76 turbines)
- Proposed and appealed windfarms within 10-15km (30 turbines)
- Operational and permitted windfarms within 15-20km (114 turbines)
- Proposed and appealed windfarms within 15-20km (26 turbines)

In conclusion, I am satisfied that such effects can be avoided, managed and mitigated by the measures which form part of the proposed development, mitigations measures, and suitable conditions. There is, therefore, nothing to prevent the granting of permission on the grounds of cumulative effects.

Consideration of risks associated with major accidents and/or disasters

None identified and the potential impacts associated with climate change have been factored into the relevant sections of the EIAR.

10.3 Reasoned Conclusion on Significant Effects

Having regard to the examination of environmental information contained above, and in particular to the EIAR and the submissions from the planning authority, prescribed bodies, NI agencies, and observers in the course of the application, it is considered that the main significant direct and indirect effects of the proposed development on the environment have been identified in section 9.0 and section 10.0 of this report. It is considered that the main significant direct and indirect impacts of the proposed development on the environment are as follows. Where appropriate, the relevant mitigation measure as referenced in the EIAR are cited.

- The ***risk of peat erosion and peat instability during the construction and operational phase*** through a lack of control over, or mismanagement of the excavation and peat/spoil removal works. These impacts would be mitigated by the agreement of measures within a Construction and Environment Management Plan (Appendix 4.4) and the implementation of mitigation measures related to: - stability and erosion (MM51 to MM56) and the implementation of a Peat and Spoil Management Plan (Appendix 4.2).
- The ***risk of pollution of ground and surface waters during the construction phase*** through a lack of control of surface water during excavation and construction, the mobilisation of peat sediments and other materials during excavation and construction and the necessity to undertake construction activities in the vicinity of existing watercourses. The construction of the proposed project could also potentially impact negatively on ground and surface waters by way of contamination through accidents and spillages. These impacts would be mitigated by the agreement of measures within a Construction and Environment Management Plan (Appendix 4.4) and the implementation of mitigation measures related to: - design and avoidance (MM6 to MM14); accidental spills and contamination (MM20-35); drainage management (MM36 to MM50).

- **Biodiversity impacts** arising from the changes to the vegetation on the site, connections to foraging, aquatic and water dependent habitats and general disturbance during the construction and operational phases. These impacts would be mitigated by the agreement of measures within a Construction and Environment Management Plan (Appendix 4.4) and the implementation of mitigation measures which include: - Pre-construction Mammal Surveys (MM17); Peat Stability and Water Quality (as above); an Invasive Species Management Plan (MM16); the appointment of an Ecological Clerk of Works; the implementation of a Hen Harrier Enhancement Plan (Appendix 7.7) and a Forestry Replanting Plan (Appendix 4.3).
- The proposed project gives rise to an increase in **vehicle movements and resulting traffic impacts** during the construction phase and significant impacts on the road network can be avoided by the proposed works along the N15 which include an upgraded site access. These impacts would be mitigated by the agreement of measures within a Construction and Environment Management Plan (Appendix 4.4) and the implementation of mitigation measures related to: - pre-construction road condition surveys (MM18); deliveries (MM70 and MM71); and the implementation of a Construction Traffic Management Plan and Mobility Management Plan.
- **Air pollution and noise during the construction and operational phase** which would impact negatively on sensitive receptors and populations in the vicinity of the site. These impacts are substantially avoided by the limited number of sensitive receptors in close proximity to the proposed development. Any remaining impacts would be mitigated by the agreement of measures within a Construction and Environment Management Plan (Appendix 4.4) and the implementation of mitigation measures related to: - air quality/dust (MM57 to MM57), noise (MM60 to MM63) and vibration (MM64).

