An Bord Pleanála

Inspector's Report ABP-309955-21

Development	10-year permission for construction of 5 No. wind turbines with a maximum overall blade top height of 165 m, with a transformer at each turbine and associated hard stand area; 1 No. 38kV electrical substation, all cabling, a 30 m meteorological mast, and all associated infrastructure and works. Also, for the provision of a heritage trail circa 1 km in length to include associated information signage and parking area. Site area includes Protected Structures. An Environmental Impact Assessment Report (EIAR) and Natura Impact Statement (NIS) have been prepared and submitted.
Location	Townlands of Kilranelagh, Colvinstown Upper, Ballinaroan Upper, Bolleycarrigeen, Cloghnagaune, Downings, Spinans West, Kill, Eadenstown South, Eadestown Middle, Ballintruer More,

	Castleruddery Lower and Castleruddery Upper, Co. Wicklow
Planning Authority	Wicklow County Council
Planning Authority Reg. Ref.	2160
Applicant(s)	ABO Wind Ireland Limited
Type of Application	Permission
Planning Authority Decision	Refuse Permission
Type of Appeal	First Party
Observations	Jennifer Whitmore TD An Taisce Ann & Edward Naughton Samuel Byrne Neasa O'Brien West Wicklow Wind Action Group OSRA Planning and Design on behalf of Save Wicklow's Ancient East – R. O'Sullivan Noonan Linehan Carroll Coffey LLP on behalf of Save Wicklow's Ancient East – Paul Carberry Michael Russell UCD School of Archaeology – Professor Joanna Brück David Menzies Dr. Alan Hawkes

	David & Sarah Hathaway
	UCC Department of Archaeology – Professor William O'Brien
	Sonja Moore
	David & Marguerita Case
	Chambers Toxicological Consulting
	Robert Hanbidge
	Paul & Kathleen Carberry
	Hilary Healy & Hilary-Anne Norton
	Temple of Éiriú
	Department of Defence
Date of Site Inspection	29th September 2021
Inspector	Paul O'Brien

Contents

1.0 Site Location and Description

1.1. The subject site is located in the townlands of Kilranelagh, Colvinstown Upper, Ballinaroan Upper, Bolleycarrigeen, Cloghnagaune, Downings, Spinans West, Kill, Eadenstown South, Eadestown Middle, Ballintruer More, Castleruddery Lower and Castleruddery Upper, all in County Wicklow. The site area is stated to be 60 hectares and approximately 2.99 hectares of this will be permanently developed for turbine bases, hard standing areas for cranes/ parking etc., access tracks and electrical substation.

1.2. The subject site is served by the following roads:

L8267-21

L8793-0

L8293-0/26

L7272-0

L72721-0

L8297-32.

The following local roads are included for the proposed underground cable serving the windfarm:

L8291-0

L8299-20

L8299-0

L4321-0

1.3. The subject site does not form part of the Wicklow Mountains SAC/ SPA but is located within 5 km. The site is located to the west of the Keadeen Mountains and Carrig Mountain, Co. Wicklow.

1.4. The proposed development is primarily located within an active commercial forest and lands on the northern side of Kilranelagh Hill. Access is provided through the forests by tracks suitable for use by vehicles, however these routes are on private property.

2.0 **Proposed Development**

2.1. The development consists of:

- The construction of up to 5 no. wind turbines with a maximum overall blade tip height of 165 m. Each turbine to include a transformer and associated hard standing areas.
- The provision of one 38kV electrical substation and all associated infrastructure/ works.
- The provision of 20kV underground cables allowing for the connection of the turbines to a 38kV electrical substation and all associated infrastructure/ works.
- The provision of circa 6.5 km of 38kV underground cabling along public roads to facilitate the connection of the proposed 38kV wind farm electrical substation to the existing Stratford 38/ 110kV substation. The cabling/ associated connections are referred to as 'the grid route'.
- The provision of a heritage trail circa 1 km in length and which would include associated information signage, located at key heritage assets and parking areas.
- The replacement of the existing grass verge with a new 1-metre-wide footway at each bridge crossing along 'the grid route'.
- New site access tracks and the upgrading of the existing tracks including all associated site works.
- The provision of one 30 m high metrological mast and all associated infrastructure/ works. This mast will be permanent.
- The provision of a temporary site compound and all associated works.
- All associated necessary site works.

2.2. The proposed development is accompanied by a number of documents including an Environmental Impact Assessment Report and a Natura Impact Statement. These in turn are supported with Appendices, list of figures and in the case of the EIAR, a detailed Visual Impact Assessment.

3.0 Planning Authority Decision

3.1. Decision

The Planning Authority decided to refuse permission for the proposed development subject to the following reasons:

1. Having regard to;

(a) The location of the proposed development in an area of archaeological remains and monuments of national, regional and local importance,

(b) The stated Objectives of the Council in the County Development Plan 2016, in particular,

i. BHI 'No development in the vicinity of a feature included in the Record of Monuments & Places (RMP) will be permitted which seriously detracts from the setting of the feature or which is seriously injurious to its cultural or educational value'.

ii. BH5 'To protect the Hillforts in west Wicklow and to engage with the relevant central Government department to seek to undertake a detailed study of their importance'.

(c) The identification in Schedule 10.01 of the County Development Plan 2016-2022 of the area in which the site is located as Areas of Archaeological Potential and Significance: 11 Baltinglass Hills Megalithic Hillfort Complex,

It is considered that the proposed development would result in significant direct physical and visual impacts on the heritage and archaeology of the area, would materially contravene the objectives of the County Development Plan and would therefore be contrary to proper planning and sustainable development of the area.

2. Having regard to the insufficient information contained within the Environmental Impact Assessment Report submitted with respect to;

(a) The structure/ strength and integrity of the roads of the proposed Haul/ Turbine Delivery Route to accommodate the proposed loading associated with the delivery of turbine components;

(b) The detail of the existing entrance on the L8297 junction with L8291 at Kilranelagh (main entrance) with regards to the ability of the existing road/ junction layout to safely accommodate traffic turning movements;

(c) Sightline detail on the 3 entrances proposed;

(d) A survey of the strength and integrity of roads proposed for underground cable route, specifically the bridges on the route;

(e) The detail on the public roads within the development site;

(f) Avian collision monitoring methodology/ collision risk modelling and fatality monitoring and the potential effects of the windfarm on bird species in accordance with best practice guidance including cumulative Avian collision risk with other wind farms;

(g) The potential impacts to Barn Owls and Red Kites which have been observed in the area around the subject site.

(h) The detail on the exact survey methodology to be used on site with respect to post-construction fatality monitoring which is detailed in Appendix 4.

(i) The detail on the presence of River Lamprey in the East Spinans stream to the north of the subject site and flowing through the wider landholding and the potential for adverse impacts to this species in this portion of the Slaney catchment;

(j) The detail on the inspection regime to ensure that the drainage is adequately maintained to protect the future stability of the surrounding high value habitats/ environment, including the downstream SAC.

(k) The lack of clarity on the potential impact of peat soils/subsoils erosion and the excavation sites and on the cable route system.

(l) The lack of detail on the impact of the development on tourism associated with the heritage assets such as Baltinglass Abbey and Graveyard, Rathcoran Hillfort, Kilranelagh Graveyard, Boleycarrigeen Stone Circle and Rathsallagh Country House, Golf and Country Club and Pathanna Gardens in Kiltegan.

(m) The impact of the proposed development on the nearby military camp and any activities carried out in the area by the Department of Defence.

(n) The noise impact on the archaeological heritage amenity of the area.

It is considered that insufficient information has been provided to allow the Planning Authority to carry out a full Environmental Impact Assessment and therefore to permit this development in the absence of an Environmental Impact Assessment would be contrary to European Directive 20l4/52/EU and proper planning and sustainable development.

3. Having regard to the insufficient information contained within the Natura Impact Statement submitted with respect to Drainage Monitoring and Water Quality Monitoring, it cannot be determined that the proposed development would not adversely affect the integrity of any Natura 2000 site. Therefore, the Planning Authority is unable to carry out an Appropriate Assessment and to permit this development in the absence of an Appropriate Assessment would be contrary to the provisions of the EU Habitats Directive (92/43/EEC) and contrary to proper planning and sustainable development.

3.2. Planning Authority Reports

3.2.1. The Planning report reflects the decision to refuse permission for the proposed development.

3.2.2. The development was considered by the Planning Authority Case Officer in the context of the Wicklow County Development Plan 2016 – 2022 and the County Wicklow Wind Energy Strategy. In general the development of wind energy is encouraged subject to consideration of any designated areas such as SACs, NHAs, SPAs, and SAAOs, etc. and their associated buffers. Other considerations include impact on any landscape designations, impact on residential amenity through noise and shadow flicker, impacts on visual/ recreational amenity, impact on material assets such as towns, infrastructure and heritage sites, consideration of impacts on land cover and land uses adjacent to the site, ensuring that best practice is followed and consideration of all ancillary works including access roads and overhead cables.

3.2.3. The site is located within an area designated as ‘Less Favoured’ for such development in accordance with the Wicklow Wind Energy Strategy. Wind farm development would be considered in such areas, but development is more problematic than other areas. ‘Less Favoured’ areas form a buffer between areas

defined as ‘Most Favoured’ and ‘Not Favoured’, but development can be considered here subject to compliance with relevant planning criteria as outlined in the Environmental Impact Assessment Report (EIAR). Note the comments made by the Department of Community, Heritage and Gaeltacht with regards to potential impact on built heritage and archaeological sites. Further information would be required in relation to the ownership of a small section of land.

3.2.4. The Environmental Impact Assessment Report (EIAR) was considered in depth and in conclusion the Planning Authority Case Officer reported that the selection of this site, on Kilranelagh Hill, was not convincing and was not demonstrated to be suitable for the development of a windfarm. Particular concern was raised about the potential impact on archaeological remains in the area, many of which are undiscovered to date. A refusal of permission was recommended.

3.2.5. **Other Technical Reports**

Baltinglass Municipal District Roads Report: Road safety concerns about the increase in traffic at the junction of the L8297 and L8291 roads. Requests that a road safety audit and details of sightlines be provided. Details of impact of the cable laying and use of heavy vehicles on the public road network, including bridges, are requested.

Senior Engineer Roads: No objection to the proposed development, subject to recommended conditions. Works to be agreed with the County Council prior to the commencement of development.

Chief Fire Officer: No objection subject to conditions.

Senior Executive Chemist: No objection subject to conditions. Noise levels were predicted to be within limits set by the Draft Wind Energy Development Guidelines 2019, however noise prediction for the operation phase of the electrical substation has not been undertaken. Shadow flicker is limited but the draft guidelines seek to eliminate this entirely.

Executive Scientist – Environment & Water Services: No objection subject to conditions. Assessed Chapter 3 – Development Description and Chapter 7 – Lands, Soils & Hydrology of the EIAR, and the NIS.

3.2.6. **Prescribed Bodies Reports**

Health Service Executive (HSE): No objection subject to conditions. Shadow flicker should be reduced to zero. Adequate protection of public health has been proposed with regard to issues of noise. Proposed protection in relation to dust and drinking water has been adequately provided for.

Transport Infrastructure Ireland (TII): No objection subject to conditions.

Department of Tourism, Culture, Arts, Gaeltacht, Sports and Media: Refusal of permission is recommended due to the potential impact of the development on archaeology in the area. The area is considered to be a sensitive landscape in terms of archaeological remains in the area. The construction phase, which includes access track widening, tree removal and the provision of hardstanding would have a significant negative impact. The development would have a negative visual impact through the proposed wind turbines and the need to clear trees/ provide for areas of hardstanding. Also, there are potential negative impacts from noise and the development of the heritage trail.

In relation to nature conservation, it is recommended that further information be sought in relation to bird fatality monitoring and in relation to the survey methodology used.

An Taisce: Consider that the development would represent a significant and inappropriate intrusion into the archaeological heritage of the area. Potential for water pollution in the area and there is a need for suitable mitigation measures. Potential for negative impacts to River Lamprey, Barn Owls and Red Kites which are in the area.

Fáilte Ireland: Due consideration to be given to the impact on tourism and the amenity value of the area during the assessment of the development.

The Heritage Council: The importance of the Baltinglass cluster (of archaeological remains) is identified and the development would have a significant negative impact on this cluster. The Heritage Council make the point that in the consultation for the Wicklow County Development Plan 2021 – 2027, there should be a presumption against the development of wind energy in the Baltinglass Hills area. The site should be submitted for inclusion on the UNESCO World Heritage Site Tentative List.

Inland Fisheries Ireland (IFI): Concern about works undertaken to date and the potential impact on peat soils/ subsoils that may be affected by construction and

erosion. This in turn may result in pollution of water courses. Further information requested on a number of aspects of the development.

Irish Aviation Authority (IAA): No objection, if permission is granted, the developer to contact the IAA and agree aviation safety measures.

Department of Defence: The Department outline the importance of the area to the military and provide the following objections to the development:

- The development will negatively impact on Air Corps operations in the vicinity of the Coolmoney Camp Air Firing Range and the training area in the Glen of Imaal.
- The site is within 1.57 and 2.65 nautical miles of Coolmoney Camp, Co. Wicklow and which is used by Air Corps helicopters. It is the position of the Air Corps that no wind turbines be located within 5 nautical miles of military installations.
- Potential negative impact on flight movements.
- The height of the turbines will be significant and Spinans Hill and Eadstown Hill will not shield the proposed development from Coolmoney Camp.
- The development will have a negative impact on the use of the air firing range in the Glen of Imaal.

3.3. Objections/ Observations

A total of 234 submissions were received, one of which included a petition with 1149 signatures. Submissions were made by the West Wicklow Historical Society, West Wicklow Wind Action Group, Temple of Éiriú – Celtic Traditions, Rathdangan Local History Group, Professor William O'Brien – on behalf of University College Cork – Department of Archaeology, Mountaineering Ireland, Wicklow Uplands Council, Save Wicklow's Ancient East Community Group, Professor Joanna Bruck – University College Dublin School of Archaeology, Val Martin, an environmental campaigner, Senator Pat Casey, Jennifer Whitmore TD, Steven Matthews TD, Councillor Pat Kennedy, Councillor John Mullen, Councillor Gail Dunne, Councillor Mary Kavanagh, Councillor Mags Crean, Councillor Peir Leonard and Councillor Edward Timmins.

In addition to the above, submissions came from local residents as well as from national and international locations.

Issues raised include the following, in summary:

Impact on the character of the area:

- The Baltinglass Hills/ Complex area is described as a sacred site, through its history/ archaeology – supporting information provided to demonstrate the importance of this area.
- The area is a very important from a spiritual point of view.
- Concern that the importance of the overall lands and archaeology is not adequately referred to in the application by ABO.
- Need to protect the graveyards in the area.
- Recognition of the importance of the archaeology in the area and the potential negative impact on these remains.
- Importance of the area in terms of cultural heritage and tourism.
- Potential impact from noise on the currently unspoilt character of the area.
- Site is located within a potential world heritage site.
- Baltinglass has suffered from economic downturn over the years and preserving the local heritage has tourism potential into the future.
- The European Convention on the Protection of Archaeological Heritage seeks to protect the setting and context of archaeological sites.
- The proposed development would have a negative impact on the visual amenity of the area.
- The height of the turbines and their location will result in a very dominant development in the area.
- Negative impact on the operations of the nearby Ballinroan Stud, Kiltegan.

Impact on the environment:

- Negative impacts on birds and biodiversity from the proposed development.
- The area is home to birds that are on the red and amber list. Red Grouse, Woodcock, Meadow Pipit, Peregrines, Kestrels and Buzzards are referenced amongst others.
- Impact on bats and badgers.

- Negative impact on a Natura 2000 site.
- Site is located within an Area of Outstanding Natural Beauty (AONB) and the development will negatively impact on this status.
- Concern that the watercourses in the area may be polluted and in turn this would negatively impact on farm animals in the area.
- The issue of mudslides and soil erosion was raised in a number of the letters of objection.
- Detailed consideration given to the status of the Wind Energy Guidelines (2006 and the Draft Wind Energy Guidelines (2019). Consider that these are invalid and all wind farm applications should have their permission annulled.
- If permission is granted, the development to be in accordance with the details provided in terms of type of turbine, height etc.
- The laying of the cable may be a nuisance to those whose land adjoins the cable route.
- The development will result in the loss of existing forestry lands. Noted that Sika Spruce is a totally unsuitable trees for planting in the area.
- Inadequate description as to why the proposed grid connection was chosen to serve this development.
- The output of energy from the development is overstated.

Impact on human health:

- Potential negative impact from shadow flicker from the wind turbines.
- Concern about impact from noise and shadow flicker on human health.
- Concern that in Ireland the separation distance to a wind turbine is only 500 m when it is 1000 m in other countries.
- Potential negative impact on the pupils and the staff of Scoil Naomh Bríd, Talbotstown, Kiltegan, Co. Wicklow.

Land ownership:

- Inclusion of third-party lands into the application site area, without consent to do so. Letter from T.R. Brennan & Co. Solicitors on behalf of M & K Wynne.
- D & L Edwards do not give permission for access to their lands.

Safety:

- Turbines are to include the CE mark so as to demonstrate that they are safe to install here.
- Ice may generate on the blades and be thrown several feet from the turbines.
- Potential for turbine fires from lubricating oil combusting, and in turn setting fire to forests during dry spells of weather.
- Increase in traffic in the area.
- The applicant has failed to carry out a detailed traffic survey of the roads surrounding the windfarm. Survey is only sufficiently detailed for the N81.

Other:

- Suggested that windfarms at sea are more efficient and appropriate.
- Should be developing wave energy rather than wind.
- Solar energy development will result in wind turbines becoming obsolete.
- The development is contrary to the Wicklow County Development Plan 2016 – 2022. Particular reference to Section BH5 and the protection of the West Wicklow hillforts.
- The submitted EIAR is very detailed and difficult to understand.
- The EIAR is missing important data and statements are not backed up with facts/ evidence.
- Wind energy is unreliable, require conventional power back-up, is expensive, impact on the environment is negative and require users to pay extra for wind energy.
- The construction phase of development uses up a large amount of energy.
- Difficult to recycle the turbines when no longer required for use.
- Concern that the application was carried out during a Level 5 Lockdown.
- Opposed to the heritage trail and associated car park as they are inadequate as a larger study of the area would be required before such amenities could be provided here.
- The heritage trail only covers a small area of the overall Baltinglass Hillfort Complex.

- Potential financial compensation towards community projects – this is only a gesture.
- The EIAR refers to the local population as aging when in fact there are a number of young families in the immediate area.
- A number of the objectors were not against wind farms once they were located in an appropriate location.
- Importance of wind energy is overstated. Current energy demand is 4,500 MW and there is an installed 4,200 MW of wind capacity. The proposed development will not reduce fuel dependence to any meaningful way.
- Potential negative impact on the film industry which is a established in County Wicklow.
- There is a difficulty in getting planning permission for rural houses, yet these turbines are promoted as sustainable development.
- Concern that the development would negatively impact on the amenity value of the area such as for hiking/ dog walkers and mountaineering.
- Potential restrictions to access in the area.
- Concern about how the turbines will be transported to the site.
- Potential devaluation of property in the area.
- Potential negative impact on telecommunication signals in the area with particular reference to impact on mobile phone and broadband coverage.
- Procedural issues regarding the public notices and the lodging of an application during the Covid Pandemic.
- Concern about the lack of public consultation held with local people about the proposed development.

4.0 Planning History

4.1.1. **P.A. Ref. 17/1293** refers to a January 2018 decision to grant permission for the retention of an existing 24 m high telecommunications support structure, antennas, associated equipment container and associated equipment within a fenced compound and access track. The development forms part of Vodafone Ireland Ltd.'s

existing GSM and 3G broadband telecommunications network at Colvinstown Upper Td, Kiltegan, Co. Wicklow.

4.1.2. **P.A. Ref. 11/4938** refers to a March 2012 decision to grant permission for the retention of an existing 24m high telecommunications support structure, antennas, associated equipment container and associated equipment within a fenced compound and access track. The development forms part of Vodafone Ireland Ltd existing GSM and 3G boradband telecommunications network at Colvinstown Upper Td, Kiltegan, Co. Wicklow.

4.1.3. **P.A. Ref. 07/306/ ABP Ref. 223300** refers to an October 2007 decision to grant permission for the retention of a mobile telecommunications support structure and associated equipment at Colvinstown Upper, Kiltegan, Co. Wicklow.

4.1.4. Pre-planning was carried out between the applicant and the Planning Authority in May 2020.

4.1.5. The EIA Portal ID number is 2021004.

5.0 Policy and Context

5.1. Project Ireland 2040 – National Planning Framework (NPF)

5.1.1. The NPF sets out the future growth and development of the Country for the period up to 2040. National Strategic Outcome (NSO) 8 is for the 'Transition to a Low Carbon and Climate Resilient Society' and includes the following:

> 'The development of onshore and offshore renewable energy is critically dependent on the development of enabling infrastructure including grid facilities to bring the energy ashore and connect to major sources of energy demand. We also need to ensure more geographically focused renewables investment to minimise the amount of additional grid investment required, for example through co-location of renewables and grid connections'.

5.1.2. The NPF includes a number of National Policy Objectives (NPOs) and the following is considered to be relevant:

'Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050'.

5.2. Wind Energy Development Guidelines for Planning Authorities (2006)

5.2.1. These guidelines, as issued under Section 28 of the Planning and Development Act 2000 as amended, provide guidance on the development of wind energy. Guidance is provided in terms of the development plan and the development management processes. Areas covered include noise, shadow flicker, natural heritage/ biodiversity, archaeology, architectural heritage, ground conditions, aviation safety and wind take.

5.2.2. Chapter 6 of the guidelines provides details on the siting and the design of wind development in terms of impact on the landscape. Issues considered include the location of turbines, cumulative effect of turbines and their height. Guidance is provided on siting and design in terms of location and the character type of the landscape.

5.3. Draft Revised Wind Energy Development Guidelines (2019)

5.3.1. These draft guidelines update and review the 2006 guidelines.

5.4. Development Plan

5.4.1. Under the **Wicklow County Development Plan 2016 – 2022**, the site is located within a Level 10 – Rural Area. The Landscape Category is defined as an Area of High Amenity (AHA), Transitional Lands & Baltinglass Hills.

5.4.2. Appendix 5:

'The Baltinglass Hills

The rolling undulating terrain of the hills around Baltinglass, characterised by the existence of important archaeological remains and monuments. This area is of significant heritage value while also forming a key tourist attraction within this area'.

'Section 5.3.8 Baltinglass Hills KDC (see Appendix 4 Map 10.13(c))

1. To protect the important archaeological remains and monuments located within the Baltinglass Hills.

2. In order to protect views towards the natural hill formations, development within or surrounding the Baltinglass Hills landscape area should be sited in a manner which avoids intrusions on ridge lines or impacts negatively on the natural sky-line'.

Areas of High Amenity Transitional Area

Section 5.3.12 Transitional Lands KDC (see Appendix 4 Map 10.13(c))

1. To maintain the visual integrity of transitional lands, which have retained a dominantly undisturbed upland character.

2. Development proposals within this area should aim to locate within existing clusters of structures / tree stands and avoid locating new development in open fields.

3. Through appropriate siting and design to ensure that developments along local roads will not be conspicuous or have a disproportionate or dominating visual impact on the surrounding environment as seen from the local scenic routes and settlements within the transitional area landscape.

4. To encourage the preservation and enhancement of native species surrounding the Glen of Imaal and Hollywood Glen'.

5.4.3. Within Chapter 10 – Heritage, the following are relevant:

'Wicklow's Landscape Objectives

NH49

All development proposals shall have regard to the County landscape classification hierarchy in particular the key landscape features and characteristics identified in the Wicklow Landscape Assessment (set in Volume 3 of this plan) and the 'Key Development Considerations' set out for each landscape area set out in Section 5 of the Wicklow Landscape Assessment'.

'Views and Prospects Objectives

NH52

To protect listed views and prospects from development that would either obstruct the view / prospect from the identified vantage point or form an obtrusive or incongruous feature in that view / prospect. Due regard will be paid in assessing development applications to the span and scope of the view / prospect and the location of the development within that view / prospect'.

5.4.4. **Views and Prospects Objectives**

The proposed development is not on/ within an area listed as a view/prospect, however the below listed views and prospects are on adjoining/ surrounding lands.

View lD:27 (Type X)

Origin of View: R747 South of Baltinglass Slaney Drive

Description: View of Rathnagree and Rathcoran Hillforts

View lD:45

Origin of View: L8294 and L8295 at Brusselstown

Description: Prospect of Spinans Hill and Brusselstown Ringfort

View ID:46

Origin of View: L8297 at Spinans

Description: Prospect to the east of Spinans Hill towards the castle on summit of Ballyhook Hill

View ID:50

Origin of View: L8292 at Tuckmill Hill and Cooinarrig

Description: Prospect of Rathnagree and Rathcorna hillforts and towards Spinans Hill and Brusselstown Ringfort

View ID:60

Origin of View: L4262 at Derrynamuck, Military Road

Description: Prospect of Keadeen Mountain and Vicinity of Dwyer McAllister Cottage.

5.4.5. MAP 11 indicates that the site in Baltinglass Hills includes a Megalithic Hillfort Complex.

Archaeology Objectives – Chapter 10 Heritage

BH1:

No development in the vicinity of a feature included in the Record of Monuments & Places (RMP) will be permitted which seriously detracts from the setting of the feature or which is seriously injurious to its cultural or educational value.

BH2:

Any development that may, due to its size, location or nature, have implications for archaeological heritage (including both sites and areas of archaeological potential / significance as identified in Schedule 10.01 & 10.02 and Map 10.01 & 10.02 of this plan) shall be subject to an archaeological assessment. When dealing with proposals for development that would impact upon archaeological sites and/or features, there will be presumption in favour of the 'preservation in situ' of archaeological remains and settings, in accordance with Government policy. Where permission for such proposals is granted, the Planning Authority will require the developer to have the site works supervised by a competent archaeologist.

BH3:

To protect previously unknown archaeological sites and features, including underwater sites, where they are discovered during development works.

BH5:

To protect the Hillforts in west Wicklow and to engage with the relevant central Government department to seek to undertake a detailed study of their importance.

The following protected structures are within or adjacent to the subject site:

Ref No: 27-23

Address: Kilranelagh house, Lodge and gates and milestone.

Structure: Lodge and gates and milestone

Townland: Kilranelagh TD

Description: Early-19th century composition with the stepped gable-end of the lodge having a blank arch. Flanking the lodge are quadrants with entrances, each with simple piers. In the wall, to the South is a milestone with the distance to various towns.

Ref No: 27-22

Address: Kilranelagh House

Structure: Country House

Townland: Kilranelagh TD

Description: An important, early-18th Century house which was remodelled in the early 19th Century. lt has painted, rendered walls and a high-pitched roof with a parapet and urns. A wide, two-storey bow was added in the early L9th Century and the entrance moved to the rear where there is an exceptional, wide, granite door case.

Ref No: 15-18

Address: Castlequarter, Donard

Structure: House

Townland: Castlequarter

Description: Detached two-storey farmhouse

Ref No: 21-01

Address: George's Bridge

Structure: Bridge

Townland: Castleruddery Lower

Description: 18th Century Bridge with a fine single arch and flood arch.

Chapter 10 – Heritage:

BH9

To ensure the protection of all structures (or parts of structures) contained in the Record of Protected Structures.

BH11

All development works on or at the sites of protected structures, including any site works necessary, shall be carried out using best heritage practice for the protection and preservation of those aspects or features of the structures / site that render it worthy of protection.

5.4.6. The development of wind energy is included in Chapter 9 – Infrastructure and the following are relevant:

Wind Energy Objectives

CCE6

To encourage the development of wind energy in accordance with the County Wicklow Wind Energy Strategy and in particular to allow wind energy exploitation in most locations in the County subject to:

- consideration of any designated nature conservation areas (SACs, NHAs, SPAs, SAAOs etc) and any associated buffers;
- impacts on Wicklow's landscape designations;
- particular cognisance and regard being taken of the impact on wind turbines on residential amenity particularly with respect to noise and shadow flicker;
- impacts on visual and recreational amenity;
- impacts on 'material assets' such as towns, infrastructure and heritage sites;
- consideration of land cover and land uses on or adjacent to the site; and
- best practice in the design and siting of wind turbines, and all ancillary works including access roads and overhead cables.

CCE7

To facilitate the development of off-shore wind energy projects insofar as onshore facilities such as substations/connections to the grid may be required.

CCE8

To support community-based wind energy projects.

5.4.7. Appendix 6 includes a Wind Energy Strategy. The site is located within an area designated as 'Less Favoured' for such development. The site is located within the Baltinglass Hills area and which is also designated as an Area of High Amenity and Transitional Lands in the Landscape Strategy. The following are relevant:

Less Favoured – Orange zoned on map:

'Wind farm development will be considered, but the sensitivities revealed in these areas would render exploitation more problematic and therefore these areas are less favoured for wind energy development'.

'Areas 'Less Favoured' for Wind Energy Development

These areas form a natural buffer between the 'Most Favoured' areas and the 'Not Favoured' areas. The 'Less Favoured' areas generally comprise of lands designated 'Areas of High Amenity' in accordance with the landscape designation of the 2016 County Development Plan and locations where challenges to wind energy exploitation are present, such as listed views and prospects, and areas of heritage value in particular 'Natura 2000' designations. A number of locations within this area may be open to exploitation'.

Section 3 of the Appendix includes a list of Assessment Criteria for wind energy developments.

5.5. Natural Heritage Designations

None on site. The Wicklow Mountains SAC (Site Code 002122) is located to the east/ north east and the River Slaney SAC (Site Code 000781) is located to the north.

6.0 The Appeal

6.1. Grounds of Appeal

The applicant has engaged the services of Tom Phillips + Associates (TPA) to appeal the decision of Wicklow County Council who refused permission for this development.

The issues raised in the appeal are summarised as follows:

- The three reasons for refusal as issued by the Planning Authority are assessed in depth and details are provided as to how the refusal reasons can be overcome. Background to the development is provided, five turbines with a tip height of 165 m., 1 metrological mast, electrical substation, circa 6.5 km of underground 38kV cabling and connection to existing substation. Also, the provision of a 1 km heritage trail and all associated works. Justification for the development is provided in terms of meeting Ireland's climate change targets. Planning permission for 30 years is sought as that is the lifespan for the proposed turbines, at the end of this period, they will be decommissioned, removed and the lands returned to its current/ pre development condition.

Reason 1 - Archaeology:

Courtney Deery have provided a response to each of the three separate items of refusal within Reason 1.

a) The archaeological significance of these lands is acknowledged throughout Chapter 12 of the Environmental Impact Assessment Report (EIAR). The area is noted for its large-scale hillforts/ hillfort complexes. The original proposal was for nine turbines, this was reduced following consulting with the Department of Housing, Local Government and Heritage and following consultation with the local community. The number of turbines was subsequently reduced to the now proposed five. This was considered the appropriate number having regard to the character of the area/ importance of the area in terms of archaeological heritage.

b) Four recorded monuments are located in close proximity to the development site – Kilranelagh Church and Graveyard, a barrow site, Booleycarrigeen Stone and Preservation Order 106/1940. The setting of the ringfort and barrow sites have changed over time, they are no longer physically dominant structures as the only remains left are below ground. The afforestation of these lands has also changed their relationship with other monuments in the area.

Turbine WTG3 will be dominant in relation to a ringfort, located within 96 m, however the archaeological/ historic remains will not be changed by the location/ presence of this turbine. The visual change is considered to be of a low impact on the significance/ sensitivity of the recorded monument and there will be a moderate impact significance.

Turbine WTG4 is 320 m to the west of a barrow. The archaeological and historic values of the site remain unchanged. The visual change is considered to be of a low impact on the significance/ sensitivity of the recorded monument and there will be a moderate impact significance.

The wind farm will not cause a serious injury to the cultural or educational value of monuments listed on the Record of Monuments and Places. It is proposed that organised tours of the archaeological sites will be undertaken, and the development of a heritage trail will support this. The provision of detailed signage panels will support the educational value of the area and complies with Objective BH4 of the Wicklow County Development Plan 2016 – 2022 which seeks to facilitate access to National Monuments. ABO Wind are willing to provide annual funding towards local initiatives in terms of archaeology and cultural heritage studies.

c) The development of commercial forestry has resulted in a change in the character of the landscape. The views and settings of the recorded monuments have changed over time. Section 12.6.1.2 and Table 12.01 provides an assessment of all of the archaeological monuments within or adjacent to the proposed wind turbines/ farm. The development will have no direct physical impact on any National Monument or recorded monument.

The lands were surveyed prior to the lodging of the application and the location of all turbines considered in terms of potential impact on recorded monuments. No further archaeological features or materials were revealed as a result of these surveys.

All works to be undertaken, should planning permission be granted, will be in accordance with the requirements of the National Monuments Service and the applicant is aware that elements of the development may not progress if there is to be an impact on monuments etc. The design of the turbines has evolved to reduce the visual impact on the character of the area.

Overall, the archaeological integrity and physical presence of the ringforts would not be compromised by the development of this wind farm.

R**eason 2 – Infrastructure for the development of the windfarm:**

A response has been provided to the items listed in the reasons for refusal by Fehily Timoney and Company.

a) The first item refers to the impact of the development on the integrity/ structural strength of the public road. It is considered that this issue can be addressed by standard condition. Pre and post development assessments can be undertaken. Any necessary works will be undertaken at the developer's expense. A suitable condition is provided in the 'Transport and Access Response Letter'.

b) Concern about the existing entrance onto the L8297 junction with the L8291 at Kilranelagh (main entrance). The response again refers to the 'Transport and Access Response Letter' prepared by Fehily Timoney and Company and Drawing Ref: P2008-0100-0002 is provided to demonstrate that the concerns can be adequately addressed.

c) Sightline details: The response again refers to the 'Transport and Access Response Letter' prepared by Fehily Timoney and Company and Drawing Refs: P2008-0100-0001, P2008-0100-0003 and P2008-0100-0004 are provided to demonstrate that the concerns can be adequately addressed.

d) Survey of road and bridges strength: Any issues raised here can be addressed by way of condition. Pre and post construction surveys would identify any issues of concern.

e) Detail on public roads: An amended Site Location Map (Drawing no. KLN 1.101_A) and a revised Figure 3.5 have been provided to address the issues raised. The revised details clearly indicate the roads within the control of Wicklow County Council and are within the application boundary. Any road openings/ undergrounding of cables will be subject to a Road Opening Licence as issued by Wicklow County Council. The cable design will be in accordance with the detailed design and requirements of ESB Networks. Any works to the road will require notice to the Council, ESB and Eircom.

f) Avian Collision Risk: Details are provided in the 'Ornithological Response Letter' prepared by Biosphere Environmental Services. In summary it was considered unnecessary to undertaken Collision Risk Monitoring (CRM) as the site is not within an area designated for nature conservation and is not within an area known to be of particular importance for birds. Such a CRM assessment is usually undertaken where species of conservation concern are known to inhabit. Four species are identified as at some risk of collision, one of which, the Buzzard, is on the Green List

(not qualifying for conservation concern in Ireland) and the other three are on the Amber List (moderate nature concern).

g) Impacts on Barn Owls and Red Kites: Details are provided in the 'Ornithological Response Letter' prepared by Biosphere Environmental Services. Neither species were recorded during 24 months of bird surveys and therefore it can be assumed that these species are, at best, rare visitors to the area. Both species are typically found in open countryside and would not be expected in a site dominated by conifer forests.

h) Survey Methodology: Details are provided in the 'Ornithological Response Letter' prepared by Biosphere Environmental Services. The developer will commit to all relevant guidance and monitoring will be undertaken in Years 1,2,3,5,10 and 15 of the operational phases of the development. Four carcass searches will be carried out in each year of the project. It is considered that these monitoring and search processes will provide the necessary detail required.

i) Potential adverse impacts on species in the River Slaney catchment: Details are provided in the 'Ecological Response Letter' prepared by Ecology Ireland Wildlife Consultants. The proposed development does not include any barriers to fish passage within the East Spinans Stream or any other watercourse. As part of the development design, a 50 m wide buffer from first order and seasonal watercourses is proposed to be provided. Full regard and consideration for impact on aquatic ecosystems is provided in Chapter 6 of the EIAR. Appropriate and fully detailed mitigation measures for each of these potential risks is provided. The provision of a highly functional drainage system is key to the success of these mitigation measures.

j) Maintenance of drainage inspection regime: Details are provided in the 'Ecological Response Letter' prepared by Ecology Ireland Wildlife Consultants and in the 'Hydrological Response Letter' prepared by Hydro Environmental Services Ltd. Full details are provided of the drainage inspection and maintenance programmes. Different types of inspection would be undertaken on a daily, weekly and monthly basis. These would be undertaken by the Site Environmental Officer and the Site Construction Manager, depending on the level/ type of inspection required at a specific time.

k) Impacts of Soil Erosion: Details are provided in the 'Hydrological Response Letter' prepared by Hydro Environmental Services Ltd. Site investigations included seven site pits and no peat was found in any of these. Subsoil consists of stiff brown-orange, sandy-gravelly clay and bedrock was encountered at a relatively shallow depth in a number of the trial pits. The nearest location where peat soil/ subsoil is mapped is some 2.1 km to the south east of the stie on the western slope of Keadeen Mountain. There is a lack of peat in the area and there is none that could be eroded or which could cause impact to receiving waters at the wind farm or along the proposed grid route. The impact of the development on soils/ subsoil types are assessed in Sections 7.6.1.1, 7.6.1.2 and 7.6.1.4 of the EIAR and detailed mitigation measures for surface water protection is outlined in Section 7.9.1.1, 7.9.1.2 and 7.9.1.4 of the EIAR.

l) Impacts on local tourism assets: The reason for refusal has listed a total of six tourist assets/ facilities and appear to have been listed following an observation from Failte Ireland dated the 2nd of March 2021. The report from Courtney Deery outlines that the development will have little impact on four of these locations that refer to archaeological/ heritage assets. A community benefit fund will be set up to assist local initiatives that advance the education/ improved knowledge of the local area and its historical importance.

Two privately owned enterprises are identified in the list of six sites, and these are Rathsallagh Country House, Golf and Country Club – 11 km from the site and Pathanna Garden in Kiltegan – 4.5 km from the site. There will be no impact on these from noise and a negative visual impact is unlikely to arise.

The development of a heritage trail with pre-organised guided tours will add to the tourism offer in this area. In addition, a number of windfarms around the country have provided a tourism aspect to their operations/ set up. None of the assets or facilities listed in the reason for refusal are named in Chapter 7 – Tourism and Recreation of the Wicklow County Development Plan 2016 – 2022. In conclusion it is considered that the proposed development will not have a negative impact on the listed tourism sites in the county. The development of windfarms has been found to have little if any negative impacts on tourism – references Ireland, Northern Ireland and Scotland.

m) Impacts on local Department of Defence activities: Details in response are provided in the 'Aviation Response Report' prepared by O'Dwyer Jones Design Partnership. The proposed wind farm would comply with all IAA, ICAO, EASA and Wicklow County Council, aviation requirements. It would comply with published CAA (Civil Aviation Authority – UK) guidelines on wind turbines. There is no identified helipad at the Coolmoney army camp and the proposed development does not prevent the future development of such a landing area. The development will not conflict with the nearby military air firing range. Subject to appropriate marking and lighting and identification on aviation charts, the development is compatible with aviation in Class G – Uncontrolled Air Space. There is no provision in local or national guidance for the special additional restrictions proposed in the Department of Defence's letter of the 24th of February 2021.

n) Noise Impacts: Details in response are provided in the 'Noise and Archaeology Response Letter' by Irwin Carr Consulting in collaboration with Courtney Deery Heritage Consultancy Ltd. Noise modelling indicates how noise levels will be altered within the localised area of the four identified archaeological sites - Kilranelagh Church and Graveyard, a barrow site, Booleycarrigeen Stone and Preservation Order 106/1940. The predicted noise levels will not affect or detract from the character of these sites.

Reason 3 – Content of the Natura Impact Statement:

The reason for refusal refers to the fact that it cannot be determined that the development would not adversely impact on the integrity of any Natura 2000 site. A response has been provided in the 'Ecological Response Letter' prepared by Ecology Ireland Wildlife Consultants Ltd. They are the primary authors of the NIS and conclude that there is no reasonable scientific doubt that the proposed development will not affect the integrity of any Natura 2000 sites. The Planning Authority did not request further information and it is unclear what the nature of the 'insufficient information' alluded to in the third reason for refusal as issued.

Reference is made to the provision of a buffer zone between watercourses and the proposed development, this will ensure the protection of these watercourses. The windfarm is some 3.5 km from the nearest Natura 2000 sites. Suitable mitigation measures have been proposed and are provided in the NIS and Chapter 7 of the

EIAR. A Surface Water Management Plan (outlined in Appendix 7.3 of the EIAR) is provided and which seeks to keep clean water clean. Daily inspection of the site and other programmed inspections will ensure the protection of water courses in the area. In conclusion it is considered that the submitted NIS is acceptable and provides adequate information as required.

Other Issues:

It is noted that third parties referred to lands within the development boundary that the applicant does not have consent to include within the application. An amended site location map has been included in the appeal – Drawing KLN 1.101_A and which omits Folio WW1343F – area of disputed lands.

In conclusion it is requested that An Bord Pleanála overturn the reasons for refusal as issued by Wicklow County Council and grant permission for the proposed development.

A number of documents/ responses have been provided in support of the appeal as follows:

- A letter – 'First Party Appeal Against Decision to Refuse Planning Permission' by Tom Phillips + Associates.
- 'Archaeological and Cultural Heritage Response Letter' by Courtney Deery Heritage Consultancy Ltd.
- 'Transport and Access Response Letter' by Fehily Timoney and Company.
- 'Ornithological Response Letter' by Biosphere Environmental Services.
- 'Ecological Response Letter' by Ecology Ireland Wildlife Consultants Ltd.
- 'Hydrological Response Letter' by Hydro-Environmental Services Ltd.
- 'Aviation Response Report' by O'Dwyer Jones Design Partnership.
- 'Noise and Archaeology Response Letter' by Irwin Carr Consulting, in collaboration with Courtney Deery Heritage Consultancy Ltd.
- A number of revised drawings and plans have been submitted in support of the appeal.

6.2. Planning Authority Comment

None.

6.3. Observations

A number of observations on the appeal were received, including from J. Whitmore TD, An Taisce, West Wicklow Wind Action Group, OSRA Planning and Design on behalf of Save Wicklow's Ancient East – R. O'Sullivan, UCD School of Archaeology – Professor Joanna Brück, UCC Department of Archaeology – Professor William O'Brien, Chambers Toxicological Consulting, Temple of Éiriú, Noonan Linehan Carroll Coffey LLP on behalf of Save Wicklow's Ancient East – Paul Carberry, and from individual members of the public.