- **Shadow flicker during the operational phase** such as would impact negatively on sensitive receptors and populations in the vicinity of the site. These impacts are substantially avoided by the limited number of sensitive receptors in close proximity to the site and any remaining impacts would be mitigated by the agreement of measures within a Construction and Environment Management Plan (Appendix 4.4).
- The project could give rise to an increased risk of damage to **cultural heritage** (including as yet undiscovered archaeological features) during the construction phase.
- The project could give rise visual impacts on the **landscape** during the operational phase as a result of the installation of tall structures.
- The proposed development would have **potentially significant positive environmental impacts** during the operational phase from the generation of renewable energy, a reduction in carbon emissions and the creation of a new public amenity area.

In **conclusion**, having regard to the above identified significant effects, I am satisfied that subject to mitigation measures proposed the proposed development would not have any unacceptable direct or indirect impacts on the environment.

11.0 APPROPRIATE ASSESSMENT

11.1 Compliance with Articles 6(3) of the EU Habitats Directive

The Habitats Directive deals with the Conservation of Natural Habitats and of Wild Fauna and Flora throughout the European Union. Article 6(3) of this Directive requires that any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives. The competent authority must be satisfied that the proposal will not adversely affect the integrity of the European site.

11.2 Natura Impact Statement

The application was accompanied by a Stage 1 AA Screening Report and a Stage 2 Natura Impact Statement (NIS). These reports described the site and the proposed development, and the reports used the extensive data which was collected as part of the EIAR desk and field surveys. The NIS and AA Screening reports confirmed that the proposed development (including the grid connection route) would not be located within any European sites. The AA screening exercise identified 17 European sites within a 15km radius of the proposed works, it had regard to the EIAR ecological surveys and assessments (water quality, aquatic & terrestrial wildlife, bird surveys & collision risk assessments), and it screened out the sites which would not be affected by the proposed development.

The NIS identified the following 4 European sites that have the potential to be affected by the proposed development:

- Croaghonagh Bog SAC
- River Finn SAC
- River Foyle & Tributaries SAC
- Lough Eske & Ardnamona Wood SAC

The NIS listed the Qualifying Interests and Conservation Objectives for each of these SAC sites. It identified the potential sources of direct and indirect impacts on the sites, assessed the potential impacts relative to the Conservation Objectives for each site. It had regard to the EIAR water quality assessments and ecological surveys and concluded that the risk for the habitats and species which are designated as Qualifying Interests for the SAC was minimal subject to the implementation of the EIAR mitigation measures to protect water quality. It formally concluded that the proposed development, in view of the best scientific knowledge and on the basis of objective information, either individually or in combination with other plans and projects, is not likely to have any significant adverse effects on the Conservation Objectives or overall integrity of any European Sites.

11.3 AA Screening Assessment

The main issues related to ecology and the concerns raised by the Observers are summarised and addressed in Sections 4.0 to 7.0 (Observations), sections 9.6 to 9.8 (planning assessment-ecology) and section 10.0 (environmental impact assessment) of this report. Sections 9.6, 9.7, 9.8 and section 10.0 and should be read in conjunction with this assessment.

The proposed development would not be located within an area covered by any European site designations and it is not relevant to the maintenance of any such sites. The following European sites are located within a 15km radius of the windfarm site and their relevant Qualifying Interests and separation distances from the site boundary and nearest works are listed.

SACs	Site code	QIs	Separation distances
Croagnonagh Bog	000129	Blanket Bog	Adjoins NW boundary Adjoins access road
River Foyle & Tributaries	UK 030320	Atlantic salmon Ranunculion veg Otter	Adjoins SE boundary 4km from works
Lough Eske &	000163	Oligotrophic waters	4.6km from site