The following comments were made:

- The proposed development would have a negative impact on the archaeology of the area. The complex of nine hillforts are of national importance and are recognised as National Monuments.
- There is a substantial number of monuments etc. located here and additional monuments have been found in recent times. Three have been added to the National Monuments Service – Historic Environment Viewer – WI027-103, WI027-102 and WI027-098. Supporting information/ documentation is provided to demonstrate the importance of the area in terms of archaeology.
- The application does not comprehensively detail the integrated nature of the archaeological sites throughout the immediate area.
- There is potential for a significant amount of undiscovered archaeology to be found/ located in this area.
- Query over the thoroughness of the assessments provided in relation to archaeology. The development of the site is likely to require further assessment and some of which may be more intrusive, resulting in damage to archaeological materials.
- No geo-physical and/ or remote sensing surveys or test trenches have been undertaken to assess the archaeological potential of the area.

- The assessment relies heavily on the visual impact of the development on the area, the impact is far more than that and physical impacts cannot be ruled out at this stage.
- In addition to the archaeological importance of this area, Kilranelagh Hill was a battlefield site associated with the 1798 rebellion.
- Although the area has been impacted by the development of commercial forests, there is no justification for further negative impacts through the development of this windfarm.
- The Wicklow County Development Plan 2016 – 2022 seeks to protect the archaeology of the area – references BH5 and Section 10.2.2.
- The area is deserving of UNESCO World Heritage Site status.
- Potential environmental impact considering the biodiversity and presence of watercourses in the area.
- The area provides high amenity for the town of Baltinglass and surrounding villages.
- The ecology of the area is somewhat dependent on the protection of the archaeological sites located here.
- There is potential for tourism, educational and economic benefits for the local area.
- The area has a spiritual importance for a number of groups/ communities.
- Reference is made to the EU Habitats Directive and the need for the competent authority to ensure that development in a protected site can be carried out with all reasonable scientific doubt removed.
- The development is within 100 m of Kilranelagh Graveyard, which is visited by a local walkers, cyclists, and tourists to the area. The setting of the area would be negatively impacted by this proposed development. Concern also about noise impacts on the setting of the graveyard.
- The proposed heritage trail is by appointment only and implication is that appointment will only be made if it suits ABO Wind.
- Uncertain as to how the heritage trail can be sustained over the 30-year life of the windfarm.

- The development will impact on local tourism and the ability to access the area of historical importance.
- ABO state that Red Kites only fly over open landscape, however Rockingham Forest in England, is a one of their breeding grounds.
- The proposed carcass searches are not acceptable and in particular the use of a trained dog to undertake these searches is not acceptable.
- Potential impact on bats – the desk study undertaken by Ecology Ireland Wildlife Consultants Ltd (EIWCL) shows that there are 11 bat roosts within the development site boundary.
- The development may give rise to the loss of commuting routes and foraging locations for bats.
- The presence of the Whiskered bat species in the area would be significant as it is mostly found in coastal counties in Ireland.
- There are a number of bridges within/ adjacent to the site that could provide suitable habitats for bats. Insufficient detail has been provided about these bridges.
- Query over the quality of the bat assessments. Noted that not all of the equipment used to measure the presence of bats were working, during the time of the survey.
- The provision of the windfarm would set a precedent for further similar development in this area.
- Direct impact on residential amenity through noise and shadow flicker from the proposed turbines.
- Concern about the details provided in relation to noise impacts from the development. The EIAR may not provide sufficient detail to enable a full assessment to be made.
- Concern about the current operation of the forest and video evidence provided which demonstrates that poor management is an ongoing issue here.
- Issue about modelling versus reality – the real impact of similar developments was only realised during the operational phase of development and noise levels were far in excess of the details provided at application stage.

- The development would have a negative impact on the visual amenity of the area.
- Concern about the impact of the development on water quality. Watercourses in the area are used by farm animals for drinking.
- Potential impact to groundwater levels in the area.
- There are important salmonid tributaries in the area and although it is stated in the EIAR that there will be no impact to streams, damage has already occurred through the ongoing construction of forestry roads within the windfarm development site.
- Potential negative impacts to a private fishery and tourism business in the vicinity of the subject site.
- Lack of consultation with the local community despite contrary statements in the submitted application.
- Insufficient detail is provided in the appeal as to how local roads are to be protected and ensure their structural integrity during the construction phase of development. This information should be provided within/ with the EIAR and not be addressed by way of condition if permission is granted.
- Lack of information regarding the provision of suitable sightlines along the affected road network.
- A number of roads have been identified that will be directly impacted by the development in terms of undergrounding cables, access for turbines etc. These are public roads and to which the public have the right to access at all times. There is a potential health and safety issue if the roads are not open at all times to the public.
- Insufficient information has been provided to demonstrate that the development would not impact on the nearby army training grounds.
- Concern about the lack of data on the health and environmental effects through the lifecycle of the turbine. These contain hazardous materials. Erosion of turbines has been found to be as high as 0.2% of the blade weight on a monthly basis.
- The disposal/ recycling of end-of-life turbines may require high energy use.

- The type of turbine will only be provided following a grant of permission. The actual energy production from these can only be estimated depending on the type of turbine proposed.
- Health and safety issues in particular in relation to potential blade failure.
- A number of procedural issues are raised in relation to public notices, the submission of the application and landownership consent.
- Query over the status of the area in terms of the Wicklow County Development Plan 2016 – 2022.
- Legal issue over part of the site within the Blue Line Boundary appears to be owned by one of the observers – S. Byrne.

A number of the observations provided supporting documentation.

6.3.1. A separate observation was submitted by the Department of Defence and the following points are made:

- The role of the Department of Defence is set out in the observation and includes the regulation of military aviation. The military lands in the Glen of Imaal are the Irish Defence Forces primary training area and also the largest live fire range. Operational aircraft require freedom of movement during the use of these lands.
- Coolmoney Camp is used to assembly all troops prior to entering the Glen of Imaal range area. Training in the Glen of Imaal includes the use of live rounds and includes a wide range of training types. Danger Area D5 surrounds the Glen of Imaal and ensures the protection of the training area.
- A Helicopter Casualty Evacuation (CASEVAC) plan is put in place prior to any live firing exercise.
- Reference to civil aviation rules is not appropriate when considering the use of a designated area by military aircraft. Normal civilian aviation rules do not apply, and this is referred to in the Irish Aviation Authority (IAA) Act 1993.
- The Irish Air Corps oppose the development as it would have negative impacts on the use of Coolmoney Camp and the Glen of Imaal.
- The height of the turbines and their location on a hill will result in their projection above the height of the nearby Spinans Hill and Eadstown Hill. These hills will not screen the turbines.

- The proposed development lies within the Military Operating Area 3 (MOA 3), this is airspace that is used to protect military aircraft whilst engaged in training/ flying that is not in compliance with the civil rules of the air.
- The turbines will be obstacles to low level aircraft, both vertically and laterally. Obstacle warning lights placed on the hub/ non-moving part, will result in the turbine blades not been visible to aircraft, especially during times of poor weather/ visibility.
- Training includes low flying/ landing/ take-off manoeuvres by helicopters and low flying (down to 250 feet) by fixed wing aircraft.
- It is proposed that specific flying procedures will be introduced to Coolmoney in time – 'Point in Space' (PinS) procedures. The subject site is within 1.57 to 2.65 nautical miles (NM) or 2.9 km to 4.9 km. A 5 NM assessment area allows for the introduction of future flying procedures to the area. An approach to/ from the South West would be the standard as this is the prevailing wind direction.
- The development would have a negative impact on the ability of the Air Corps to undertake casualty evacuation from the Glen of Imaal. Access to the Glen of Imaal would be impacted by the location of the wind farm. Low level pilot training would also be restricted in this area.
- The aviation guidance referenced by ABO Wind refers to civil aviation rules and these are not used by the Air Corps. The information provided by O'Dwyer & Jones for ABO Wind is not relevant to the flying undertaken by the Air Corps in this area. Reference to approaches/ departures to/ from the west is incorrect. The wind farm is located within MOA 3 which is used for the safe holding of aircraft before entering EI-D5 – the live firing round area.
- There is a dedicated helicopter landing area at the Coolmoney Camp. Such landing areas can vary and the absence of a wind sock does not indicate the lack of such a landing area.
- Irish Air Corps and Coastguard helicopters use multiple unmarked landing areas to transport and assist search teams looking for lost/ injured hikers in this area.
- Helicopter fire-fighting is undertaken and again this process does not necessarily use a fixed helicopter pad.

- The full time Air Corps Ambulance helicopter operating out of Athlone also has to land/ take-off from locations where there is no fixed helicopter landing point.
- UK CAA guidance is not relevant. The Air Corps have one military airbase and one land firing range, other countries may have multiple such facilities.
- The reference to Tallaght Hospital is not relevant due to the way this operates, its location and the fact that it is in controlled airspace and is in the vicinity of Casement Aerodrome.
- The development of PinS is a short-term objective of 2 to 3 years and a tender has been issued for the development/ implementation of this.

6.4. **Further Observations**

Additional observations were submitted by M. Russell, Temple of Éiriú, Chambers Toxicological Consulting, D. & M. Case, S. Moore, S. Byrne, An Taisce, S. Hathaway, P. & K. Carberry, R. Hanbidge, West Wicklow Wind Action Group,

The following points were made:

- Insufficient consideration is given to the impact on archaeology in the area.
- There is a failure to adequately investigate and examine the archaeology of the site.
- The environmental and ecological assessments are thin in quantity and detail. A number of bird species regularly seen in the area are not mentioned at all in the assessments. Concern must be expressed about such omissions and how more difficult to assess fauna are surveyed.
- The area has already suffered damage through the development of tracks within the forestry area. Silt is entering into watercourses in the area and there is no guarantee that a similar issue will not arise during the construction/ operational phases of the windfarm.
- The importance of this site is restated in terms of archaeology, biodiversity/ ecology, local heritage value and in terms of spiritual importance.
- Concern about the time of year that the noise assessment was undertaken. Trees were in full leaf and noise assessment would be affected by greater absorption from the trees etc. Concern also about the lack of supervision of the

noise survey equipment as the device at NML3 was lying on the ground for much of the survey time. The use of a generator with a noise monitor may not provide accurate results.

- The harvesting of Sitka Spruce trees would also affect the acoustics of the area. There is no guarantee that the trees will remain in place during the lifespan of the wind turbines.
- The environmental/ noise impact of the development cannot be fully ascertained if the type of wind turbine to be used is not detailed.
- Reference is made to the provision of insufficient details by the applicant in relation to the design of the wind turbine and a recent court decision – Sweetman V An Bord Pleanála 2021 (IEHC 390 – Paragraph 51 – 54) is referenced.
- Request that full details/ logs of the wind surveys be provided. Also, a request is made that a revised noise survey be undertaken using best practice/ latest methods to ascertain the potential impact on the area.
- Insufficient detail is provided in relation to the 'Valley effect' of noise, which is of concern for those in particular who live in the Spinans Hill, where there is a valley between it and Kilranelagh Hill.
- Noise impacts to visitors to the area, local residents, the use of the graveyard, excavation noise and other issues are raised.
- The development of a windfarm here would prevent the designation of this area as a UNESCO World Heritage site. Funding has been provided recently for a study by UCC on the Baltinglass Hillfort Complex.
- Insufficient assessment made in relation to birds that may be found in this area. The protection of Raptors is highlighted.
- Insufficient assessment has been made in relation to bats that may be found in this area. At least two roosts are located within close proximity to the development lands. The presence of historic bridges may allow for further bat roosts though insufficient assessment of these has been made by the applicant.
- Damage has occurred to some of these historic bridges and this damage renders them unsuitable for the laying of cables.

- The widening/ improvement of forest tracks would impact on the biodiversity of the area and may also give rise to silt etc. entering watercourses in the area.
- Support is provided for the observations raised in the Noonan Carroll Coffey LLP submission on behalf of Save Wicklow's Ancient East.

6.5. **Further comment by Applicant**

Tom Philips + Associates (TPA) have submitted a response to the following:

1. The NLCC LLP Cover Letter
2. The Save Wicklow's Ancient East Noise Report.
3. Boleycarrigeen Kilranelagh Tourism Booklet/ Tourism in Wicklow: Expanding East
4. The Save Wicklow's Ancient East Main Submission and associated video file.

The documents including the NLCC LLP list of enclosures, and the compiled list of academic citations are considered to not require a direct response.

6.5.1. Comment on NLCC LLP Cover Letter: This includes a number of items, and these are addressed by TPA in order.

Noise: Disagree with the statement that refers to the 'gross inadequacy' of the applicant's assessment of noise impacts. Detailed assessments were carried out and a 'Noise Assessment Letter' prepared by Irwin Carr Consulting has been included to address in detail the raised issues.

Environmental Impact Assessment Directive: Despite the comments made by NLCC, it is considered that sufficient detail is provided to enable a full and informed assessment of the appeal details.

Reliance on ETSU-R-97: It is considered that this is the industry standard for the assessment of wind farm applications in Ireland.

Habitats Directive: There will be no direct habitat loss from the proposed development and no lasting or irreparable loss of the whole part or part of a priority habitat is proposed as a result of the proposed development. It is considered that the information provided in support of the appeal addresses the third reason for refusal as issued by the Planning Authority.

The applicant/ appellant trusts that the Board will have full regard to all European, National and Regional/ local policy/ targets in relation to energy production and reduction of greenhouse gas emissions. The reference to the Supreme Court Judgement – IESC 90 (2019) is not a matter for the applicant/ appellant to comment on, though it cannot be reasonably expected that the Board would have knowledge of all unsolicited academic material provided to it.

Proposed turbines: Candidate turbines which fit the 165 m height maximum size envelope have been selected to address all environmental issues including the noise assessment. Details of noise assessment have been provided on the basis of the Nordex N131 turbine, though another type of turbine may be chosen following a tender process. The installed turbine will not give rise to noise levels in excess of the details provided in Chapter 11 of the submitted EIAR.

Reality v Modelling: No comment to be made on this.

WHO Noise Guidelines: Acknowledge that there are gaps in the available knowledge in the subject matter. A suite of information has been prepared by noise experts as part of the original application and this appeal.

It is expected that the Board will make a full and comprehensive assessment of the appeal.

6.5.2. SWAE Noise Report: The Board are referred to the 'Noise Response Letter' prepared by Irwin Carr Consulting dated 18th of June 2021. It is considered that adequate details have been provided to address the reasons for refusal as issued by Wicklow County Council.

6.5.3. Boleycarrigeen Kilranelagh Tourism Booklet/ Tourism in Wicklow: Expanding East: No new issues are provided in this, and the applicant is well aware of the site's heritage and tourism potential.

6.5.4. SWAE Main Submission: The applicant refers to the 29-page report and the 23-minute video. The raised matters have already been addressed in the appeal and in the original application made to Wicklow County Council. Full details were provided on bats and their habitats. The third party has not demonstrated that bats roost in the area. Chapter 9 of the EIAR assesses the landscape and visual character of the area and it is considered that the development would not negatively impact on any UNESCO World Heritage Site, any National Monuments, or any Recorded

Monuments. Wicklow County Council did not refer to landscapes in the reasons for refusal. Trial pits were dug on the L8293-0 road, and which were reinstated. Noise issues have already been detailed in this response. Groundwater vulnerability has been considered in the letter prepared by HES. Full consideration and mitigation measures have been proposed in relation to potential silt slippage.

6.5.5. A full detail of site notice erection has been provided by the applicant/ appellant and full details of any revisions to these notices.

6.5.6. The issues provided in relation to Coolmoney Military Grounds have been addressed in the appeal. It is requested that if any further details in relation to this are submitted, then the opportunity should be afforded to the applicant to address these matters.

6.5.7. Request again that permission be granted for the proposed development of a windfarm in this area of Co. Wicklow.

7.0 **Assessment**

7.1. There are three aspects to this assessment as follows:

- An Environmental Impact Assessment (EIA)
- An Appropriate Assessment (AA)
- A Planning Assessment.

I will refer to issues raised in the Planning Authority reason for refusal, and by the various parties in each of these assessments, as are considered to be relevant. It is acknowledged that there will be an overlap in the matters raised/ considered in these three assessments.

8.0 Environmental Impact Assessment (EIA)

8.1. **Introduction**:

8.1.1. The application is accompanied by an Environmental Impact Assessment Report (EIAR) prepared by ABO Wind Ireland Ltd. and a number of specialist consultants. The report is dated to January 2021 and comprises of:

- Volume 1 – Non-technical Summary
- Volume 2 – Main Report
- Volume 3 – Figures
- Volume 4 – Appendices
- Volume 5 – LVIA Viewpoint Montages

8.2. The appeal falls under the requirements of Directive 2014/52/EU and the development falls within Schedule 5 Part 2 Class 3 (i) of the Planning and Development Regulations 2001 as amended – 'Installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output greater than 5 megawatts'.

8.3. The Planning Authority considered that the submitted EIAR did not identify and describe adequately all of the effects of the proposal on the environment in accordance with article 3(1) of the 2014 Directive. The applicant has appealed the decision of the Planning Authority and rejects this reason for refusal, one of three separate reasons for which permission was refused for the proposed development.

8.4. **Chapter 1: Introduction**

8.4.1. This chapter of the EIAR set out the background to the proposed development of a windfarm in this part of Co. Wicklow. A summary of the proposed development is provided as follows:

- The construction of up to 5 no. wind turbines with a maximum overall blade tip height of 165 m. Each turbine to include a transformer and associated hard standing areas.
- The provision of one 38kV electrical substation and all associated infrastructure/ works.

- The provision of 20kV underground cables allowing for the connection of the turbines to a 38kV electrical substation and all associated infrastructure/ works.
- The provision of circa 6.5 km of 38kV underground cabling along public roads to facilitate the connection of the proposed 38kV wind farm electrical substation to the existing Stratford 38/ 110kV substation. The cabling/ connection is referred to as 'the grid route'.
- The provision of a heritage trail circa 1 km in length and which would include associated information signage, located at key heritage assets and parking areas.
- The replacement of the existing grass verge with a new 1-metre-wide footway at each bridge crossing also 'the grid route'.
- New site access tracks and the upgrading of the existing tracks including all associated site works.
- The provision of one 30 m high metrological mast and all associated infrastructure/ works. This mast will be permanent.
- The provision of a temporary site compound and all associated works.
- All associated necessary site works.

The development is to be known as the Kilranelagh Wind Farm and it is located within a number of townlands: Kilranelagh, Colvinstown Upper, Ballinaroan Upper, Bolleycarrigeen, Cloghnagaune, Downings, Spinans West, Kill, Eadenstown South, Eadestown Middle, Ballintruer More, Castleruddery Lower and Castleruddery Upper, all in County Wicklow.

8.4.2. As five turbines are proposed, there is a need for Environmental Impact Assessment (EIA) to be undertaken by the competent authority. Consultation has been had with environmental and technical experts throughout the design and planning stages of the development of this proposed project. The EIAR has been prepared in accordance with the requirements of EIA Directive 2011/92/EU as amended by Directive 2104/52/EU. Full regard has been had to relevant European and National Guidance and in particular the Wind Energy Planning Guidelines (2006) and the proposed revisions in the Draft Wind Energy Development Guidelines (2019).

8.4.3. Chapter 1 includes full details of the EIAR methodology used. Each topic is considered under a number of headings as follows:

- Introduction
- Statement of Competence
- Site/ Development Description
- Methodology
- Potential Impacts – associated with the proposed development
- Mitigation and monitoring measures (for any likely adverse impacts).
- Residual Effects
- Conclusions

8.4.4. Table 1.2 of Chapter 1 presents, in summary, a list of impacts in accordance with the EPA guidelines. Table 1.4 provides a 'Summary of Professional Team', a list of the specialist and competent consultants to conduct the necessary survey and impact statements. Under the section 'Environmental Impact Assessment Report Difficulties & Deficiencies' – no particular difficulties were encountered in obtaining or compiling the information that is contained within the EIAR. Table 1.6 'Cumulative Study Area' provides a list of other relevant developments, which are within 20 km of the subject site – five of these are windfarms and one was a solar farm.

8.4.5. Section 1.6 of Chapter 1 provides a 'Need for the Proposed Development'. There is a need to reduce greenhouse gases and the use of renewable forms of energy are promoted on a European and National Level, the proposed development provided for this change in energy source. Section 1.7 provides 'Costs and Benefits of Wind Energy' and this is further detailed in Chapter 4 of the EIAR.

8.5. Chapter 2: Alternatives, Scoping and Consultation

8.5.1. This chapter contains a list of alternatives that have been considered instead of the submitted development. The alternatives are considered under seven different headings as follows:

- The 'Do-Nothing' Scenario: No windfarm development, site remains mostly as a commercial forest, however there is no contribution to increasing renewable energy use, no additional employment in the area and benefits to the local economy would be lost.
- Alternative Locations: The most suitable locations were considered using a 'sieve mapping analysis'. A large range of criteria were considered including site

characteristics, grid capacity, wind speed, built heritage and accessibility. Table 2.1 provides a list of the 'Alternative Wind Farm Locations Studied'. It was decided to proceed with Kilranelagh as the most suitable site for this type of development.

- Alternative Windfarm Layout and Design: The design and layout of the windfarm has evolved throughout the design process and the preparation of the EIAR. Table 2.2 provides 'Site Constraint Mapping' and Table 2.3 provides details of the 'Design Revisions and Alternatives Assessed'.
- Alternative Turbine Scale: For the purpose of the EIAR, a range of turbines have been considered with an overall maximum tip height of 165 m. Turbines have been considered in terms of capacity, different hub heights, rotor diameters, noise etc. but all with a tip height of 165 m. Smaller height turbines would not make the most efficient use of the available wind.
- Alternative Grid Connection Options: The nearest suitable grid connection is at the Stratford substation, there are no other connections within 10 km of the subject site. The undergrounding of the cable was considered to be appropriate in terms of visual impact. Two routes were considered, and Route B was dismissed due to presence of archaeological remains, it's a longer route and its construction may cause a greater level of disruption to the local area.
- Alternative Turbine Delivery Route: The turbines are likely to come into the Country through either Dublin, Waterford, or Rosslare Ports. National and Regional roads will be used as much as possible for the delivery of these turbines and associated equipment.
- Alternative Land Use: The existing use of the land as commercial forestry will continue and the development of a wind farm here is compatible with the current use. The land is not zoned for residential, commercial, or other uses in the Wicklow County Development Plan 2016 – 2022 and other uses are not therefore appropriate.

Consultation with the Planning Authority was limited due to Covid 19 restrictions and responses by email were not received prior to the completion of the EIAR. Details of public consultation are provided and are further detailed in Appendix 2.3 of the EIAR.

8.6. Chapter 3: Development Description

8.6.1. This chapter provides a detailed description of the different elements of the development as proposed. In summary a total of 5 turbines with a tip height of 165 m are proposed, some 6.5 km of underground cabling from a new substation on the site to an existing 110kV/ 38kV substation at Stratford. All necessary access roads including new and upgraded routes and a heritage trail of approximately 1 km. Also, a 30 m high permanent meteorological mast and all associated site works. Table 3.1 provides the 'Irish Grid co-ordinates of proposed turbines' in terms of X (easting) and Y (northing) locations. Each turbine will have a power output of circa 5MW – this is dependent on the model of turbine chosen. Full details of each of the other elements of the development area provided. Full details are provided of the means of turbine delivery, tree felling and planting and on the phases of development. Construction phase will be approximately 12 months long from commencement to installation to commissioning of each of the turbines.

8.6.2. Full details of the different stages are provided in the EIAR. Grid Connection works are expected to take 6 months. The operational life of the turbines is expected to be 30 years and planning permission is sought for a life of 30 years. Appendix 3.4 provides for a decommissioning plan and further details are provided in Table 3.8 'Timeline of Decommissioning Plan'. Section 3.9 of the EIAR includes details on 'Development Wastes' – what will be generated during the construction phase, during the operational phase and during the decommissioning phase.

8.7. Chapter 4: Policy and Legislation

8.7.1. This section provides detail on existing and relevant policy and legislation for the development of this windfarm. This is broken down to International (section 4.2), European (section 4.3), National (section 4.4), Regional (section 4.5) and County (section 4.6) contexts. Climate change and energy security are key considerations within this section of the EIAR.

8.7.2. The Wicklow County Development 2016 – 2022 is the operative development plan in force and 'Wicklow Wind Energy Strategy' is contained within Volume 3 of the plan. Table 4.3 provides the 'Wind Energy Designations of the Wicklow County Development Plan 2016 – 2022'. The subject site is located within an area designated as 'Less Favoured' and which states 'Wind Farm development will be

considered, but the sensitivities revealed in these areas would render exploitation more problematic and therefore these areas are less favoured for wind energy development'. The Wind Energy Strategy describes the 'Less Favoured' areas as follows:

'These areas form a natural buffer between the 'Most Favoured' areas and the 'Not Favoured' areas. The 'Less Favoured' areas generally comprise of lands designated 'Areas of High Amenity' in accordance with the landscape designation of the 2016 County Development Plan and locations where challenges to wind energy exploitation are present, such as listed views and prospects, and areas of heritage value in particular 'Natura 2000' designations. A number of locations within this area may be open to exploitation'.

8.7.3. The Wicklow Landscape Character Assessment (LCA) is included within Volume 3 Appendix 5 of the county development plan. The county is divided into 6 distinct landscape categories, which in turn are divided into 15 landscape areas. The subject site is within 'Transitional Lands' which form part of the 'Areas of High Amenity (AHA)'. These lands '...comprise of lands which act as a natural buffer and provide a clear distinction between the less sensitive landscapes within the County and the landscape areas primarily identified as the Area of Outstanding Natural Beauty'.

8.7.4. Section 5.3.1 provides a list of key development considerations for Landscape Assessment for Transitional Lands. Section 5.3.1 of the Landscape Assessment lists a number of general development considerations.

8.8. Assessment of the Environmental Factors

8.8.1. I have carried out an examination of the information submitted by the applicant, including the submitted EIAR and the supplementary information, and all submissions/ observations made during the initial application to the Planning Authority and on the appeal. A summary of the results of the submissions made by the prescribed bodies, appellants and observes has been set out in Sections 3 and 6 of this report. The main issues raised that are specific to the EIAR can be summarised as follows:

- Impact on residential amenity with particular reference to increased noise and from shadow flicker associated with the turbines.

- Biodiversity issues with reference to the impact on a number of bird species and bats.
- Impact to archaeology that is abundant in this area.
- Impacts to Aviation – in so far as it affects the operations of the Department of the Defence.
- Impact on water quality in the area.
- Impact on the structural integrity and access to the local road network and the bridges in the area.
- Negative impacts to the existing and future tourism potential of the area.

8.8.2. These issues are considered in full under the following relevant headings. I am satisfied that the EIAR has been prepared by suitably qualified experts to ensure that it is complete and meets appropriate quality. In addition, I am satisfied that the information contained within the EIAR, and the supplementary information provided by the applicant, adequately identifies the direct, indirect and the cumulative effects of the proposed development on the receiving environment and complies with Article 94 of the Planning and Development Regulations 2001 as amended.

8.8.3. The following sections of this report address each of the environmental factors and the headings are those provided in the EIAR.

8.9. Chapter 5: Ornithology

8.9.1. Chapter 5 has been prepared by BioSphere Environmental Services (BES), commissioned to do so by ABO Wind Ireland Ltd. The site of the wind turbines and the grid connection corridor have been included in this assessment.

8.9.2. The assessment included a 24-month cycle of bird surveys, carried out from April 2018 to March 2020 inclusive. This chapter of the EIAR describes the site and the associated bird species; species which are of conservation importance are highlighted. Impacts and effects on bird species are assessed and suitable mitigation measures are provided, in accordance with best practice. The description of the general site and surrounding area is provided in section 5.1.2. Section 5.3 provides the relevant legislation and guidance relevant to this site/ proposed development.

8.9.3. The assessment was supported with a comprehensive desktop and literature review, the aforementioned 24-month survey which included three vantage point sites to enable the survey work. The three vantage point locations are detailed in Section 5.4.2. Table 5.1 provides a summary of the walkover survey including dates, season, times, and weather conditions. A mix of Breeding and Winter seasons were used, and weather conditions were generally dry with good visibility. The grid route was surveyed in March 2020 by driving the route and stopping in appropriate locations.

8.9.4. The Hinterland Survey found that the River Slaney Corridor is the only significant wetland system in the hinterland of Kilranelagh that could support winter wetland birds. Surveys were undertaken on this, and a particular emphasis was placed on the afternoon/ evening periods when wetland birds such as gulls might come in to roost on the river and the adjoining wetlands especially during times of flood.

8.9.5. No limitations on surveys were identified.

8.9.6. A list of target species has been provided, these would be considered to be sensitive to collision and/ or disturbance:

- Waders such as Lapwing, Curlew and Snipe
- Other waterbirds, such as ducks and gull species
- Merlin, Hen Harrier, and other birds of prey
- Red Grouse
- Any other Annex 1 species of the EU Birds Directive
- Any other Amber or Red-listed species.

8.9.7. The Wicklow Mountains SPA (site code 004040) is located approximately 7 km to the northeast of the subject site – two relevant bird species are found here, Merlin and Peregrine, and Poulaphouca Reservoir SPA (Code 004063) lies approximately 15 km to the north of Kilranelagh with two relevant bird species in the form of Greylag Goose and the Lesser Black-backed Gull.

8.9.8. Appendix 5.2 and Appendix 5.5 provides flight line details of target species. The following are noted:

- Sparrowhawk (amber list species) was regularly observed, nesting taking place in the eastern end of the survey area. Birds observed displaying/ circling overhead and/ or birds hunting within the site.
- Kestrel (amber list species) was recorded in and around the site. Records of single birds with at least two individuals involved. Not expected to nest on site but would nest in the wider area.
- Buzzard (green list species) was recorded throughout the site and may nest in the northwest sector of the site.
- Peregrine (green list species, but on the Annex 1 of the EU Bird Directive) were recorded on five occasions. All birds were observed passing over the site and are probably from the Wicklow Uplands.
- Golden Plover (red list species, on the Annex 1 of the EU Bird Directive) passed high over the site in March 2019, probably migrating birds and not associated with the subject site.
- Lesser Black-backed Gull (amber listed) were recorded on a regular basis passing over the site, mainly in the autumn and early winter period and are considered to be associated with the Slaney River Valley population. Hinterland surveys also recorded these gulls in varying numbers. An October 2019 survey found a peak count of 310.

No other species were found though Red Grouse (red listed) were heard calling on the slopes of Keadeen Mountain during a vantage point watch in late February 2019; there is no suitable heath/ bog habitat on the subject site for this species.

8.9.9. A list of Breeding/ Summer Birds is provided in Table 5.2 of the EIAR, and Winter Birds were found to be low in numbers with Woodpigeon, Jay, Goldcrest, Treecreeper, Robin, Chaffinch, Siskin and Lesser Redpoll observed. Fieldfare, Redwing and Starlings were observed in November and Long-eared Owl was heard calling in February 2019 and February 2020 and is known to breed on site.

8.9.10. The grid route was also surveyed and is considered in the assessment. This route follows the local road network, passing through agricultural lands lined by hedgerow/ ditches. The River Slaney is crossed by a bridge – George's Bridge. A large number of bird species are expected to be found in such areas and include: Woodpigeon, Blackbird, Robin, Wren, Dunnock, Great Tit, Blue Tit, Chaffinch, House

Sparrows and it is expected that Kingfishers could be found in the area of the river Slaney. Table 5.3 provides a 'Summary of bird species of conservation importance recorded at Kilranelagh and surroundings from April 2018 to March 2020 inclusive'. Red list species include Golden Plover (flock flew over), Woodcock (breeds on site), Grey Wagtail (may breed on site) and Meadow Pipit (breeds on site). In conclusion the birds found are typical of such an environment and the presence of breeding Woodcock is the most significant find of the site.

8.9.11. The 'Statement of Potential Impacts' includes a list of predicted or potential impacts as follows:

- Loss and alteration of habitats: Removal of 6.2 hectares of commercial forest. This is not expected to have an adverse impact on any of the bird species associated with the site as adequate such habitats will be available in the rest of the site. There is an abundant amount of conifer forest in County Wicklow. The effect on birds by loss of habitat is stated to be Non-significant. The opening up of the areas around the turbines/ access roads may be of benefit and is stated to be as a positive effect of slight significance. Existing bird species are expected to continue to be found on this site post construction.
- Potential disturbance to birds during construction: Localised disturbance effects on bird species can be expected if construction occurs during the bird breeding season. A pre-construction survey should be undertaken to ensure that there are no impacts to any habitats/ breeding areas. The loss of a breeding season is rated as adverse, but it is stated that the temporary nature of the impact results in a Not Significant effect.
- Potential disturbance to birds during operation: Due to the nature of the windfarms the impact is not great during the operational phase of development. It is expected that relevant species would continue to nest in the adjacent woodlands etc, and it is stated that the 'significance of any potential effect is rated as imperceptible'. Woodcock and possibly Sparrowhawk may avoid the area in the immediate vicinity of the turbines, however the potential impact on these species is rated as of slight significance.
- Potential collision risk to birds during operation: The potential for collision risk is well established. There is no evidence that the site is located within a regularly

used migration route by birds or as route between feeding/ roosting sites by wintering waterfowl. Potential for collision by Lesser Black-backed gulls is established especially during times of poor visibility conditions. Birds of prey such as Sparrowhawk, Kestrel and Buzzard are prone to collision with turbines. Peregrine were recorded five times over the two-year survey period but appear to be flying over the site and are not associated with the site on a regular basis. The risk of collision is low and it is not expected that this would have an effect at the population level for relevant species. Those species that are prone to collision are relatively widespread in Ireland and the effect on the local population is stated to be 'rated as Slight significance'.

- Potential impacts on birds by grid connection: Impacts are possible if construction is undertaken during the bird nesting season, otherwise impacts are not foreseen. The method of bridge crossing and alternatives should not impact on bird species found in the area, except if overhead cables are provided and which may give rise to collisions. However, the species found in the area would be less prone to such collisions.

8.9.12. Assessment of the potential impact on birds associated with the Wicklow Mountains SPA and Poulaphouca Reservoir SPA is provided. Peregrine are not expected to be impacted by the development and although the Lesser Black-backed Gull may collide with the turbines, they are associated with the nearby Slaney River Valley rather than the Poulaphouca Reservoir.

8.9.13. Cumulative impacts are considered in the context that the surrounding area is primarily under commercial forest and that the removal/ clearing of this forest may have a beneficial impact on the area.

8.9.14. Mitigation and monitoring will ensure that nesting birds are not adversely impacted during the construction phase in particular. Post construction monitoring will be undertaken for a period of three years following commencement of operation of the wind turbines. Surveying of species will be undertaken, and a carcass survey also undertaken for between 12 and 24 months. Overall, the development is not expected to have any significant adverse impact on bird species in the area.

8.9.15. **Submission and Observations**: The method and range of survey undertaken was raised as an issue of concern in a number of the submissions. Much comment was

made about the range of bird species found in the area and some of which appear to be omitted from the submitted EIAR. The Department of Tourism, Culture, Arts, Gaeltacht, Sports and Media also raised concerns about the survey methodology and the post development surveys with particular reference to carcass surveying. It would be hoped that suitable measures could be employed that ensure that the carcass survey is not required or at least its results are low.

8.9.16. The issues raised by third parties and the Department of Tourism, Culture, Arts, Gaeltacht, Sports and Media are noted. The submitted information indicates that a thorough survey was undertaken over a period of 24 months. What species where and where not present is dependent on time of year/ day and also an element of luck as to where and when the surveys are undertaken. The site area, including the grid connection, is relatively large. The level of survey undertaken for the grid connection route is less than that of the location of the wind turbines, but that is to be expected as the nature of development is different in these two locations.

8.9.17. **Conclusion**: I have considered the submissions on file, the information provided in this chapter of the EIAR and the supporting documentation. I am satisfied that the potential for adverse impacts on ornithology can be avoided, managed and/ or mitigated by measures that form part of the proposed scheme such as pre-construction surveys of the immediate areas. Other measures can be included by way of condition such as the provision of a suitable carcass survey that meets the requirements of the department. I am therefore satisfied that the proposed development would not have an unacceptable direct, indirect, or cumulative impact on birds/ ornithology.

8.10. **Chapter 6: Biodiversity**

8.10.1. The terrestrial and aquatic ecology section of Chapter 6 has been prepared by Ecology Ireland Wildlife Consultants Ltd and BioSphere Environmental Services (BES) have prepared bird surveys and reporting. The site of the wind turbines and the grid connection corridor have been included in this assessment. A full breakdown of the development has been prepared.

8.10.2. The assessment included a desktop survey of available information, ecological surveys of the subject lands and an assessment of the ecological significance of the

study area. Potential impacts on the ecology of the area were assessed and suitable mitigation measures developed to address any potential issues.

8.10.3. Mitigation by avoidance was undertaken at an early stage with regards to the location of the wind turbines. The wind farm is more than 3.5 km from any Natura 2000 site and the associated grid connection crosses the Slaney River Valley SAC, a Natura 2000 site. This crossing is 3.5 km from the Windfarm site and the Wicklow Mountains SAC is more than 5 km from the turbines. All of the turbines are located in the Kilranelagh Forest, a commercial conifer forest to the south west of County Wicklow. No Annex 1 habitats are located within the development boundary of the windfarm and associated works area. A 50 m buffer is provided between the turbine location and any watercourses in the area. The grid connection will be underground mostly within existing public road and forestry tracks. No instream works are proposed where the grid connection crosses a watercourse. If a crossing is not possible of the watercourse at St George's Bridge, then horizontal directional drilling or overhead cabling may be employed instead.

8.10.4. Section 6.1.1 of the EIAR provides a list of relevant legislation, Guidelines and best practice guidance and also includes a Statement of competence.

8.10.5. The Methodology section provides full details on the survey methods undertaken. Scoping details are provided in Chapter 2 of the EIAR, and consultation was held with Inland Fisheries Ireland (IFI) and the Department of Culture, Heritage and the Gaeltacht. Figure 6.1 provides a site location of the proposed development and the grid connection to the existing electricity network. A list of Field/ Ecological Surveys is included in Section 6.2.3 of the EIAR, and a list of Habitat and Botanical Surveys is provided in Section 6.2.5. These were undertaken between August 2019 and October 2020. All surveys were undertaken in accordance with current guidelines/ best practice.

8.10.6. Aquatic Surveys and Fisheries Assessment were also carried out in accordance with best practice. Full details are provided in the EIAR of the methods used. Electrofishing was undertaken at two locations – East Spinans (north west of the proposed turbines) and Boleycarrigeen (to the south east of the proposed turbines). A water quality analysis was undertaken at eight different sites – Table 6.3 refers to the locations. Mammal surveys were carried out and bat survey details are provided

in Section 6.2.8 of the EIAR. Table 6.6 provides 'Details of passive bat survey period'. This was undertaken in Summer 2019, Autumn 2019 and Spring 2020. Visual and active bat surveys were also undertaken. Invasive species were considered during the habitat and botanical walkover surveys. Assessments were also undertaken along the Turbine Delivery Route.

8.10.7. A total of six designated Natura 2000 sites and eleven pNHAs are located within 15 km of the subject site (turbines location and the grid connection route). The most relevant sites are as follows:

- Slaney River Valley SAC (site code 000781) – 0 km from the site – due to the grid connection crossing the River Slaney at George's Bridge.
- Wicklow Mountains SAC (site code 002122) – 5.2 km from the site.

The windfarm site does not lie within any EU Natura 2000 sites or any nationally designated conservation area. As stated, the grid connection crosses the SAC approximately 3.5 km north of the windfarm site. Table 6.7 provides 'Summary of designated areas within 15 km of the application site'. This includes all SAC, SPA and pNHAs. Figure 6.4 provides a location plan of all Natura 2000 sites within 15 km of the site and Figure 6.5 provides a location plan of all nationally designated sites within 15 km of the subject site.

8.10.8. Details of the existing environment are provided in Section 6.3.2 of the EIAR. No Annex 1 Habitats are located within the area of the windfarm development and the area currently consists of commercial conifer forests and forest access tracks. The study notes that an 'eroding stream' (FW1) to the north of the proposed development footprint is of 'higher local importance', this is not within the site area. No botanical species under the Flora (Protection) Order 2015, listed in Annex II or IV of the EU Habitats Directive (92/43/EEC) were recorded on the subject site. No invasive species that would give rise to damage to native species were found on site.

8.10.9. Section 6.3.2.1 provides a list of 'Habitats present within the proposed wind farm application site boundary'. Commercial conifer forest, woodlands and grasslands make up the majority of these lands. The proposed grid connection route is primarily located within the existing local road network and forest tracks. This route is circa 6.5 km in length and connects to the existing electricity network at the Stratford 110kV/ 38 kV substation. The electricity cable will be underground and will pass

under existing verges/ tarmac roads and shrubs. Three river crossings at East Spinans Stream, Mill Race Stream and the River Slaney (George's Bridge) are proposed. The Slaney River forms part of the SAC and suitable alternative methods of cable crossing are proposed which will not require instream works. Full details of each of the habitats found within the subject site are provided in Section 6.3.2.1 of the EIAR. The descriptions include photographs that display a typical section of these habitats.

8.10.10. Section 6.3.2.2 provides for a similar detailed description of the habitats within/ along the proposed underground grid connection route. Figures 6.7 to 6.11 provide a site location map of the grid route and the habitats within/ that adjoin it. An assessment was also made of the 6.17 hectares that are proposed for replanting with conifers as replacement for the forests that will be removed to facilitate the proposed development. These lands are at present unmanaged/ abandoned with some evidence of Sika deer disturbance noted. These lands are rated at 'low local importance' to 'higher local importance' in their current state.

8.10.11. **The East Spinans Stream** drains approximately 75% of the footprint of the proposed development site. It flows westwards and joins the River Slaney 200 m upstream of Tuckmill Bridge, approximately 4 km from the proposed development site. Three water quality monitoring stations and one on the Carrigower Tributary provide information on water standards in the area relevant to the proposed development site. The Slaney_040 Sub Basin, including this stream, has been classified as 'Not at Risk' of deterioration or being attributed less than 'Good Status' in the near future according to the EPA (2018 details). There are no industrial emissions (IE), Integrated Pollution Control (IPC), Urban Wastewater Treatment Plant (UWWT Plant) discharges, mining, or other licenced discharges to this stream. The water quality in this area is good due to the limited amount of intensive farming in the upland areas and the stream is capable of supporting a range of aquatic life. The nature of the stream changes downstream due to improvements associated with/ because of more intensive farming in this section of the stream.

8.10.12. The electrofishing site on this stream found that Brown Trout and Brook Lamprey were present. Figure 6.12 gives details on the trout found and the trout present were found to be healthy. No eel or salmon were found, though the stream is considered a suitable habitat for salmon. Barriers such as the cascade

downstream of Downings Bridge may limit their reach to this area. This is a good habitat for Lamprey which are present. Water quality varies from High to Moderate status.