Ardnamona Wood		Petrified springs Salmon & FWPM	Adjoins end of GCR
River Finn	002301	Oligotrophic waters Wet Heaths Blanket/Quaking Salmon & Otter	1.0km NE of boundary 4km from works
Dunragh Loughs/ Pettigo Plateau	001125	Wet heaths Blanket Bog	6km S of boundary 5km from works
Meenaguse Scragh	001880	Wet heath	13km W of boundary 10km from works
Lough Nageage	002135	Crayfish	13km SE of boundary 17km from works
Meenaguse/ Ardbane Bog	000172	Blanket bogs	13.5km W of boundary 9.5km from works
Monegal Bog	UK003211	Raised bogs	13.5km E of boundary 18km from works
Donegal Bay	000133	Mudflats Dunes & slacks	14km SW of boundary 8km from GCR works
Lough Nillan Bog	000165	Oligotrophic waters Blanket bogs	15km W of boundary 12.5km from works
Tamur Bog	001992	Wet heaths Blanket bogs Peat depressions	15km S of boundary 12km from works
Ballintra Bog	000115	Dry heaths Limestone	20km S of boundary 15km from works

SPAs	Site code	Conservation Interests	Approximate Separation Distances
Lough Derg	004057	Lesser BB Gull Herring Gull	7.5km S of boundary 8.5km from works
Pettigo Plateau Nature Reserve	004099	Greenland White-fronted Goose (GWFG)	8.7km S of boundary 6.3km from nearest off-site works
Donegal Bay	004151	Great N Diver Brent goose Common Scooter Sanderling Waterbirds	14km S of boundary 8km from nearest off-site works
Lough Nillan Bog	004110	Merlin Golden plover GWFG & Dunlin	15km W of boundary 13.5km from nearest off-site works

I am satisfied that all but 5 of these sites can be screened out of any further assessment because of the nature of the European site, the absence of relevant Qualifying Interests downstream of the works, the absence of an aquatic connection between the European site and the windfarm site, or the location of the European site significantly outside of the core foraging range of birds in the SNH Guidance Assessing Connectivity with SPAs Version 3 (2016) document.

- Merlin (5km)
- Golden plover (3-11km)
- GWFG (5-8km)
- Dunlin (500m – 3km)

It is noted that the Lough Nillan Bog SPA is located significantly outside the following core ranges.

The 5 relevant European sites that remain after the AA Screening exercise are:

- Croagnonagh Bog SAC
- River Finn SAC
- River Foyle & Tributaries SAC
- Lough Eske & Ardnamona Wood SAC
- Pettigo Plateau Nature Reserve SPA

AA Screening Conclusion

In conclusion, having regard to the nature and scale of the proposed development, to the separation of the application site from European sites, to the nature of the qualifying interests and conservation objectives of the European sites and to the available information as presented in the EIAR regarding ground and surface water pathways between the application site and the European sites and other information available, it is my opinion that the proposed development has the potential to affect 5 of the European sites having regard to the conservation objectives of the relevant sites, and that progression to a Stage 2 Appropriate Assessment is required.

11.3 Appropriate Assessment:

The relevant details for the 5 remaining European sites are summarised below:

Site name	QIs and CIs	Conservation Objectives
Croagnonagh Bog SAC (IR000129)	Blanket Bog	To restore the favourable conservation condition of Blanket bogs.
River Finn SAC (IR002301)	Oligotrophic waters Wet Heaths Blanket/Quaking Salmon & Otter	To maintain or restore the favourable conservation condition of the habitat(s) and/or the species for which the SAC has been selected.

River Foyle & Tributaries SAC (UK0030320)	Atlantic salmon Ranunculion veg Otter	To maintain (or restore where appropriate) Atlantic Salmon, Ranunculus vegetation & Otter to favourable condition.
Lough Eske & Ardnamona Wood SAC (IR000163)	Oligotrophic waters Petrified Springs Salmon FWPM	To maintain or restore the favourable conservation condition of the habitat(s) and/or the species for which the SAC has been selected.
Pettigo Plateau Nature Reserve SPA (IR004099)	GWFG	To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for the SPA.

The potential indirect effects relate to:

- Transport of pollutants in ground or surface water flowing into the SAC/SPA via on-site tributaries.
- Ex-situ impacts on qualifying species outside the SAC/SPA but which is an integral and connected part of the population of qualifying interest species such as Otter.
- Possible interference with grazing lands and flight lines of bird species associated with the SAC/SPA or possible collision of birds from the SAC/SPA with the turbines.