8.10.13. **The Boleycarrigeen Stream** approximately 25% of the footprint of the proposed development site. It flows westwards and eventually flows south at the col between Keadeen Mountain and Kilranelagh Hill. It eventually joins the River Slaney, approximately 7 km downstream from the subject site. Water monitoring stations have classified the stream as 'At Risk' and the sub basin associated with the River Slaney is included in the Water Framework Directive (WFD) as an 'Area for Action', agriculture being a major cause for this concern. There are no industrial emissions (IE), Integrated Pollution Control (IPC), Urban Wastewater Treatment Plant (UWWT Plant) discharges, mining, or other licenced discharges to this stream. There are no reports of fish-kills within the Boleycarrigeen Stream. Groundwater in this area is defined as 'Good'. The water quality in this area is good enough to be capable of supporting a range of aquatic life.

8.10.14. The electrofishing site on this stream found that Brown Trout were the only species present. Figure 6.14 gives details on the trout found and the trout present were found to be healthy. No eel or salmon were found, though the stream is considered a suitable habitat for juvenile Atlantic salmon. Barriers such as a waterfall immediately downstream of Colvinstown Bridge may limit their reach to this area. The restrictions on the stream may prevent lamprey was inhabiting the site and none were found during the surveys. Water quality varies from High to Good status, though a site downstream of the Boleycarrigeen Stream was found to be of moderate status.

8.10.15. Full details are provided of where the cable route will cross watercourses. These are the East Spinans Stream Crossing – C1, Eadestown Middle Stream – C2 and the Slaney – C3. It is proposed that the cable will be installed within the deck of each bride but if not possible, alternatives form of crossing include the use of directional drilling or the provision of overhead lines at these points. Details are provided of the biodiversity and ecology characteristics in the vicinity of these crossing points.

8.10.16. The Slaney River crossing is a designated SAC and the following habitats are protected:

- Estuaries
- Tidal mudflats and Sandflats
- Atlantic salt meadows
- Mediterranean salt meadows
- Floating River Vegetation
- Old Oak Woodlands
- Alluvial Forests.

The following species are listed on Annex II of the Habitats Directive:

- Freshwater Pearl Mussel [1029]
- Sea Lamprey [1095]
- Brook Lamprey [1096]
- River Lamprey [1099]
- Twaite Shad [1103]
- Salmon [1106]
- Otter [1355]
- Harbour Seal [1365]

8.10.17. The importance of the River Slaney for spring salmon fishing is recognised and measures have been proposed to improve the river for such species. Floating river vegetation is found along much of the river edge.

8.10.18. **Mammals and Bats**: Table 6.8 of the EIAR provides a table of 'Terrestrial mammals previously recorded in 10 km grid Square S98' and Table 6.9 provides a table of 'Bat species previously recorded in 10 km grid square S98'. The subject site is located within this surveyed area. Table 6.10 provides details on the 'Suitability of the study area for the bat species according to 'Model of Bat Landscapes for Ireland'' (Lundy et al., 2013). In general, the area is considered to be of low to moderate suitability for bats. Table 6.11 provides details of bat roosts in the area, details are from Bat Conservation Ireland (BCI).

8.10.19. Table 6.12 provides a list of 'Non-volant mammals confirmed to be present at the proposed wind farm site'; this includes Badger, rabbit, hare, Pine-Marten, fox, sika deer and wood mouse. The conservation status of these is defined as of 'Least Concern' and the deer are an introduced species. Figure 6.18 provides a location of where these mammals were located, and Table 6.13 provides a numerical breakdown of the number of each species observed by camera.

8.10.20. A bat survey of the windfarm site found that activity was low to moderate. Tables 6.14 and 6.15 provide details in a tabular form. Active bat surveys were also undertaken and Figure 6.19 maps where the bats were found in the vicinity of the proposed windfarm and Figure 6.20 maps where bats were found along the proposed grid connection route. Potential roost sites were assessed, and Brown Long-eared bats were found to be roosting in the Gate Lodge of Kilranelagh House. This site is approximately 1.6 km from the nearest proposed turbine and will not be disturbed during the works. Other locations, outlined in Table 6.16 and photographs of the sites, were assessed along the proposed grid connection route. Roosting potential was found to range from Low to High. Roosting was confirmed in the Gate Lodge of Kilranelagh House.

8.10.21. Other Taxa were assessed for their presence in the area, details are provided in Table 6.17, I noted that 'March Fritillary' is listed on the Red List as 'Vulnerable' and 'Small Heath' 'Andrena', and 'Water beetle' are listed as 'Near threatened'. No Fritillary were observed during the course of the field surveys undertaken.

8.10.22. Full consideration has been had to the turbine delivery route and points of interest (POI) have been identified for this potential route. Potential works/ clearance details are provided and the impact on biodiversity through these works are considered in full. Photographs of the various POI's are provided in the EIAR.

8.10.23. **Potential Impact**: A mitigation by design approach was taken from the start of this proposal. The windfarm site is not within any designated Natura 2000 site, but the grid connection route crosses the River Slaney which is a SAC. Suitable proposals have been provided to cross this river without having a need for instream works. No Annex I habitats, no protected botanical species listed in Annex I or II and no invasive species of high risk are found within the proposed development site.

The Do-nothing scenario is considered in depth: Lands remain in commercial forest use. Overall biodiversity would remain as currently is.

8.10.24. **Potential Impact to Designated Sites**: The windfarm is not located within any designated site; however the grid route connection crosses the River Slaney, which is a SAC. Full details of the potential impact are covered in the submitted Natura Impact Statement and which is considered in depth in Section 9 of this report. Subject to suitable and identified mitigation measures, it is not foreseen that the development will have an adverse impact on the designated site. Full consideration has also been had to the proposed replanted forest on lands outside of the development site area.

8.10.25. **Potential Impact**: **Cumulative Impacts**: A list of other relevant developments are provided in Table 6.18 of the EIAR and include windfarms. Cumulative impacts on designated sites and associated species/ biodiversity are not foreseen.

8.10.26. **Potential Impact**: **Construction Phase**: Overall it is has been found that impacts on habitats and biodiversity will be 'imperceptible-neutral' during the construction phase of the development and impacts on aquatic habitats are considered to be 'neutral' based on the proposed mitigation measures/ water management to be used.

8.10.27. **Potential Impact**: **Construction Phase of the Grid Connection**: The majority of the electricity line is to be undergrounded within existing forest tracks and public roads from the windfarm site to the Stratford substation which is on the existing electricity network. Three watercourse crossings are proposed and the most significant is that over the River Slaney. Suitable measures are proposed for the crossing of this river that does not require the use of instream works. Temporary disturbance will be expected during the construction of the grid route, however subject to suitable management processes, there should be no adverse impact on any habitats or biodiversity along this route.

8.10.28. **Potential Impact**: **Construction effects on Aquatic Ecology**: A number of potential impacts on aquatic life/ watercourses have been identified as follows:

- Input of silt
- Input of nutrients

- Input of cement
- Input of hydrocarbons and other chemicals
- Hydromorphological changes – such as realignment of riverbank, change in river direction etc.
- Clear felling – increase in potential for silt and nutrients.
- Increase in traffic on existing roads
- Earthworks
- Dewatering and pouring of foundations
- Chemical spillage – Wood preservatives, solvents and chemical filled toilets etc.
- Cable route crossings – works is generally short where the cable route crosses a watercourse.
- Replant lands – may impact on watercourses through the release of sediments for example.

8.10.29. **Potential Impact**: **Construction effects on Non-volant mammals:** Potential for the loss of habitats, breeding and feeding areas. Potential for some benefits through the opening up of existing forest routes and the clearing of some conifer forest. Overall the impact is stated to be 'imperceptible neutral'.

8.10.30. **Potential Impact**: **Construction effects on bats:** No roosts were found on the windfarm site and overall activity is low in the area. Impacts have been considered and subject to suitable measures, these can be addressed. Overall, the impact is stated to be 'imperceptible neutral'.

8.10.31. **Potential Impact**: **Construction effects on other Taxa:** Potential for the disturbance and/ or loss of species, however the impact will be short term and the affected Taxa can move into adjoining lands during the construction phase of the development. Overall, the impact is stated to be 'imperceptible neutral'.

8.10.32. **Potential Impact**: **Operational Phase**: The operational phase of the development will not result in the loss of any additional habitat. Suitable buffers around watercourses are proposed to ensure that there is no impact to these sensitive areas. Overall the impact is expected to be neutral. Similarly the operational phase of the development will not affect any habitats along the grid connection route. There is a potential for increased run-off from the development

through upgraded forest/ access tracks and the introduction of hydrocarbons to watercourses.

8.10.33. The operational phase is only likely to have a low impact on non-volant species during this phase of the development. Following construction the grid route and the turbine delivery route will not give rise to any additional impacts during the operational phase of the development.

8.10.34. Any habitats relevant to bats that are lost during the construction phase will continue to be lost during the operational phase of the development. Some increased benefits arise from the clearing of conifer trees and forest track widening works. The issue of collision risk is identified as a potential issue of concern. Table 6.19 of the EIAR provides a table outlining the potential for collision risk to bats. Overall, the EIAR finds that the impact to bats from the development to be 'Low Risk'. A number of species found to be at a higher risk of collision are identified and include:

- Leisler's Bat
- Common Pipistrelle
- Soprano Pipistrelle

Considering that bat activity on site was found to be low, the risk of collision is considered to be low.

8.10.35. The impact on other Taxa will not be significant during the operational phase of this development. The development of the turbine delivery route will only have an impact during the use of this route.

8.10.36. Full details are considered for the decommissioning phase of this development and no additional or significantly different measures are required relative to those used during the construction phase.

8.10.37. **Mitigation Measures**: These are outlined in detail in Section 6.5 of the EIAR. Mitigation by design has been employed from the start of this project. The following are noted in summary:

- Construction Phase Mitigation – Habitats and Botanical Species: Tree felling will require a Felling Licence from the Forest Service. An area of 6.17 hectares, at Dunranhill, for replanting has been identified, technical approval for this site has

been received. The impact on the forest will therefore be neutral. Alternative replant lands will under a careful consideration if the proposed lands cannot be developed as intended.

- Suitable measures in relation to drainage and control of sediment run-off are provided in Section 6.5 and Chapter 7 of this EIAR. Further details are provided in the Outline Construction Method Statement (Appendix 3.1) and the Environmental Management Plan (Appendix 3.5) of the EIAR.
- Suitable measures to ensure the protection of aquatic life are provided in Section 6.4.2 of the EIAR.
- New hedgerow will be planted to replace any lost through this development.
- Rhododendron, an invasive species was found on site, and it best practice in relation to the control/ management of this will be employed on site.
- Construction phase mitigation measures are outlined further in Section 6.5.2 in relation to Aquatic Ecology and in Section 6.5.3 for Mammals/ Bats and Section 6.5.4 for other Taxa.
- Operational phase mitigation measures are provided in Section 6.5.5 for Habitat and Botanical Species, 6.5.6 for Mammals/ Bats and 6.5.7 for Other Taxa.
- Mitigation at POIs along the turbine delivery route are provided in Section 6.5.8. Advance surveys and a control on the areas to be impacted will be undertaken prior to the delivery of the turbines.
- The decommissioning phase of the development will present similar issues to the construction phase. Reinstatement works include ensuring that revegetation is progressing at an intended rate.

8.10.38. **Submissions and Observations**: The method and range of survey undertaken was raised as an issue of concern in a number of the submissions. Concern was expressed about the quality of the bat surveys, and it was also considered that there may be a far greater number of bats present on this site.

8.10.39. **Assessment**: The issues raised by third parties and the Department of Tourism, Culture, Arts, Gaeltacht, Sports and Media are noted. The submitted information indicates that a range of surveys were undertaken and that field surveys

were also undertaken. As I have identified under the section on Ornithology, what species where and where not present is dependent on time of year/ day and also an element of luck as to where and when the surveys are undertaken. The overall site area, including the grid connection, is relatively large. The level of survey undertaken for the grid connection route is less than that of the location of the wind turbines, but that is to be expected as the nature of development is different in these two locations.

8.10.40. The submitted EIAR has identified the potential impact of the grid connection route on watercourses, with particular reference to the crossing of the River Slaney, which is a designed Natura 2000 site – SAC. I note the concern that the bridges identified for crossing may not be structurally sound or capable of accommodating a cable under the surface, the Planning Authority identified similar issues. The EIAR does present alternative methods of crossing these watercourses in the form of directional drilling or through the installation of overhead cables, the authors of this section of the EIAR wish to avoid any works that would impact on the water quality/ the banks of the watercourse and do not wish to carry out any instream works.

8.10.41. A significant amount of information is provided in Chapter 6 – Biodiversity of the EIAR. I am satisfied that the issues that have been identified are thorough and that all relevant habitats, species etc. have been considered in this chapter. The EIAR is thorough in assessing the impacts at construction, operational and decommissioning phases of the development. There is a significant amount of repetition in the content of this chapter, this is not a criticism, but indicates that similar issues arise on numerous occasions and that such issues have been thoroughly considered.

8.10.42. The second reason for refusal as issued by the Planning Authority refers to a number of concerns with this section of the EIAR. Impact on the watercourses and on soils (considered further in Chapter 7 of the EIAR and under Section 8.11 of this report) were identified as lacking in information. Inland Fisheries Ireland (IFI) appears to be more concerned about the impact on the watercourses in the area from existing works underway rather than any proposed development. This is not a matter for consideration in this appeal, such issues are for enforcement procedures are operated by the Planning / Local Authority in County Wicklow. The applicant has

proposed that best practice measures will be employed and there is no indication that they will not be done as proposed.

8.10.43. **Conclusion**: I have considered the submissions on file, the information provided in this chapter of the EIAR and the supporting documentation. I am satisfied that the potential for adverse impacts on biodiversity can be avoided, managed and/ or mitigated by measures that form part of the proposed scheme. Other suitable measures can be included by way of condition such as clarity on how the River Slaney will be crossed by the grid route connection. I am therefore satisfied that the proposed development would not have an unacceptable direct, indirect, or cumulative impact on identified biodiversity.

8.11. Chapter 7: Land, Soils and Hydrogeology

8.11.1. The Potential effects on 'Land, Soils and Hydrogeology' section of Chapter 7 of the EIAR has been prepared by Hydro-Environmental Services (HES). The site of the wind turbines and the grid connection corridor to the existing 38kV/110kV substation have been included in this assessment. A statement of competence has been provided and all relevant legislation/ guidance is provided in Section 7.3 of the submitted EIAR.

8.11.2. The methodology employed included a desk survey of the surrounding area in advance of a walkover survey of the site in accordance with standard guidelines for the preparation of an EIAR. A walkover survey was undertaken in May 2019, field measurements at 5 watercourses in June 2020, water samples taken in June 2020 and seven trial pits completed in the vicinity of the proposed turbines in June 2020.

8.11.3. Table 7.1 provides details of the 'Sensitivity of Receptor' under the following headings:

- Not Sensitive
- Sensitive
- Very Sensitive

8.11.4. The site is described under Section 7.5.1 and includes Rainfall Details (Table 7.2), Hydrology details (Section 7.5.3), Local Drainage Information (Section 7.5.4 and tables 7.4 and 7.5), Baseline Site Runoff Volumes (Section 7.5.5), Flood Risk Identification (Section 7.5.6) – no indication of any significant flood risk, Surface

Water Hydrochemistry (Section 7.5.7 and Tables 7.7 and 7.8) and Soils and Subsoils (Section 7.5.8 and Table 7.9).

8.11.5. The assessment for soils and subsoils included seven trial pits and soils consist of a shallow depth of topsoil (0.15 – 0.2 m in depth) and a subsoil of stiff, brown-orange, sandy, gravelly clay. Bedrock was met at a shallow depth in a number of the trial holes at between 0.7 and 1 m in a number of these. Soils along the grid connection route are described as deep, well drained, acidic mineral soils, subsoils are tills derived from granite with some alluvium. The soils within the replacement lands are shallow, well drained mainly acidic soils.

8.11.6. **Slope Stability Assessment**: No blanket peat was found in the area that the windfarm is to be located. A peat stability risk assessment is not required having regard to the assessments undertaken and it stated in Section 7.5.9 of the EIAR that there is no risk of peat slope failure. Due to the shallow nature of the proposed trenching along the grid connection route, there is no risk of slope failure along this section of the proposed development.

8.11.7. **Geology**: The bedrock mapped at the wind farm site consist primarily of the Donard Andesite Member, which is part of the more expansive Butter Mountain Formation. This is described as consisting of dark slate schist, quartzite, and coticule. The surrounding area consists of a mix of geology, and this includes the windfarm site and the grid connection route.

8.11.8. **Hydrology**: The groundwater aquifer in the area of the windfarm is mapped as a Locally Important Aquifer – Bedrock and which is moderately productive only in local zones. The wind farm is located within the Ballyglass Groundwater Body, and this has achieved good status under the WFD 2013 – 2018. The bedrock along the grid connection route is classified as a Locally Important Aquifer and which is also located within the Ballyglass Groundwater Body. The replant lands include a groundwater aquifer that is mapped as a Poor Aquifer – Bedrock and which is generally unproductive except for local zones.

8.11.9. **Groundwater Vulnerability**: This is mapped near the windfarm site as High to Extreme, with the high areas of vulnerability found towards the high sections of the windfarm, where the soil/ subsoil thickness is low. The groundwater vulnerability along the grid connection route is generally high, with areas of Extreme Vulnerability

at higher elevations where bedrock is outcropping. The groundwater vulnerability at/ near the replant lands is categorised as Extreme due to the shallow subsoil and rock at or near the surface.

8.11.10. **Groundwater Recharge**: At the windfarm the recharge coefficient ranges from 60 – 85% and a recharge cap of 200 mm/ year is applied, representing the base groundwater recharge at the site. Along the grid connection route, recharge is 145 mm/year up to a cap of 200 mm and at the replant lands the recharge is as high as 85% due to the limited depth of subsoil that is present.

8.11.11. **Groundwater Hydrochemistry**: The Bedrock strata of the aquifer at the windfarm and the grid connection route are siliceous and the groundwater sampling indicates that it is soft and has a low electrical conductivity. Indicative information in relation to the replant lands is that groundwaters are moderately soft.

8.11.12. **Surface Water Body Status**: The highest points of the windfarm indicate the boundary between the Slaney_SC_010 surface water catchment to the north, where the majority of the surface water from the windfarm will drain to, and the Slaney_SC-020 subcatchment to the southern slope of Kilranelagh Hill. The relevant river basins and catchments demonstrate a Good to High status under the WFD 2013 – 2018. The replacement lands demonstrate a moderate quality.

8.11.13. Details of designated sites are provided in Section 7.5.16, the grid connection route will cross the River Slaney which is a SAC. Water protection zones are detailed in Section 7.5.17 of the EIAR. These are all some distance from the windfarm site and the grid connection route. Details of Receptor Sensitivity are provided in Section 7.5.18. The development is described under Section 7.5.19.

8.11.14. Section 7.6 provides a Statement of Potential Effects and are divided up into Construction Stage Effects, Operational Stage Effects, Decommissioning Stage Effects and Cumulative Effects. The following main points are noted:

Construction Stage Effects:

- Felling of Coniferous Plantation: 5.85 hectares/ 15% of the forestry coverage at the windfarm site to be cleared. Potential issues include release of sediment to watercourses from vehicle movements, vehicles crossing watercourse, from runoff, release of sediments in timber stacking areas and nutrient release. Pathways to watercourses are via drainage/ surface water discharge routes and

receptors include the East Spinans River, The Boleycarrigeen River, and the River Slaney. The potential impacts would be negative, indirect, moderate, and short terms on water quality and aquatic ecosystems, if suitable mitigation measures are not put in place.

- Earthworks giving rise to sediment release: Various forms of construction work at the windfarm and grid connection route could release sediments from drainage in excavation areas, from stockpiled materials and erosion of sediment. Pathways to watercourses are via drainage/ surface water discharge routes and receptors include the East Spinans River, The Boleycarrigeen River, and the River Slaney. The potential impacts would be negative, significant, indirect, temporary, and medium effect on the identified watercourse, if suitable mitigation measures are not put in place.
- Impact on Groundwater Levels during Excavation Works: No borrow pits are proposed at the windfarm site and no dewatering works are proposed, some temporary dewatering may occur at some excavation sites such as turbine bases. The effect will be slight, indirect, temporary, and low probability effects on local groundwater levels.
- Excavation dewatering and potential impacts on Surface Water Quality: Some groundwater seepages are likely at turbine bases, substation, and compound excavations as well as along the grid connection route. These will result in additional volumes of water to be treated. Inflows may be more significant in some locations and will require management and treatment to reduce suspended sediments. As no contaminated lands were found at the windfarm or along the grid connection route, pollution impacts are not foreseen. Suspended solids and turbidity issues may impact on the East Spinans River, The Boleycarrigeen River, and the River Slaney, in turn impacting on aquatic habitats and species. The potential impacts would be negative, significant, indirect, temporary, low probability on surface water quality, if suitable mitigation measures are not put in place.
- Potential Release of Hydrocarbons during Construction and Storage: Accidental release can cause a significant pollution risk to groundwater, surface water and associated ecosystems as well as to terrestrial ecology. Hydrocarbons are toxic to humans, flora and fauna including fish and remains persistent in the

environment. As a nutrient supply for adapted micro-organism, there may be a rapid depletion of oxygen in waters which results in the death of aquatic organisms. No impacts are foreseen along the grid connection route as the works are transient and refuelling of vehicles will be done off-site. Pathways to watercourses are via drainage/ surface water discharge routes including farm site drainage network and receptors include the East Spinans River, The Boleycarrigeen River and the River Slaney as well as groundwater below the wind farm and the grid connection route. The potential impacts would be negative, indirect, slight, and short term/ medium on local groundwater quality below the windfarm and gride connection route and would be indirect, negative, significant, short term, low probability effect on water quality in the East Spinans River, the Boleycarrigeen River and the River Slaney, if suitable mitigation measures are not put in place.

- Groundwater and Surface Water Contamination from Wastewater Disposal: Release of effluent from on-site temporary wastewater treatment systems could potentially impact on groundwater and surface water quality if a suitable on-site percolation system cannot be put in place. In turn this would impact on surface water quality and fish stocks/ aquatic habitats. Pathways are via groundwater flow paths and farm site drainage network and receptors include the East Spinans River, The Boleycarrigeen River and the River Slaney as well as well as down-gradient from the windfarm, well supplies and ground/ surface water quality. The potential impacts would be negative, significant, indirect, temporary, and low probability effect on surface water quality in the East Spinans River, the Boleycarrigeen River and the River Slaney. Impact on local groundwater below the wind farm site would be negative, slight, indirect, temporary and low probability.
- Potential Hydrological Effects from Grid Route Connection River Crossings: Three rivercourses are to be crossed by the grid route. Ducting is the preferred method of crossing and alternative methods in the form of directional drilling etc. are identified. No instream works are proposed, though there is a potential for surface water quality impacts. Pathways are via surface water runoff and groundwater flow and receptors include surface water quality and aquatic habitats within the East Spinans River and the River Slaney. The potential

impacts would be negative, indirect, slight, temporary, high probability impact on surface water quality and negative, indirect, slight, temporary, medium probability impact on groundwater quality.

- Release of Cement-Based Products: Concrete/ cement-based products are highly alkaline and corrosive and can have a significant negative impact on water quality. This in turn has a negative impact on aquatic species and habitats. Pathways are through Windfarm site drainage networks and receptors include surface water quality and hydrochemistry in the East Spinans River, the Boleycarrigeen River and the River Slaney. The potential impacts would be negative, moderate, indirect, short term, medium probability effect on the surface water quality in the East Spinans River, the Boleycarrigeen River and the River Slaney.
- Potential Effects on Hydrologically Connected Designated Sites: The windfarm site is not within any designated conservation area and the grid connection route crosses the River Slaney, a SAC. Other designated sites are located distant from the subject site such that they will not be impacted. Pathways are through surface water flow paths to the River Slaney SAC and receptors include the down-gradient water quality at designed locations in the East Spinans River, the Boleycarrigeen River and the River Slaney. The potential impacts would be negative, moderate, indirect, short term, low probability effect on designed sites.
- Potential Effects on Local Groundwater Well Supplies: As already assessed in this section of the EIAR, there are no public groundwater supplies down-gradient of the windfarm site that can be impacted by the proposed windfarm development. Private wells were assessed, generally within 1 km of the windfarm site and it is considered in the EIAR that the proposed development will not impact on these groundwater wells/ springs; a list of reasons is provided. Pathways are through groundwater flow paths and receptors include down-gradient water supplies – springs and groundwater wells. The potential impacts would be negative, moderate, indirect, slight, short term, unlikely effect on down-gradient water supplies.
- Potential effects from the use of Siltbuster on Downstream Surface Water Quality: Siltbusters are often used to remove suspended sediments on construction sites by the use of chemical dosing and sedimentation. Generally,

such processes have a positive effect on downstream surface water quality, though potential overdosing with chemical agents can negatively impact on downstream water quality. An example of the benefits of such a process has been provided (northwest Co. Mayo). Pathways are through drainage and surface water discharge routes and receptors include down-gradient rivers in the East Spinans River, the Boleycarrigeen River and the River Slaney. The potential impacts would be negative, slight, indirect, temporary, low probability effect on water quality on these rivers.

Operational Stage Effects:

- Progressive Replacement of Natural Surface with Lower Permeability Surfaces: Replacement of the vegetated surface with surfaces that are less permeable can increase the rate and velocity of surface water runoff, reaching the surface water drainage network. The proposed development includes turbine hardstanding, upgraded/ widened road network, substation and site compounds. The grid connection route will not include any alteration to surface water permeability. The windfarm site could increase the total surface water runoff by 719 cubic metres per month. Measures will be put in place to control the amount of surface water run-off and it is stated that there will be no risk of exacerbated flooding down-gradient of the wind farm site. Pathways are through the windfarm site drainage network and receptors include surface water flows and surface water quality in the East Spinans River, the Boleycarrigeen River and the River Slaney. The potential impacts would be negative, indirect, slight, permanent, likely effect on surface water flows and surface water quality on the three referenced rivers.
- Assessment of Potential Health Effects: Potential impacts include contamination of private water supplies and potential flooding. The potential for such issues is limited through the location and design of this development. Flooding can cause temporary health issues, but on-site drainage will address such concerns.

Decommissioning Stage Effects:

The potential impacts during decommissioning would be similar to those associated with the construction phase of development, though they would be of a reduced magnitude. Some of the areas impacted at construction stage could be reversed at this stage such as the removal of hardstanding areas for the turbines etc. Some elements may be retained in situ, it is proposed that eth substation be retained by

ABP Wind Ireland Ltd. No significant impacts on the hydrological and hydrogeological environment are foreseen during this stage of the development.

Cumulative Effects:

It is expected that commercial forestry operations will cease during the construction and commissioning phases of the windfarm development. Any planned forestry works will be undertaken prior to this. There will be no cumulative impacts with forestry operations during the windfarm and grid connection route works. Table 7.11 provides a list of windfarms within 20 km radius of the subject site. No cumulative impacts with any of these is foreseen.

8.11.15. **Mitigation and Monitoring Measures:**

A range of issues are considered and are detailed here:

Construction Stage - Clear Felling of Coniferous Plantation

- **Mitigation Measures:** Felling of trees and site clearance will be undertaken in accordance with relevant guidelines and best practice as outlined in Section 7.9.1.1 of the EIAR.
- **Mitigation by avoidance:** This is incorporated into the proposed development design with suitable buffer zones to identified watercourses provided. This will also allow for runoff from tree felling areas to be managed and attenuated before entering the aquatic buffer zone and drainage routes.
- **Mitigation by Design:** This section identifies a range of measures and procedures that ensure that sediments and nutrient release are to watercourses are adequately controlled and restricted.

Construction Stage – Earthworks Resulting in Suspended Solids Entrainment in Surface Waters

- **Mitigation by Avoidance:** The provision of suitable buffer zones of 50 m to identified watercourses will be the key mitigation measure here. This setback will ensure that stream/ river banks and beds are protected, avoids excavations in close proximity to the watercourse and avoids sediments entering the watercourse.
- **Mitigation by Design:** A range of temporary and long-term drainage control measures are provided. Details of source controls, in-line controls and treatment systems are provided and detailed. The presence of forestry drains in the area are identified and measures will be taken if/ where necessary to incorporate them into

the windfarm drainage system. Interceptor drains, silt traps and other measures are detailed. The use of a filtration treatment system may be employed in this part of the development. Silt fences can be used down gradient of construction areas to collect heavy settable solids and prevent their entry to the existing drainage network. Silt bags will also be used.

Pre-emptive management includes restricting development during times of heavy rainfall. Full use of available weather forecasts will be used. Runoff from storage areas will be carefully controlled/ managed. The timing of development phases will be carefully aligned with periods of expected low rainfall. An inspection and maintenance plan for the on-site drainage system will be prepared in advance of the commencement of works on site. The site will be regularly inspected, issues addressed including ensuring no build-up of surface water and excess silt levels at dams. Regular field testing to include visual, sampling and laboratory analysis will be carried out as required/ necessary.

Construction Stage – Potential Impacts on Groundwater Levels during Excavation Works

Mitigation by Design: The turbine bases are to be located in bedrock and no groundwater dewatering will be required. Dewatering is not expected to be required, though rainfall and surface water runoff will have to be managed.

Construction Stage – Excavation Dewatering and Potential Effects on Surface Water Quality: A range of management procedures and measures are provided in Section 7.9.1.4 of the EIAR such as for example, the provision of suitable interceptors, no direct discharge to surface watercourses, daily monitoring of excavations by a suitably qualified person and the provision of a 'siltbuster' on site in case of the discharge of sediment to watercourses.

Construction & Storage Stage – Potential Release of Hydrocarbons

Mitigation Measures: A range of measures and procedures are provided in section 7.9.1.5 of the EIAR such including the regular inspection of plant to ensure that they are leak free, on-site fuelling to be carried out by a mobile double-skinned bowser and measures in place to stop leaks/ address accidental spillage, fuel storage on site to be minimised, use of bunding where oils may be and the provision of specific emergency plan to address accidental spillages.

Construction Stage – Groundwater and Surface Water Contamination from Wastewater Disposal

Mitigation Measures: Includes the use of an self-contained port-a-loo with integrated holding tank during the construction phase of development at each of the turbine construction sites and for the grid route connection development. Measures in relation to water supply and foul drainage.

Construction Stage – Potential Hydrological Effects from Watercourse Crossing along the Grid Connection Route

Mitigation Measures: These are detailed in Section 7.9.1.7 of the EIAR. In summary, suitable buffer zones will be provided in the area of the three watercourse crossings to ensure the protection of the stream/ river banks and channels, avoid entry of sediments, hydrocarbons etc. into the watercourse and to prevent plant/ materials entering the watercourse.

A list of best practice measures is provided and include no stockpiling of materials in the constraints zone, no refuelling in this area and no cleaning of concrete chutes to be carried out in this area either.

The next section details the proposed mitigation measures for horizontal directional drilling. This outlines the measures to be undertaken at each stage of the process. Important measures include no drilling during times of heavy rainfall, the provision of suitable buffer zones and suitable monitoring during all stages. Spill kits to be provided in order to deal with any accidental spillage.

Construction Stage – Release of Cement-Based Products

Mitigation Measures: No batching to take place at the windfarm site, ready-mixed wet concrete supplies and/ or pre-cast elements to be used here and along the grid connection route. No washing out or plant to be allowed on site with careful control on how the chute is cleaned out. There will again be careful consideration of rainfall events during times of concrete pouring.

Construction Stage – Potential Impacts on Hydrologically Connected Designated Sites: Mitigation measures are included in Sections 7.9.1.1, 7.9.1.2, 7.9.1.5 and 7.9.1.7 of the EIAR.

Construction Stage – Potential Effects on Local Groundwater Well Supplies

Potential Impacts: These could be from sediment, hydrocarbon, and cement-based product release. The low hydraulic conductivity would mean that a pollutant is unlikely to reach groundwater wells in the locality, therefore the potential impact on wells etc. is negligible. Proposed relevant mitigation measures have been outlined in Sections 9.5.3.5, 9.5.3.6 and 9.5.3.7 of the EIAR.

Construction State – Potential effects from the use of a Siltbuster on Downstream Surface Water Quality: A range of measures are included in Section 7.9.1.11 of the EIAR, but the use of monitoring is a critical element in the deployment of this system.

8.11.16. **Operational Stage Measures:**

Run-off is reduced through the replacement of natural surface with lower permeability surfaces. Potential health issues can be considered in Sections 7.9.1.1 to 7.9.2.1 of the EIAR.

8.11.17. **Decommissioning Phase:**

Impacts will be similar to those during the construction phase of development. Considering the 30-year lifespan of the development, revised/ updated environmental assessment may be required at the time of decommissioning to account for any changes at the wind farm/ surroundings and potential changes to relevant guidelines and legislation.

8.11.18. **Residual Effects:**

A number of residual effects are identified, and details provided of the potential effects, summarised as follows:

Clearing Felling of coniferous plantation: Effects include the potential release of solids to watercourses, but suitable measures have been proposed in relation to this.

The residual effect is negative, slight, indirect, temporary, unlikely impact on surface water quality and dependent ecosystems in the East Spinans River, the Boleycarrigeen River and the River Slaney. No significant effects on surface water quality will occur.

Earthworks resulting in Suspended sediment entrainment in Surface Waters: Effects include the potential release of solids to watercourses, but suitable measures have been proposed in relation to this. The residual effect is negative, imperceptible, indirect, temporary, low probability effect on downstream water quality and aquatic habitats, including the East Spinans River, the Boleycarrigeen River and the River Slaney. No significant effects on the East Spinans River, the Boleycarrigeen River and the River Slaney will occur. The residual effect is considered to be: Imperceptible, indirect, temporary, low probability effects on local groundwater levels within the wind farm site boundary and no significant effects on groundwater will occur.

Excavation Dewatering and potential impacts on Surface Water Quality: Effects include the potential release of solids to watercourse receptors, which risk water quality and the aquatic quality of the receptor, but suitable measures have been proposed to address these issues. The residual effect is negative, imperceptible, indirect, temporary, low probability effects on local surface water quality and associated aquatic habitats including the East Spinans River, the Boleycarrigeen River and the River Slaney. No significant effects on surface water quality will occur.

Potential Release of Hydrocarbons during the Construction Phase: Effects include the potential release of hydrocarbons to groundwater and watercourse receptors which risk surface water and groundwater quality and aquatic quality, but suitable measures have been proposed to address these issues. The residual effect is negative, imperceptible, indirect, temporary, low probability effect on groundwater and surface water. No significant effects on surface water or groundwater quality will occur.

Groundwater and Surface Water Contamination from Wastewater Disposal: During the construction phase, there will be no water or wastewater sourced or discharged on site, therefore no residual effects will occur.

Potential Hydrological Effects from Direction Drilling Works: There is a risk to the water quality and aquatic quality of watercourse receptors through the release of

suspended solids to watercourses. Suitable measures have been proposed to address these issues and the residual effect is considered to be negative, indirect, imperceptible, temporary, high probability impact on water quality. Overall, no significant effects on surface water quality are anticipated.

Release of Cement-Based Products: Potential for the release of cement/ cement wash water to groundwater and watercourse receptors with a risk to surface water and groundwater quality near the windfarm site. Proven measures have been proposed to address any potential issues. The residual effect is negative, imperceptible, indirect, short term, low probability effects on surface water in the East Spinans River, the Boleycarrigeen River, and the River Slaney. No significant effects on surface water quality will occur.

Potential Effects on Hydrologically Connected Designated Sites and on Local Groundwater Well Supplies: No significant effects on designated sites and on local groundwater will occur.

Potential effects from the use of Siltbuster on Downstream Surface Water Quality: Careful control on the amount of chemical agent use will ensure that trace amounts will not cause any effects to receiving waters or associated aquatic ecology. The residual effect is negative, imperceptible, indirect, temporary, low probability effects on downstream water quality in the East Spinans River, the Boleycarrigeen River and the River Slaney. No significant effects on surface water quality will occur and it is considered that the use of siltbuster systems have a positive effect in relation to protected surface water quality.

8.11.19. **Operational Stage of the Development**: The replacement of natural surfaces with lower permeability surfaces and the assessment of potential health effects were found to have no significant residual effects and no significance of effects.

8.11.20. **Conclusions on this Chapter of the EIAR**: Potential impacts from the development on watercourses etc. have been identified and considered in full. Suitable mitigations have also been identified and proposed for use. The provision of a suitable surface water plan will ensure that many of the issue of concern can be addressed in a satisfactory manner. Preventive measures in terms of fuelling plant/ vehicle and the use of cement products have also been provided. Overall, the proposed development presents no impacts of significance to surface water and

groundwater quality subject to the full and proper implementation of suitable mitigation measures and no significant cumulative impacts are foreseen.

8.11.21. **Submissions and Observations:** Concern was raised about the impact of the development on soil stability. It was considered that insufficient assessment had been undertaken in relation to the issue of soil erosion/ stability.

8.11.22. **Assessment:** I note the submitted EIAR and the fact that trial holes were dug to assess the geology and soil type here. I have no reason to believe that the submitted information is not correct and that the site appears to be suitable for the development of a windfarm. I note the concerns raised by Inland Fisheries Ireland in relation to sediment to watercourses due to works in the existing forestry area. That is an issue for the enforcement section of the Local Authority or other state agency to address.

8.11.23. There are no issues in relation to soil stability along the proposed grid connection route as the proposal here is for the ducting of cables along the route. There is no indication that any part of this route suffers from stability issues.

8.11.24. **Conclusion:** I have considered the submissions on file, the information provided in this chapter of the EIAR and the supporting documentation. I am satisfied that the potential for adverse impacts on land, soils and hydrogeology can be avoided, managed and/ or mitigated by measures that form part of the proposed scheme. I am therefore satisfied that the proposed development would not have an unacceptable direct, indirect, or cumulative impact on land, soils, and hydrogeology.

8.12. Chapter 8: Material Assets – Aviation, Telecommunications and Electromagnetic Interference:

8.12.1. The Potential effects on 'Aviation, Telecommunications and Electromagnetic Interference' section of Chapter 8 of the EIAR has been prepared by Ai Bridges. The site of the wind turbines has been included in this assessment. A statement of competence has been provided and all relevant legislation/ guidance is provided in Section 8.3 of the submitted EIAR.

8.12.2. The methodology used to carry out the assessment is provided in Section 8.4 of the EIAR, and the Aviation and EMI study methodology included the following:

- Consultants with the relevant Aviation Authorities/ Telecom Operators
- Field Surveys of the Receiving Environment
- Desktop Survey Network Modelling and Analysis

The receiving environment for the Aviation and EMI Studies is contained within sections 8.5.1 to 8.5.2 of the EIAR. An Irish Aviation Authority (IAA) radar at Dublin Airport and two airfields (Kilrush Co. Kildare and Hacketstown, Co. Carlow) have been identified as within the aviation receiving environment. The radar is 58 km to the northeast of the wind farm development, Kilrush is 20 km to the northwest and Hacketstown is 10 km to the southeast. Table 8.2 of the EIAR provides a list of the Telecommunication and Aviation Operators that were consulted in the preparation of the EIAR. Out of 19 consultees, three did not respond. The IAA confirmed that Hacketstown Airfield is not operational. Table 8.3 demonstrates that two masts in the area are not aligned in the direction of the windfarm.

8.12.3. Section 8.6 of the EIAR provides a 'Statement of Potential Impacts.

Section 8.6.1 assesses the potential 'Impacts of the Development on Aviation' and the following are noted in summary:

- Impacts on IAA Radar – Dublin Airport: Tables 8.4 – Primary Surveillance Radar (PSR) Zone Arrangement and Table 8.5 – Secondary Surveillance Radar provides a description of the required arrangements for development within a specified distance of these radars. In conclusion, the proposed development is over 16 km from the specified radar, and it is therefore unlikely that there will be any impact on these installations.
- Impacts on Kilrush Airfield: The development is suitably distanced as to not impact on any radio equipment and will not impact on any of the Exclusion Zones associated with this airfield.
- Impacts on Hacketstown Airstrip: This is not operational but there is an adequate separation distance between the subject site and the airstrip as to ensure that there will be no negative impacts.

Section 8.6.2.1 assesses the potential 'Impacts of the Development on Telecommunications (EMI) and the following are noted in summary:

- Licensed Telecommunication Networks: None of the operators have raised any issues and field surveys indicate that there are no licensed telecommunication networks impacted by the proposed development.
- License-Exempt Telecommunications Networks: None of the operators have raised any issues and field surveys indicate that there are no licensed-exempt transmission networks impacted by the proposed development.
- GSM Networks: None of the operators have raised any issues.
- 3G/ 4G Networks: None of the operators have raised any issues.
- TETRA Networks: Tetra Ireland do not anticipate any impact from the proposed development on their operations.

Cumulative impacts on Aviation and EMI are expected to be negligible.

8.12.4. Mitigation and Monitoring Measures: In relation to aviation, the IAA have recommended that aviation lighting be installed in accordance with standard aviation practice. The proposed development does not impact on EMI and there is no need for specific mitigation measures. Similarly, any residual impacts on aviation and EMI are expected to be negligible.

8.12.5. **Conclusion**: Having regard to the distance of the windfarm from identified aviation facilities/ airstrips and from EMI facilities, it is considered that the impact of the development would be negligible on these identified locations. Aviation lighting should be provided on the wind turbines and no specific mitigation measures are required in relation to telecommunications.

8.12.6. **Submissions and Observations**: Some concern was expressed about the impact of the development on telecommunications in the area, but I am satisfied that the available information in the EIAR does not raise any matters of significant concern.

8.12.7. I note the comments made in the Department of Defence submission and made in response to the appeal. The EIAR did not consider the impact of the development on the military operations in the area and in particular the use of this area for Air Corps operations. Refusal Reason 2 (m) refers to 'The impact of the proposed development on the nearby military camp and any activities carried out in the area by the Department of Defence'. In terms of the proposed development, such activities primarily refer to aircraft movements in the form of helicopters and fixed wing aircraft.

The information provided in the appeal relies heavily on IAA advice and as referred to in the Department of Defence submissions, they do not have to abide by civilian aviation rules.

8.12.8. **Assessment of Section 8 of the EIAR** I am therefore concerned that the EIAR did not identify the use of the area for military aviation purposes and the appeal relies on civilian aviation rules and procedures that are not relevant in the case of military operations. The importance of the adjoining lands for military purposes has clearly been set out in the submission by the Department of Defence. The reason for refusal as issued by the Planning Authority is somewhat general in its wording, however I agree with the reasoning behind it.

8.12.9. I have considered the submissions on file, the information provided in this chapter of the EIAR and the supporting documentation. I note the received submissions and observations and I would have a concern that the EIAR as originally drafted did not refer to the use of the adjoining lands for military purposes and particularly for use by the Irish Air Corps. Compliance with Irish Aviation Authority requirements is not adequate or appropriate when the majority of aircraft movements in this area are not by civilian aircraft. The Irish Aviation Authority may not have any concern arising from the proposed development in relation to impact to aircraft as their remit is for civilian aviation only.