Croaghonagh Bog SAC:

This SAC is located to the immediate N of the windfarm site boundary, it has been designated for its importance for Blanket Bog and a short (c.500m) section of the access road runs parallel to the SAC site boundary. There would be no significant

loss of habitat or any other significant **direct** effects as a result of the proposed works. Although there is potential for some minor damage to a sliver of the Blanket Bog habitat where it interfaces with the access track, it was noted during my site inspection that this section was not in good condition and that any damage to the bog would soon begin regenerate once the works are complete.

The N section of the site is connected to the SAC via on-site drainage ditches and watercourses and there is potential for **indirect** effects on water quality during the construction and operational phases. However, the EIAR construction phase mitigation measures would ensure that any fine sediments released during the excavation and construction works, or any contaminants resulting from accidental spills or accidents, would not reach the SAC. The EIAR post-construction monitoring during the operational phase would continue to protect water quality, although this is not required to reach a conclusion of no adverse effect.

It can be reasonably concluded on the basis of best scientific knowledge therefore that the proposed development will not adversely affect the integrity of the Croaghonagh Bog SAC in view of the sites' Conservation Objectives.

River Finn SAC and River Foyle & Tributaries SAC:

A section of the River Finn SAC is located c.1km to NE of the windfarm site and another section is located to the far SE of the site boundary. The River Finn SAC has been designated for its importance to several Qualifying Interest habitats (Oligotrophic waters, Wet heaths, Blanket bog and Quaking bog) and species (Salmon and Otter). The River Finn SAC discharges to the River Foyle and Tributaries SAC. This SAC has been designated for its importance for one Qualifying Interest habitat (Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitriche-Batrachion* vegetation) and two species (Atlantic Salmon and Otter).

The N section of the site is connected to the River Finn SAC via on-site drainage ditches and watercourses that drain NW to the Bunadowan River which in turn flows in a northerly direction before discharging to the Mourne Beg River. This

watercourse joins the River Foyle and Tributaries SAC c.15km to the E of the site. The SE section of the site is also connected to the River Finn SAC via on-site drainage ditches and watercourses which drain S to the Gendergan River. This watercourse flows SE and then NE to connect with the N section of the River Finn SAC c.15km to the E of the site, where both watercourses merge to form part of the River Foyle and Tributaries SAC which ultimately drains into Lough Foyle SAC to the far N of the site.

The proposed windfarm would not be located within either of these European sites and there would be no **direct** effects on the SACs as a result of the proposed works. None of the QI habitats for the River Finn SAC are located downstream in close proximity to the windfarm site. Although the Ranunculus community is present downstream of the works in the River Foyle and Tributaries SAC (in the lower sections of the River Derg, Strule and Mourne Rivers) the EIAR mitigation measures and substantial separation distance are sufficient to ensure that there would be no adverse effects on this Qualifying Interest.

There is potential for **indirect** effects on water quality and some of the Qualifying Interest habitats and species in both SACs during the construction and operational phases. These indirect effects could affect Salmon (smothering & habitat deterioration) and Otter (disturbance and loss of prey) in the River Finn SAC, and the Ranunculus community (water quality), Salmon (smothering & habitat deterioration) and Otter (disturbance and loss of prey) in the River Foyle and Tributaries SAC.

However, the EIAR construction phase mitigation measures would ensure that any fine sediments released during the excavation and construction works, or any contaminants resulting from accidental spills or accidents would not reach the SACs. It is noted that, the EIAR post construction monitoring during the operational phase would continue to protect water quality although this is not necessary to reach a conclusion of no adverse effect.

It can be reasonably concluded on the basis of best scientific knowledge therefore that the proposed development will not adversely affect the integrity of the River Finn SAC and River Foyle & Tributaries SAC in view of the sites' Conservation Objectives.

Lough Eske and Arnamona Woods SAC:

This SAC is located to the SW of the windfarm site and to the immediate SW of the southern end of the underground GCR. The SAC has been designated for its importance to several freshwater habitats (including Oligotrophic waters and Petrified Springs), and two species (Freshwater Pearl Mussel and Salmon). There are several known populations of FWPM located along the Lowerymore River downstream of the proposed GCR works before the river enters Lough Eske and within the area covered by the FWPM Sub-Basin Management Plan.

There is no direct aquatic connection between the windfarm site and this SAC via on-site drainage ditches and watercourses and there is therefore no potential for **direct** effects on water quality during the construction and operational phases of the windfarm. The GCR would run underground along the N15 close to the Lowerymore River and there would be no direct impacts on the SAC.

However, there is potential for **indirect** effects on water quality and some of the Qualifying Interest species in this SAC during the construction phase. These indirect effects could affect Salmon and Freshwater Pearl Mussel populations (smothering & habitat deterioration) in the Lowerymore River. However, the EIAR construction phase mitigation measures would ensure that any fine sediments released during the excavation and underground cabling works, or any contaminants resulting from accidental spills or accidents, would not reach the SAC.

It can be reasonably concluded on the basis of best scientific knowledge therefore that the proposed development will not adversely affect the integrity of the River Lough Eske and Arnamona Woods SAC in view of the sites' Conservation Objectives.

Pettigo Plateau Nature Reserve SPA:

This SPA is located c.9km to the S of the windfarm site and it has been designated for its importance to wintering Greenland white-fronted goose (GWFG). According to the NPWS Site Synopsis, this SPA to the SE of Lough Derg comprises an extensive complex of blanket bog, wet heath, lakes and pools in an area of low hills and broad basins (c.690ha). At the time this site was designated as a SPA in 1996 it was being utilised by a GWFG population, however prior to this in the 1980s the flock utilising this site largely deserted the bogs in favour of coastal grassland sites (including Durnesh Lough SPA to the W). The Site Synopsis concludes that GWFG still occurs within this site and that it is one of the few places where this species continues to utilise peatland habitats.

The EIAR carried out extensive bird surveys which were used to inform the NIS and the survey data is summarised and assessed in the section 9.8.3 above. A wide variety of bird species was recorded in the vicinity of the windfarm site including a small number of GWFG on Croaghonagh Bog to the immediate N of the site. The EIAR also carried out extensive bird surveys of c.37 lakes located within a 10km to 15km km radius of the site. The NIS concluded that the windfarm site is not used by the GWFG which occupy the Pettigo Plateau Nature Reserve SPA as the site lies outside the 8km core foraging range (as per the 2016 SNH Guidance) and that the bird surveys confirm that the site is not regularly overflow by this species.

This SPA is located c.8.7km S of windfarm sites boundary and c.6.3km from the nearest off-site activity (GCR works), and given that the windfarm site is just marginally outside the 8km core foraging area of for GWFG, this European site and its Qualifying Interest requires further consideration. It is noted that several other SPAs, which have been designated for their importance to GWFG, are located to the SE, S and SW of the windfarm site, but well outside the 8km core foraging range for the proposed development. However, these SPAs are located in relatively close proximity to the Pettigo Plateau SPA and it is more than likely that the GWFG commute between these nearby sites and use the intervening peatland for foraging.

The Observers raised concerns that there is insufficient data to allow the Board to carry out an Appropriate Assessment, however I am satisfied with the applicant's survey effort which extended over a 3-year period and accords with all relevant SNH Guidance, contains sufficient survey data to justify the conclusion of no significant adverse effects on GWFG which is a designated Conservation Interest for this SPA.

It can be reasonably concluded on the basis of best scientific knowledge therefore that the proposed development will not adversely affect the integrity of the Pettigo Plateau Nature Reserve SPA in view of the sites' Conservation Objectives.