8.13. **Chapter 9: Landscape and Visual**

8.13.1. The Potential effects on 'Landscape and Visual' section of Chapter 9 of the EIAR has been prepared by Macro Works Ltd. The site of the wind turbines has been included in this assessment. A statement of competence has been provided, in addition to a description of the proposed development, and all relevant legislation/ guidance is provided in Section 9.4 of the submitted EIAR. Regard is had to guidance prepared by Scottish Natural Heritage (SNH) in additional to Irish based guidance.

8.13.2. The methodology used to carry out the assessment is provided in Section 9.5 of the EIAR, and which included the following:

- Desk Study – Identification of the appropriate study area and Viewshed Reference Points (VRPs) and have full regard to the requirements/ designations of the Wicklow County Development Plan.

- Fieldwork – Record a description of the landscape, select VRPs for assessment and capture high quality base photography from which to prepare photomontages of the proposed development.
- Appraisal – Description of the site, context and full consideration of the relevant design guidance and designations. Assessment of visual impacts and identify suitable mitigation measures whilst also assessing residual impacts following mitigation.

8.13.3. The assessment criteria for effects on the landscape includes the following:

- Landscape character, value and sensitivity
- Magnitude of likely effects
- Significance of landscape effects

The Wind Energy Guidelines specify different radii in order to enable the examination of the 'Zone of Theoretical Visibility' (ZTV) for proposed wind farms. Turbine height influences the extent of this search as follows:

- 15 km radius for blade tips of up to 100 m
- 20 km radius for blade tips greater than 100m
- 25 km in order to incorporate features of national or international renown

As the proposed turbine blades have a tip height of 165 m, the minimum required ZTV radius is 20 km. As there are no internationally or nationally renowned receptors with potential for impacts located between 20 km and 25 km, the study area remains at 20 km. Details of Landscape Sensitivity is provided in Table 9.1 and the Magnitude of effect on landscape is provided in Table 9.2 of the submitted EIAR. The EIAR provides an assessment of how receptor groups may be susceptible to a change in the visual character of an area. The following provides a list of criteria as to how a view can be defined as important:

- Recognised scenic value of the view
- Views from within highly sensitive landscape areas
- Intensity of use, popularity
- Connection with the landscape
- Provision of elevated panoramic views
- Sense of remoteness and/ or tranquillity

- Degree of perceived naturalness
- Presence of striking or noteworthy features
- Historical, cultural or spiritual value
- Rarity or uniqueness of the view
- Integrity of the landscape character in view
- Sense of place
- Sense of awe
- Compounded Values

The development of a windfarm does not necessarily suggest an adverse impact, information from Fáilte Ireland in 2012, indicates that the presence of a windfarm in a scenic area had a beneficial impact. Table 9.3 of the EIAR provides details on the 'Magnitude of visual effect'. Figure 9.1 provides a 'Graphic illustration of significance of effect matrix for landscape and visual impacts'.

8.13.4. Section 9.6 of the EIAR provides a 'Description of the Environment' and gives details on the landscape, watercourses in the area, vegetation and landuse. The development is located at Kilranelagh Hill on the western foothills of the Wicklow Mountains. Keadeen Mountain is located to the east, which at 653 m AOD, is the highest point within the study area.

8.13.5. The Wind Energy Development Guidelines 2006 – Draft, revised in 2019 provides the relevant guidance on windfarm siting and design criteria for development within different landscape types. Criteria to be considered include:

Location, Spatial Extent, Spacing, Layout, Height and Cumulative.

The subject site is located within lands defined as 'Transitional Marginal' but which also extends to 'Hilly and Flat Farmland' and 'Mountain Moorland'.

8.13.6. Regard is had to 'NH41' and 'NH49' of the Wicklow County Development Plan 2016 – 2022. Listed views are covered under Objective NH52. Also included within the Wicklow County Development Plan is the 'Wicklow Landscape Character Assessment' and which defines the subject site as located within 'Transitional Lands' and which forms part of the 'Areas of High Amenity (AHA)' landscape category – Figure 9.2 demonstrates this further. The Landscape Sensitivity mapping (Figure

9.3) indicates that the site is located within an area that ranges from 'Low to Medium Sensitivity' but also partially within 'High Sensitivity'.

8.13.7. The Wicklow County Development Plan 2016 – 2022 includes a strategy for wind energy development in Appendix 6 of the plan. The County is divided into three zones and as indicated on Figure 9.4 of the EIAR:

- Not Favoured (Red)
- Less Favoured (Orange)
- Most Favoured (Green)

The site is located on lands that are designated as 'Less Favoured'.

8.13.8. The Tip Height Zone of Theoretical Visibility (ZTV)' map (Figure 9.5) indicates from where the turbines may be viewed from, within a 20 km radius of the site. Visual receptors include:

- Centres of Population – Baltinglass is 5.2 km to the west and Tullow is 17.5 km to the south west. Other settlements are identified and are located between 4.2 km and 14 km from the site.
- Transport Routes – The M9 motorway is located along the western fringe of the study area and is never closer than 15 km to the site. The N81 dissects the study area on a north-south axis and is around 4 km to the northwest of the site. The N78 crosses the study area on a west to southeast axis.
- Tourism, amenity, and heritage features: A number of features are identified including the Wicklow Way, St Kevin's Way, Keadeen Mountain Trail, Ballineddan Mountain, Lugnaquilla Mountain and the Table Track Access Path. Also, the Wicklow Mountains National Park, Poulaphouca Reservoir and Lugnaquilla Mountain.

The importance of listed views is indicated under Objective NH52 of the Wicklow County Development Plan 2016 – 2023. Seven of the 'Views of Special Amenity Value or Special Interest – Wicklow County Development Plan' are within the study and details are provided in Table 9.4 of the EIAR. Similarly, Table 9.5 provides 'Prospects of Special Amenity Value or Special Interest – Wicklow County Development Plan', that are relevant to the study area/ the proposed development

site. Figure 9.7.1 indicates the location of these prospects/ views in relation to the subject site. Figure 9.7.2 overlays these with the development area and the ZTV pattern. Figure 9.8 indicates 'Scenic routes and hilltop views' as provided in the Kildare County Development Plan; Table 9.6 provides additional details on these features. Table 9.7 provides details of the 'Scenic Routes and Hilltop Views' – in the Carlow County Development Plan (Table 9.7 is wrongly labelled as from the Kildare County Development Plan).

8.13.9. **Statement of Potential Impacts:** The visual impact of the development on a number of different receptors is considered in depth as follows:

Landscape Sensitivity: The site and its immediate surrounds, of up to 5 km is considered to a have a landscape sensitivity of Medium. This reflects the transitional sensitivity between the populated rural plains to the west of the study area and the remote inland core of the Wicklow Mountains AONB to the eastern portion. This sensitivity also accounts for landscape related heritage associations within the central study area.

Magnitude of Landscape Effects: There will be physical impacts on the land cover of the site as a result of the proposed development but would be considered to be minor in the context of the existing modified landscape and the commercial forestry activities. It is considered that the scale of development can be easily accommodated into the existing landscape. Therefore, the magnitude of the landscape impact is considered to be Medium for the central study area of circa 5 km form the windfarm site and which reduces to Low and Negligible as distances increase beyond this threshold as the windfarm becomes a proportionally smaller part of the wider rural landscape context.

Significance of Effect – Landscape: This is considered to be Medium having regard to the Medium landscape sensitivity coupled with the medium magnitude of landscape effect. Landscape sensitivity is higher within the core of the Wicklow Mountains AONB, however the subject site is of a sufficient remove as to not unduly impact on it.

Visual Impact Assessment: The location of the selected Viewshed Reference Points (VRPS) is provided in Table 9.8 (VP 1 to 24) and Figure 9.10 provides the mapped locations of these, and the Photomontage Volume of the EIAR. A suitable

selection of receptor locations is chosen in order to provide views from a number of different locations depending on distance, angles and different contexts. The visual impact of a development is assessed having regard to the following categories of receptor types:

- Key Views – from features of national or international importance in terms of heritage, recreation or tourism.
- Designated Scenic Routes and Views – Identified in the County Development Plan.
- Local Community Views – Views within 5 km of the site and of importance to the local community living within this radius.
- Centres of Population – Views from centres of population.
- Major Routes – Views from National and Regional roads and railway lines.
- Amenity and Heritage Features – Tourism and amenity locations.

VRPs may be relevant to one or more of these categories and the primary reason as to why the VRP is choses will be identified.

Table 9.9 of the EIAR provides the Analysis or Visual Receptor Sensitivity at Viewshed Reference Points (VRPs). In summary the following results were found (full details are available in pages 339 to 351 of the EIAR:

VP Number	**Receptor Sensitivity**	**Sensitivity of visual Receptor**	**Magnitude of Visual Effect**	**Significance of Visual Effect**
1	High-Medium	High-Medium	Medium	Moderate
2	High-Medium	High-Medium	Low	Slight
3	High-Medium	High-Medium	Medium-Low	Moderate slight
4	High-Medium	High-Medium	Negligible	Imperceptible
5	Medium-Low	Medium-Low	Medium-Low	Slight
6	Medium-Low	Medium-Low	Medium-Low	Slight
7	High-Medium	High-Medium	Negligible	Imperceptible
8	High-Medium	High-Medium	Low	Slight

9	Medium	Medium	Low-negligible	Slight-Imperceptible
10	Medium	Medium	Low-negligible	Slight-imperceptible
11	High-Medium	High-Medium	Medium-Low	Moderate-Slight
12	High-Medium	High-Medium	Low	Slight
13	Medium	Medium	Negligible	Imperceptible
14	Medium-low	Medium-low	Medium-low	Moderate-Slight
15	Medium-low	Medium-low	Low	Slight
16	High-Medium	High-Medium	Low-negligible	Slight-Imperceptible
17	Medium	Medium	Low-negligible	Slight-Imperceptible
18	Medium	Medium	Low-negligible	Slight-Imperceptible
19	Medium low	Medium-low	Negligible	Imperceptible
20	High-medium	High-medium	Low-negligible	Slight
21	Medium	Medium	Negligible	Imperceptible
22	Medium	Medium	Negligible	Imperceptible
23	Medium-low	Medium-low	Negligible	Imperceptible
24	High-medium	High-medium	Low	Slight

8.13.10. Cumulative Impacts are considered in Section 9.8 of the EIAR. Regard is had to Scottish Natural Heritage Guidelines – 'Assessing the Cumulative Impact of Onshore Wind Energy Developments (2012)' and the Landscape Institute's 2013 'Landscape and Visual Impact Assessment Guidelines'. Table 9.10 provides details on the 'Magnitude of Cumulative Effect' – five categories are listed:

- Very High

- High
- Medium
- Low
- Negligible

Table 9.11 provides a list of 'Cumulative Wind Farms within Study Area'; two are in situ and other two are permitted.

Figure 9.11 provides a 'Cumulative Zone of Theoretical Visibility (ZTV) Map' and provides the visibility of the development relative to all other cumulative developments to assess the visual impact. In summary, windfarms are primarily visible to the south east of the designated area, cumulative development impacts to the south and south west and west. Elsewhere, exclusive views of the development site are only sporadically visible. The cumulative impact is deemed to be in the order of low-negligible.

8.13.11. Section 9.9 of the EIAR considers Mitigation and Monitoring Measures. Mitigation measures include the use of matt, low reflective finishes on all turbine components, the undergrounding of transmission lines between the turbines and the substation, limit the number of new access tracks and landscape properly after use and preserve any features deemed to contribute to the landscape character of the subject area. The substation to be designed to a high standard and to be suitably screened having regard to the character of the area.

8.13.12. Residual impacts are to be the same as outlined already in the EIAR. Interactions with other environmental factor/s were primarily considered to be in relation to Cultural Heritage where some receptors are common to both. Additional visual study was not considered appropriate and may give rise to confusion.

8.13.13. In conclusion, this section of the EIAR has found that the highest significance of visual impact was at VP1 with a Moderate rating and Moderate-Slight impacts were attributed to VP3 and VP11. Overall, the EIAR finds that the development of this windfarm will not give rise to significant visual impacts.

8.13.14. **Submission and Observations**: Concern was expressed in a number of the received observations about the visual impact of the development on this area. The combined impact on archaeology/ cultural heritage (further detailed in Section

8.16) was raised as a significant concern. Concern was also raised about the potential cumulative impact of the development on the visual amenity of the area.

8.13.15. **Assessment of Section 9 of the EIAR**: The submitted information is thorough and the available information provides a detailed assessment of the impact of the development on the visual character of the area. A development that provides for wind turbines of 165 m in tip height will clearly have a visual impact on the character of the area. I am generally satisfied that the impact will not be significant having regard to the location of the windfarm site and the established character of the area. The population density in this area is low and the site is not located within one of the key amenity/ tourist areas of County Wicklow, of which there are many such sites in the county.

8.13.16. The Landscape Visual Impact Assessment, which supports the EIAR, is suitably detailed and comprehensive to enable a good understanding of what the visual impact will be on the area. Views are taken from a number of locations and viewpoints range from 1 km to over 10 km. A number of the viewpoints indicate that the turbines will not be visible due to the presence of existing trees, many of which are conifer and are evergreen, thereby screening the views during all seasons of the year. This would be different when viewed from roads in the area as the boundary of many of these consists of hedgerows.

8.13.17. The issues raised in the observations with regard to the impact on the archaeological sites are noted. I would categorise these impacts as on the character of these sites rather than on the visual amenity as described in this chapter of the EIAR. This will be considered further under the assessment of Chapter 12: 'Archaeology, Architectural and Cultural Heritage' of the EIAR.

8.13.18. The comprehensive nature of the visual impact assessment will often be challenged as not sufficient. The applicant can only really provide a representative impact assessment as there will always be views/ vistas that are of local importance and that may not be obvious to those carrying of the assessment. Some of the views may be from private lands or may only be 'glimpsed' views from public roads. As stated, I consider the submitted details to be sufficient to enable an assessment o this section of the EIAR.

8.13.19. I have considered the submissions on file, the information provided in this chapter of the EIAR and the supporting documentation including the submitted photomontage volume. I am satisfied that the development as submitted will not negatively impact on the visual amenity of the area.

8.14. Chapter 10: Shadow Flicker

8.14.1. This chapter of the EIAR considers the potential impact of Shadow Flicker – this effect comes from the rotating blades causing shadows, and the movement between light and shade may impact on residences in the area. This part of the EIAR was undertaken by ABO Wind Ireland Ltd. ABO Wind have a history of developing windfarms including five windfarms with a total of 95 megawatts in Ireland. Relevant, referred to legislation/ guidance includes the Wicklow County Development Plan 2016 – 2022 and the Wind Energy Development Guidelines, 2006, including the Draft revised guidelines of 2019.

8.14.2. Suitable software is used to assess the impact of shadow flicker on properties. Section 10.4.1 provides details of the 'Worst Case Calculations'. The assessment is based on the use of the Enercon E-138 turbine with a rotor diameter of 138 m and a hub height of 96 m – giving a tip height of 165 m. Real case calculations are provided in section 10.4.2 of the EIAR and further relevant details in Table 10.1 – Sunshine Probability and Table 10.2 – Expected wind turbine operational time per year by wind direction sector. The real time calculations allow for correctional data from these tables to give more accurate real time potential conditions.

8.14.3. Section 10.5 of the EIAR provides a 'Description of the Environment'. There are no buildings within 500 m of the proposed turbines, this means that the strongest impact is avoided. Table 10.3 provides the coordinates of all houses considered in the assessment and Figure 10.1 provides a map of these. Table 10.4 indicates that thirteen houses will experience shadow flicker and four of these residential units (B01,18, 23 and 24) will exceed the 30 hours or 30 minutes per day exceedance levels recommended by the Wind Energy Development Guidelines. The real case calculations demonstrate that these figures fall below the 30 hours exceedance per year. No cumulative impacts are foreseen.

8.14.4. In terms of mitigation and monitoring measures, it is possible to include a shadow flicker control system in the development. This stops the turbines at appropriate

times to avoid shadow flicker to sensitive locations. This technology is well established, tested and is widely available. The control system can be timetabled to operate when required. It is possible to reduce shadow flicker to zero, but this would result in the loss of energy production. No issues in relation to residual impacts are foreseen. In conclusion, 13 houses will experience shadow flicker, four of these in a worst-case scenario would meet the 30 hours/ 30 days exceedance, however real time effects indicate that these exceedances are not likely to be experienced. Suitable mitigation measures can be included in the design to ensure that shadow flicker is not an issue.

8.14.5. **Submission and Observations**: Concern was raised about the impact of the development on residential amenity. Reference was made to cases in Cork, and which gave rise to significant health issues. I am not aware of the specific issues in the referenced cases. The HSE and the Wicklow County Council Senior Chemist stated no objection in their reports, but that any shadow flicker should be omitted in its entirety.

8.14.6. **Assessment of Section 10 of the EIAR**: I am satisfied that the proposed development is suitably sited, such that issues of shadow flicker are addressed. The issue only refers to the windfarm site and there is no issue in relation to the grid connection route. No houses are within 500 m of the site and the real time scenarios indicate that any impact would be marginal. I am also satisfied that suitable mitigation measures can be employed such as to reduce the potential impact to an imperceptible level.

8.14.7. I have considered the submissions on file, the information provided in this chapter of the EIAR and the supporting information. I am satisfied that the development as submitted will not result in issues relating to shadow flicker, subject to the provision of suitable mitigation measures.

8.15. Chapter 11: Noise

8.15.1. This chapter of the EIAR considers the potential impact of Noise from the proposed development on the receiving environment. This part of the EIAR was undertaken by Irwin Carr Consulting Ltd, who have experience throughout the UK and Ireland. Relevant, referred to legislation/ guidance includes the Wind Energy Development Guidelines, 2006, including the Draft revised guidelines of 2019 and ETSU-R-97,

published by the Institute of Acoustics in 2013. The draft Wind Energy Development Guidelines use a version of the approach set out in the ETSU-R-97 guidance for the measurement of background levels and the noise modelling methodology.

8.15.2. **Methodology**: A three-dimensional computer model was generated using a programme called SoundPLAN. Full details are provided in Section 11.4.1 of the EIAR. Table 11 provide details on the ISO 9613-1:1993: air absorption co-efficient. A number of figures are used in the calculation of the air absorption coefficient. The proposed development is based on the use of a Nordex N131 turbine which has a tip height of 165 m. Figure 11.1 provides a 'Sound power level profile referenced to wind speeds 10 m AGL' and Figure 11.2 provides 'Wind turbine frequency spectrum'. In accordance with ETSU-R-97, background noise monitoring was undertaken in three locations in the vicinity of the site over a period of 21 days – Table 11.2 provides details of these locations and Figures 11.3 to 11.5 provide the 'Background noise and wind vs. time at Noise Monitoring Location' 1/2/3 as relevant.

8.15.3. Wind speed details are provided in section 11.7 of the EIAR. Noise monitoring results omit times of rainfall. Figure 11:6 – Figure 11.8 provide the night time results for the three locations. Tables 11.3 to 11.5 provide the 'Average LA90 noises levels with WEDG19' for each of the three sites. Noise Predictions are assessed in Section 11.9 and Table 11.7 provides 'Receiver Locations' – A total of 23 residential properties are identified – B1 to B23.

8.15.4. Section 11.10 assesses 'Statement of Potential Impacts' and Table 11.8 of the EIAR provides the 'Predicted LA90 Noise Levels from Kilranelagh WF Only'. The noise level, measured in dB, is provided in wind speed contours between 4 and 10+ m/s. The assessment indicates that noise levels will fall below the limit levels prescribed in both the Wind Energy Development Guidelines, 2006 and the Draft revised guidelines of 2019. Figures 11.9 to 11.11 provide the 'Predicted Noise Levels compared to WEDG Limits' for each of the three assessment areas.

8.15.5. The assessment considers the impact of the construction and decommissioning phases of the development. Expected noise levels during construction are provided in Table 11.9. Details include the construction of the grid connection route and the haul route – Section 11.10.5 of the EIAR. Document BS 5228:2009+A1:2014 is used in the assessment of the noise levels from the construction of the grid

connection route. As this element of the development is within a rural area, a noise level of 70dB to the nearest window of residential properties in the vicinity of the route is considered to be appropriate. Table 11.10 provides noise levels from standard construction equipment. Noise is as high as 91 dB within 10 m of a 'Stihl Saw'. The cumulative noise levels from the construction site of the grid connection drops from 93.4 dB within 10 m of the site to 66.3 dB within 30 m. 70 m dB is the target noise level for a residential property. The construction phase of the grid connection route will be over a short period of time and in summary the impacts are not considered to be significant and are in compliance with the recommendations of BS 5228:2009+A1:2014.

8.15.6. Noise levels during the decommissioning phase are similar to those experienced at construction stage. The decommissioning of the grid route is likely to be less of an impact as this stage would not involve the use of machinery and construction works.

8.15.7. **Cumulative Impacts**: Regard was had to windfarms at Ballycumber and Cronlea Phase 1 and 2. As the noise level from the subject site is likely to be 10dB higher than the contribution of the other windfarms, there was no need for an additional cumulative assessment to be undertaken.

8.15.8. **Mitigation and Monitoring Measures**: Section 11.12 of the EIAR sets out a range of mitigation measures to be undertaken during the different phases of the development.