Conclusions:

1. I concur with the conclusions reached in the NIS that the proposed windfarm development will have no significant adverse effects (direct, indirect or in-combination) on the Conservation Objectives, Qualifying Interests or Conservation Interests for the Croaghnonagh Bog SAC, the River Finn SAC, the River Foyle and Tributaries SAC, the Lough Eske and Ardnamona SAC, or the Pettigo Plateau Nature Reserve SPA, or for any other European Site.
2. I concur with the conclusions reached in the NIS that the proposed grid connection will have no significant adverse effects (direct, indirect or in-combination) on the Conservation Objectives or Qualifying Interests for the Lough Eske and Ardnamona SAC, or for any other European Site.

11.4 Appropriate Assessment conclusion:

I consider it reasonable to conclude on the basis of the information on the file, which I consider adequate in order to carry out a Stage 2 Appropriate Assessment, that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the European site Nos. 000129, UK030320, 002301 or 004099 or any other European site, in view of the site's Conservation Objectives.

12.0 RECOMMENDATION

I recommend that planning permission should be granted for the proposed development for the reasons and considerations set down below, subject to compliance with the attached conditions and in accordance with the following Draft Order.

Reasons and considerations

Having regard to:

- a. the national targets for renewable energy contribution of 40% gross electricity consumption by 2020,
- b. the “Wind Energy Development Guidelines - Guidelines for Planning Authorities”, issued by the Department of the Environment, Heritage and Local Government in June 2006,
- c. the policies of the planning authority as set out in the Donegal County Development Plan (2012-2018),
- d. the proximity and availability of a grid connection to serve the proposed development,
- e. the distance to dwellings or other sensitive receptors from the proposed development,
- f. the good transport access,
- g. the submissions made in connection with the planning application,

- h. 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, and
- i. the report and recommendation of the Inspector.

Appropriate Assessment:

The Board considered the Screening Report for Appropriate Assessment, the Natura Impact Statement and all other relevant submissions and carried out an appropriate assessment screening exercise and an appropriate assessment in relation to the potential effects of the proposed development on designated European Sites. The Board noted that the proposed development is not directly connected with or necessary for the management of a European Site and considered the nature, scale and location of the proposed development, as well as the report of the Inspector. In completing the appropriate assessment, the Board adopted the report of the Inspector and concluded that, by itself or in-combination with other plans and projects in the vicinity, the proposed development would not be likely to have a significant effect on any European site in view of the sites' conservation objectives.

Environmental Impact Assessment:

The Board completed an environmental impact assessment of the proposed development taking account of:

- (a) the nature, scale, location and extent of the proposed development on a site,
- (b) the Environmental Impact Assessment Report (EIAR) and associated documentation submitted in support of the planning application,
- (c) the submissions received from the local authority, prescribed bodies, transboundary bodies and observers, and
- (d) the Inspector's report.

The Board considered that the environmental impact assessment report, supported by the documentation submitted by the applicant, adequately considers alternatives to the proposed development and identifies and describes adequately the direct, indirect, secondary and cumulative effects of the proposed development on the environment. The Board agreed with the 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 planning application. The Board considered that the main significant direct and indirect effects of the proposed development on the environment are, and would be mitigated, as follows:

- Noise, vibration, dust and shadow flicker during the construction and/or the operational phases would be avoided by the implementation of the measures set out in the Environmental Impact Assessment Report (EIAR) and the Construction and Environment Management Plan (CEMP) which include specific provisions relating to the control of dust, noise and shadow flicker.
- The risk of peat instability and peat erosion during the construction and operational phases which would be mitigated by the implementation of measures set out in the Environmental Impact Assessment Report (EIAR) and the Construction and Environment Management Plan (CEMP) which include specific provisions relating to peat and spoil management.
- The risk of pollution of ground and surface waters during the construction phase which would be mitigated by the implementation of measures set out in the Environmental Impact Assessment Report (EIAR) and the Construction and Environment Management Plan (CEMP) which include specific provisions relating to groundwater, surface water and peat erosion.
- Biodiversity impacts, including on habitats, otters, birds, bats, fisheries and aquatic invertebrates, would be mitigated by the implementation of specific mitigation to protect otters, birds, bats, fisheries and aquatic invertebrates, during the construction and/or operational phases and the implementation of a Restoration Plan for Blanket Bog and a Habitat Enhancement Plan for Hen Harrier.

- The increase in vehicle movements and resulting traffic during the construction phase would be mitigated by the new layout off the N15, including upgraded site access, the preparation of a Construction Traffic Management Plan and a Mobility Management Plan.
- Landscape and visual impacts would arise during the operational phase from the insertion of the turbines and met mast into the upland forestry setting. The location and siting of these elements would assist in assimilating the works into the landscape.
- The impact on cultural heritage would be mitigated by archaeological monitoring with provision made for resolution of any archaeological features or deposits that may be identified.
- Positive environmental impacts would arise during the operational phase from the generation of renewable energy and the public amenity areas.

The Board completed an environmental impact assessment in relation to the proposed development and concluded that, subject to the implementation of the mitigation measures proposed, as set out in Appendix 4.4 of the EIAR, and subject to compliance with the conditions set out below, the 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 Board adopted the report and conclusions of the Inspector.

Proper planning and sustainable development:

It is considered that subject to compliance with the conditions set out below the proposed development would accord with European, national, regional and local planning and related policy, it would not have an unacceptable impact on the landscape or ecology, it would not seriously injure the visual or residential amenities of the area or of property in the vicinity, and it would be acceptable in terms of traffic safety and convenience. 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, 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 period during which the development hereby permitted is constructed shall be 10 years from the date of this order.

Reason: In the interests of clarity.

3. This permission shall be for a period of 30 years from the date of the first commissioning of the wind farm.

Reason: To enable the planning authority to review its operation in the light of the circumstances then prevailing.

4. The construction works shall be limited between 08.00 and 18.00 hours Monday to Saturday excluding Bank Holidays, and no more than 2 borrow pits shall be worked at any given time.

Reason: To protect the amenities of nearby residential properties.

5. The developer shall reach an agreement with Irish Water in relation to the scheduling of the construction works relative to the Lough Mourne public water augmentation intake scheme.

Reason: In the interest of orderly development.

6. The developer shall ensure that all construction methods and environmental mitigation measures set out in the Environmental Impact Statement and associated documentation are implemented in full, save as may be required by conditions set out below.

Reason: In the interest of protection of the environment.

7. The following design requirements shall be complied with:

- (a) The wind turbines including masts and blades, and the wind monitoring mast, shall be finished externally in a light grey colour.
- (b) Cables within the site shall be laid underground.
- (c) The wind turbines shall be geared to ensure that the blades rotate in the same direction.
- (d) 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 visual amenity.

8. The following shadow flicker requirements shall be complied with:

- (a) Cumulative shadow flicker arising from the proposed development shall not exceed 30 minutes in any day or 30 hours in any year at any dwelling.
- (b) The proposed turbines shall be fitted with appropriate equipment and software to control shadow flicker at dwellings.
- (c) Prior to commencement of construction, a wind farm shadow flicker monitoring programme shall be prepared by a consultant with experience of similar monitoring work, in accordance with details to be submitted to the planning authority for written agreement. Details of monitoring programme shall include the proposed monitoring equipment and methodology to be used, and the reporting schedule.

Reason: In the interest of residential amenity.

9. In the event that the proposed development causes interference with telecommunications signals, effective measures shall be introduced to minimise interference with telecommunications 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 commissioning of the turbines and following consultation with the relevant authorities.

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

10. Details of aeronautical requirements shall be submitted to, and agreed in writing with, the planning authority prior to commencement of development. Prior to 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 the turbines and wind monitoring masts.

Reason: In the interest of air traffic safety.

11. Prior to commencement of development, a transport management plan for the construction stage shall be submitted to, and agreed in writing with, the planning authority. The traffic management plan shall incorporate details of the road network to be used by construction traffic, including over-sized loads, and detailed arrangements for the protection of bridges, culverts or other structures to be traversed, as may be required. The plan should also contain details of how the developer intends to engage with and notify the local community in advance of the delivery of oversized loads.

Reason: In the interest of traffic safety.

12. The developer shall retain the services of a suitably qualified and experienced Ecologist 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 (including Otter, Globeflower and Irish ladies' tresses). Any plant specimens should be removed and relocated to a similar, suitable, undisturbed nearby habitat under the direct supervision of the Ecologist and subject to a Derogation Licence where required.

Reason: In the interest of protecting ecology and wildlife in the area.

13. The developer shall retain the services of a suitably qualified and experienced bird specialist to undertake appropriate annual bird surveys of this site. Details of the surveys to be undertaken and associated reporting requirements shall be developed following consultation with, and agreed in writing with, the planning authority prior to commencement of development. These reports shall be submitted on an agreed date annually for five years, with the prior written agreement of the planning authority. Copies of the reports shall be sent to the Department of Arts, Heritage and the Gaeltacht

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

14. The developer shall retain the services of a suitably qualified and experienced bird specialist with respect to Hen Harrier and Buzzard, to undertake appropriate monthly surveys of this site. Details of the surveys to be undertaken and associated reporting requirements shall be developed following consultation and agreement in writing with the planning authority prior to commencement of development. These reports shall be submitted on an agreed date annually for the full duration of the windfarm project, with the prior written agreement of the planning authority. Copies of the reports shall be sent to the Department of Arts, Heritage and the Gaeltacht (National Parks and Wildlife Service).

Reason: To ensure appropriate monitoring of the impact of the development on the non-designated special protection area for Hen Harrier and on Buzzard.

15. The vegetation along the banks of the Lowerymore River and the N15 in the vicinity of the proposed grid connection works shall be re-instated following the completion of the works.

Reason: In the interest of protecting ecology and wildlife in the area.

16. The developer shall ensure that 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.

17. The developer shall facilitate the preservation, recording and protection of archaeological materials or features that may exist within the site. In this regard, the developer shall –

- (a) Notify the planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development,
- (b) Employ a suitably-qualified archaeologist who shall monitor all site investigations and other excavation works, and
- (c) Provide arrangements, acceptable to the planning authority, for the recording and for the removal of any archaeological material which the authority considers appropriate to remove.

In default of agreement on any of these requirements, the matter shall be referred to An Bord Pleanála for determination.

Reason: In order to conserve the archaeological heritage of the site and to secure the preservation and protection of any remains that may exist within the site.

18. Prior to the commencement of development, the community gain proposals shall be submitted to planning authority for their written agreement.

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

19. On full or partial decommissioning of the wind farm, or if the wind farm ceases operation for a period of more than one year, the wind monitoring mast, the turbines concerned and all decommissioned structures shall be removed, and foundations covered with soil to facilitate re-vegetation, all to be complete to the written satisfaction of the planning authority within three months of decommissioning or cessation of operation.

Reason: To ensure satisfactory reinstatement of the site upon full or partial cessation of the project.

20. 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 planning authority, to secure the satisfactory reinstatement of the site and delivery route upon cessation of the project, coupled with an agreement empowering the planning authorities to apply such security or part thereof to such reinstatement. The form and amount of the security shall be as agreed between the planning authorities and the developer or, in default of agreement, shall be referred to An Bord Pleanála for determination.

Reason: To ensure satisfactory reinstatement of the site.

21. 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. The contribution shall be paid prior to the commencement of development or in such phased payments as the planning authorities 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 authorities 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 that a condition requiring a contribution in accordance with the Development Contribution Scheme made under section 48 of the Act be applied to the permission.

Karla Mc Bride
Senior Planning Inspector
24th May 2018