- **Construction**: Working hours limited to 8.00 hours to 19.00 Monday to Saturday, restrictions on weekend/ holiday working. Comply with all relevant guidance and ensure the provision of best practice during the use of equipment and construction phases.
- **Operation**: Noise levels are within relevant best practice criteria, therefore there is no requirement for additional mitigation measures during the operational phase.
- **Decommissioning**: Similar measures to those employed at construction stage will be implemented.
- **Residual Effects**: There is potential for some noise during the construction phase, however it is not expected that there will be any residual impacts following

the completion of construction works and none during the operational phase of the development.

8.15.9. **Conclusion**: Expected and predicted noise levels are within acceptable standards for all phases of this development and it is the opinion as set out in the EIAR that noise should not be considered a determining factor for the subject site.

8.15.10. **Submission and Observations**: Concern was raised about the impact of the development on residential amenity/ homes in the area. The impact of noise on archaeology/ the setting of such sites was also raised in the received observations.

8.15.11. **Assessment:** I note the submitted EIAR and the submissions made. I am satisfied that the EIAR has assessed the impact of the development on residential units in the area in terms of generated noise. There is a sufficient buffer between the windfarm site and existing houses, as to ensure that issues of noise are not significant. From the site visit, there were times that noise levels were very low and then raised to a high level through operational works within the commercial forests that contain/ adjoin the site. These activities will continue post construction and would generate a higher level of noise than the windfarm.

8.15.12. The impact of the development on locally important sites was not considered in the assessment, as there is no specific requirement to do so. I accept the importance of these sites to the local and wider community. This issue is continued further later on in this report. Noise and visual impact have a combined impact on these sites, and this will be considered in the next section of this report – Chapter 12: Archaeology, Architectural and Cultural Heritage.

8.15.13. I have considered the submissions on file, the information provided in this chapter of the EIAR and the supporting information. I am satisfied that the development as submitted will not result in significant negative impacts from Noise to residential units in the area either during construction, operational or decommissioning stages of the development.

8.16. **Chapter 12: Archaeology, Architectural and Cultural Heritage**

8.16.1. This chapter of the EIAR considers the potential impact of the development on the archaeological, architectural and cultural heritage of the area. This part of the EIAR was undertaken by Courtney Deery Heritage Consultancy Ltd., who have significant qualifications and experience in this area. Relevant guidelines and legislation are

provided in Appendix 12.1 to this section of the EIAR. Consultation was held with the National Monuments Service and on-site visits were undertaken on a number of dates. Diagram 12.1a provides a map of the relevant study area and Plate 12.1 provides a Site Layout. Full details of the existing site/ adjoining area and the proposed development is provided in Section 12.4.1 and 12.4.2 of the EIAR.

8.16.2. Section 12.4.3 – Evaluation Process, provides full details on Archaeological Heritage, Architectural Heritage and Cultural Heritage. A list of baseline data is provided also. The Wicklow County Development Plan 2016 – 2022 includes a significant number of relevant objectives and text.

- Archaeological Objectives include BH1 to BH14
- Other Structures and Vernacular Architecture Objectives include BH15 to BH17
- Architectural Conservation Area (ACA) Objectives include BH18 to BH21. The proposed development does not impact on any ACAs.
- Historical and Cultural Heritage Objectives include BH22 to BH25.

Plate 12.3 provides 'Areas of Archaeological Potential or Significance' and Plate 12.4 provides a map of 'Major Sites of Archaeological Importance in Wicklow' both from the Wicklow County Development Plan. A number of different zones of sensitivity value were identified, the distances were based on consultation with the Landscape and Visual consultants – Chapter 9 of the EIAR. The following are included:

Site	**Radius**	**Figure**
Candidate World Heritage Sites	20 km	12.2
National Monuments and nationally significant complexes in elevated positions or with views integral to the setting of the monument	10 km	12.3
Recorded Monuments	2km/ 5 km	12.4
Protected Structures and NIAH Sites	2 km/ 5 km	12.5
Undesignated Cultural Heritage Features	500 m	12.6, 12.11 & 12.12

8.16.3. A range of survey and data collection methods were undertaken, and data/ photomontages used for Chapter 9 of the EIAR were also used in this assessment.

The ZTV mapping was used to determine which sites would/ would not be affected by the proposed development. A number of different types of computer software were used in the assessment including Google Earth and True View.

8.16.4. A range of evaluation criteria were considered as follows:

- Direct Physical Impacts
- Indirect Physical Impacts
- Impacts on Setting – The impact here is considered to be subjective.

8.16.5. **Description of the Environment:** The following are detailed in Section 12.5.1 of the EIAR:

- No known Mesolithic (circa 8000 to 4000 BC) activity here.
- Evidence and significance importance that the area was occupied from the Neolithic period onwards (circa 4000 to 2500 BC). A list of remains and findings is provided.
- Middle/ late Bronze Age (1600 – 500 BC) – evidence includes hillforts. Baltinglass has a nine of the largest hillforts in Ireland and is the only place to have more than two examples. One of hillforts is on Kilranelagh Hill, the subject site. Plate 12.5 provides a site location map of the Baltinglass Hillforts. The Kilranelagh Hillfort and complex were only discovered relatively recently – 2014 and it is noted that they are hidden by scrub and the commercial conifer forests in the area. A second large enclosure may be located at the base of Kilranelagh Hill. Other findings dated to the bronze age include a small cairn and a number of earthworks. The EIAR also details the location of a cluster of boulders known locally as 'The White Stones'.
- Early Medieval/ Early Christian Period (5th to 11th Centuries AD). Medieval sites are found in the area including ringforts; up to ten of these are within 2 km of the windfarm site. Ecclesiastical remains associated with the Church of Kilranelagh are located circa 248 m to the southwest of proposed turbine no. WTG3. Other remains include wells, a site known as 'The Gates of Heaven' and holy stones. Holy wells may not be associated with religious sites in every case.
- Medieval Period (late 12th to early 16th Centuries AD). Baltinglass was an important site during this phase of the medieval period. Baltinglass Abbey was

dissolved under Henry VIII in 1536. Baltinglass was declared a manor in 1617 and had the right to hold a market.

- A number of sites with an unknown date are found in the area. Enclosures etc. could have been developed to allow for the movement of cattle throughout the lands of this part of County Wicklow.
- Post Medieval Period: Development of agriculture and which began to take on the appearance of the current forms of farming. Houses and structures were built with stone, found in the area. A number of Demesne Houses were built in the immediate area. Baltinglass developed to be an important town by the early 19th Century. A graveyard in Kilranelagh includes the burial place of Sam MacAlistair, who died in 1803 fighting a guerrilla campaign in the Wicklow Mountains against Crown Forces. The 1798 ended a period of peace in the area and military barracks were built in the area. Michael Dwyer fought in the area and the Dwyer-McAllister cottage is listed as a National Monument.

8.16.6. **Archaeological and Cultural Heritage**: The proposed windfarm development has no physical or visible impact on the Glendalough Early Medieval Monastic Site. A list of National Monuments, RMP and SMR sites are provided in Table 12.01 of the EIAR. Distances to individual turbines are provided and range from 96 m to 350 m from the proposed turbines. Full details of these sites are provided in Section 12.6.1.2 of the EIAR and a number of photographs are also provided – Plate 12.9a to 12.5. Photomontages to include the proposed turbines are also provided.

8.16.7. **Sites under Preservation Order, within c**. **5 km of the proposed wind farm**: Table 12.02 provides a list of sites that under Preservation Order within 5 km, outside proposed wind farm boundary. Full details of these sites are given in Section 12.6.1.3 of the EIAR and also Plates 12.27/ 12.28 illustrate the sites.

8.16.8. **National Monuments in State Guardianship and State ownership and monuments of National Importance within 10 km of the proposed windfarm**: A total of seven National Monuments within State control are located within 8 km of the windfarm. Full details are provided in Section 12.6.1.4 of the EIAR and Table 12.03 lists National Monuments within 10 km of the proposed windfarm. Figure 12.8 provides a 'Zone of Theoretical Visibility' map and Plate 12.29 provides a 'RMP Hillfort map'. Following this are Illustration Wireframes, Plates and Photomontages

that provide an illustration of the site, the proposed windfarm and potential visual impact. These are found on pages 451 to 455 of the EIAR.

8.16.9. **Recorded Archaeological Monuments (RMP/ SMR sites)**: Section 12.6.1.4. of the EIAR/ Table 12.04 provides a list of sites within 1 km of the windfarm. Table 12.05 provides a list of 46 sites within 1 – 2 km of the proposed windfarm.

8.16.10. The following sections of the EIAR include details on 'Stray Finds' – none in the area of the windfarm site, 'Townland Names' – list of names in Table 12.06 and 'Previous Archaeological Excavations' – none in the area of the windfarm and neighbouring townlands. The Baltinglass hillfort group are under examination by University College Cork.

8.16.11. **Architectural Heritage**: There are no protected structures within the windfarm boundary and only two within 2 km of the site – Kilranelagh House, and its Gate lodge including gates and milestone. Full details are provided in Section 12.6.2.1 and Table 12.07 of the EIAR. There are no ACAs within 5 km or additional sites on the NIAH within a 2 km radius. The windfarm encroaches on the demesne of Kilranelagh at its eastern side, though no turbines are proposed within the former demesne landscape. Much of this site is under commercial forest. Details of the demesne and other sites are provided in Table 12.08 and in Plates 12.35 to 12.45 and also Photomontages 12.8 to 12.14 and Illustration Wireframe 12.6. A number of the forest tracks will require upgrading and it is not proposed to alter or impact on any stone cottage or wall remains in doing so. Plates 12.47 to 12.50 provide illustrations of these remains.

8.16.12. **Wind Turbine Setting**: The assessment looks at the location and surrounding area of the setting of each of the five turbines. The following is provided, in summary:

- WTG 1: Located within the conifer forest, no items of archaeological or cultural heritage were identified during the site inspection. A holy well is 496 m to the northwest of the turbine site, no visible remains and a ringfort is 386 m uphill to the southwest, forest screens the view of the turbine.
- WTG 2: Located to the north of a forest road under conifer forest, no items of archaeological or cultural heritage were identified during the site inspection. Kilranelagh Hillfort is 155 m to the southwest of the turbine site, and the turbine

will be visible from it and a ringfort is 410 m downhill to the southeast, this turbine will be visible from the ringfort site.

- WTG 3: Located adjacent to a forest road, no items of archaeological or cultural heritage were identified during the site inspection. A ringfort is 96 m to the northeast of the turbine site, and the turbine will be visible from it; the other four turbines will also be partially visible. Kilranelagh church and graveyard are located 248 m to the southwest of turbine 3 and a cairn is located 359 m to the southeast of WTG3. Another cairn is located 310 m to the southwest of this turbine, both cairns are screened by the forest. A stone grouping is located 145 m to the south of the turbine, no clear views and Kilranelagh Hillfort is outside the 500 m zone, but the hill is less than 500 m away and WTG3 will be visible from this monument.
- WTG 4: Located to the north of an east to west forest road, no items of archaeological heritage were identified during the site inspection. The site is located in close proximity to other forest tracks and some ruined farmsteads. Plate 12.57 provides an OS map of the former laneway and the location of this turbine.
- WTG 5: Located on the lower slopes of Kilranelagh within a mature conifer forest. No items of archaeological or cultural heritage were identified during the site inspection. Some remnants of a settlement exist.
- Substation and compound: To be located in an area of the forest that is already cleared and is over 200 m from Kilranelagh House. The proposed boundary is 15 m to the west of the upstanding walled garden – western side wall. Further illustrated in Plates 12.59 to 12.61 and Plate 32.
- Cable Route: Table 12.09 provides details of the RPS and NIAH sites, three in total, along the cable route and Table 12.10 details the RMP/ SMR sites, eight in total, within 100 m of the proposed cable route. Included are George's bridge and a suitable engineering and construction methodology will be developed to ensure no impact to this bridge and also to an undesignated bridge – Redmonds Bridge. Figure 12.9 provides a map of the cable route and the location of these sites. Plates 12.63 to 12.73 and Plates 33 to 36 provides photographs of the features along the cable route. As the cable connection route is to be ducted, there will be no visual impact from this element of the development.

- Heritage Trail: A trail is proposed that will be accessible by appointment only and will be guided. Signage will be provided along the route.

8.16.13. **Statement of Potential Impacts**: The initial proposal was for nine turbines, reduced to seven following consultation with the Department and further reduced to the current proposed five turbines. There are no impacts to any UNESCO World Heritage Sites/ candidate sites, to any National Monuments, to any Recorded Monuments nor to any Protected Structures, NIAH sites or ACA's. There is potential to disturb archaeological remains, however the fact that the site is located within a commercial forest that is within its second and third rotation means that the below ground potential is low. Impacts from the substation/ compound site are expected to be low.

8.16.14. The development/ improvement of forestry roads may impact on archaeological remains – impact is expected to be moderate to low. The heritage trail will not impact on below ground features. The grid connection route is also not expected to impact on any archaeological etc. features. Measures will be taken to ensure the protection of George's Bridge.

8.16.15. Consideration is given to the impact on settings in Section 12.7.3 of the EIAR and full consideration to the impact on National Monuments within 10 km of the windfarm is given in Table 12.11. Significant impacts would occur to:

- Spinans Hill 1 and 2 Hillforts – Recorded Monuments
- Brusselstown Ring – Recorded Monument
- Kilranelagh Hillfort – Recorded Monument

Moderate impacts are also identified to a number of sites in Table 12.11. It is considered in the EIAR that the turbines will have a noticeable visual impact but the affected sites will not be compromised by the windfarm.

8.16.16. Details of four Recorded Monument sites are provided in Table 12.12. Impacts range from slight to moderate significance. The development of the forests over time has impacted on their setting.

8.16.17. Three protected structure sites are provided in Table 12.13 of the EIAR and the proposed development will not impact on these sites.

8.16.18. The operational phase of the development will not impact on any archaeology in the area and the turbines will impact on the identified sites throughout their expected thirty-year lifespan.

8.16.19. No cumulative impacts are foreseen having regard to operational and permitted windfarms within a 30 km radius of the subject site. Similarly, no impacts are foreseen at the decommissioning stage of the development.

8.16.20. **Mitigation and Monitoring Measures**: During the construction phase of the development, suitable measures will be taken to ensure that archaeology is not impacted where known and measures will be taken if remains are found during the course of construction. Legislation is in place to ensure that contact with the National Monuments Service is made as soon as any remains are found on a site. These measures to be employed apply to the grid connection route and the internal access roads to serve the proposed development site.

8.16.21. **Residual effects** are identified in Section 12.10 of the EIAR; however, it is also identified that the area has undergone significant change with the development of commercial forests.

8.16.22. **Conclusion:** This part of County Wicklow has undergone change with the development of commercial conifer forests since the 1950's. The introduction of such non-native species has significantly changed the visual character of the area from the type of forest/ trees that would have been planted here in the past. Much of the archaeological features identified in this section of the EIAR are hidden by the presence of these forests. There will be a moderate impact on the setting of a number of nationally important monuments for the duration of the expected 30-year operational phase of this development.

8.16.23. It is proposed to set up a pre-appointment, heritage trail in the area of the windfarms in order to allow for guided tours of the archaeological sites and cultural heritage features located here. Suitable information signage will also be provided to assist in understanding the area. Annual funding will also be provided by the developers to assist with research and other initiatives in relation to the wider archaeological and cultural heritage landscape, funding for these initiatives can be provided through a Community Benefit Fund.

8.16.24. **Submissions and Observations:** A significant number of the received observations referred to the impact on the archaeology/ cultural heritage of the area. Concern was expressed that the character of the area would be adversely affected by the development. The Baltinglass area is recognised as important in terms of archaeology and this appears to extend to Kilranelagh and the subject site. In addition to the impact on archaeology/ the setting of recorded monuments etc. there is a concern that the local importance of the area would be adversely impacted upon. I note that a number of the submissions refer to the spiritual importance of the area and the presence of burial grounds, either formal or informally, are of importance to people.

8.16.25. I note that a significant number of the observations came from outside of Ireland and this suggests that the site is of importance on a European level. I have mentioned earlier that the visual and noise impact sections of the EIAR are relevant to this section, and this was something that was referred to on a number of occasions in the submitted observations.

8.16.26. **Assessment:** The first reason for refusal clearly refers to the impact of the development on archaeology and that the 'proposed development would result in significant direct physical and visual impacts on the heritage and archaeology of the area, would materially contravene the objectives of the County Development Plan and would therefore be contrary to proper planning and sustainable development of the area'. I have no reason to disagree with this reason for refusal. Whilst the submitted details in the EIAR are thorough, I am concerned that insufficient detail has been provided as to the impact of the development on such a sizeable number of recorded monuments. The impact will be physical through the development of the turbines, but also there will be impact from noise on an on-going basis during the operational phases of the development. Combined with the change in the character of the site, through the development of five large turbines, the setting of this important archaeological/ cultural site will be adversely impacted upon.

8.16.27. I am satisfied that the development of the grid connection route should not impact on any protected structures that were identified along its route. Suitable measures can be taken to ensure the protection/ retention of the character of George's Bridge when the cable is installed along its length.

8.16.28. The comments made by the relevant archaeological departments/ schools of UCC and UCD are also noted. The Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media/ National Monuments Service were very clear in their report that permission should be refused for this development. The development would have a direct impact on the character of the identified archaeological landscape and there is also a possibility for a direct impact on archaeological remains in the vicinity of the proposed turbine bases. The Heritage Council and An Taisce have also expressed concern about the potential impact of the development on the archaeology of the area.

8.16.29. I am concerned that the EIAR, whilst thorough in detailing what is known, does not allow any certainty that the area is not part of a larger archaeological complex and that the development will not adversely impact on it. I accept that the site is mostly covered by conifer forests, and this was very evident on the day of the site visit. I walked a large area of the site and did not recognise any archaeological sites or monuments. The trees in the area provided for a dense coverage of the landscape and the only other features of significance were the forest tracks which provide access throughout these lands. The landscape was as expected for a commercial forest.

8.16.30. The provision of five turbines would significantly alter the character of the area, as already stated, these have tip heights of 165 m and will clearly be visible from surrounding areas, though I am generally satisfied with the potential impact on the visual amenity of the area as already detailed in this report. However, at ground level, the presence of these turbines will impact on the setting of the area. The construction phase of the development relies on National Monuments legislation to ensure the protection of features that may be found in it. I would not be surprised, allowing for the presence of the conifer forests, that the area was potentially abundant in archaeological material.

8.16.31. I am therefore not satisfied that the development would not adversely impact on the archaeological/ cultural heritage of the area. Insufficient detail has been provided with regards to the cumulative impact of the development in terms of noise and impact on the character of the area which is important in terms of archaeological and cultural heritage.

8.17. Chapter 13: Traffic and Transportation

8.17.1. This section of the EIAR has been prepared by Fehily Timoney and Company, Engineers. The traffic implications of the development are considered in this section. A full list of guidance used in this assessment is provided in Section 13.4 of the EIAR.

8.17.2. Impacts on the road network are considered. The M9 is approximately 14 km to the west of the windfarm site and the M11 is approximately 35 km to the east. The N81, a national primary route, is located approximately 4 km from the site boundary. The M81 and M50 will be used as part of the turbine delivery route from Dublin Port to the subject site. The R747 is located to the south west of the site. There are a number of local roads in the area and some of which are directly affected by the grid connection route – L8291 and L8799.

8.17.3. Full details of the development and the construction programme as it impacts the road network is provided in Section 13.6 of the EIAR. Three entrances will be used during the construction phase of the development:

- Western entrance to Kilranelagh windfarm serves as the main construction entrance and also the exit point for the grid connection route.
- Entrance to the south and east will be used for access to the turbines during the operational phase and as access for LGV's only during the construction phase of the development. These accesses are existing points of entry to the forestry access roads within the commercial forest lands.

8.17.4. The grid route will be installed by cable along the L8291 and L8799 from Kilranelagh to Stratford 38/110 kV substation. The local roads vary in width from 3 m to 4.5 m. The cable will be installed within the public road corridor. Cable ducting is the preferred means of crossing the three bridges as detailed in Table 13.2 and also in Appendix 3.3 – Bridge Survey Report. Alternative means of crossing the bridges have been identified. Road closures will be carefully considered and managed on site to ensure that disruption is reduced as much as possible. Construction methods are provided in Section 12.6.2.2 – Trench Details and 12.6.2.3 – Joint Bays.

8.17.5. The expected turbine delivery routes are provided in Section 13.6.3 of the EIAR. It is expected that the turbines will be delivered through Dublin Port. Table 13-3 provides

a list of works that may be required along the L8799 to facilitate the delivery of the turbines and similar details are provided in Table 13-4 for works along the L8291 delivery route.

8.17.6. **Potential Impacts of the development**: Traffic will increase during the construction phase of the development and potential impacts include delay/ disruption to road users, road safety issues, inappropriate parking of vehicles, soiling of the public road and damage to the public road. The development of the grid connection route would also lead to traffic disruption through road closures. Any works to the public road would require a road opening licence from Wicklow County Council. Turbine delivery may give rise to local traffic congestion and will require delivery during off-peak times with a Garda escort likely. The metrological masts can be delivered by a low loader and generally a lower weight of vehicle than that required for the turbine masts.

8.17.7. The Operational phases will only require visits to check that all is in order and also ESB Networks will visit the substations etc. Emergency repair works to turbine blades/ mast are unlikely to occur. Decommissioning is unlikely to give rise to any issues of concern.

8.17.8. **Impact Assessment**: The proposed construction phase is likely to take 12 months and full details are provided in Section 13.8.1 of the EIAR. A total of 30 no. on-site operatives are expected during the construction phase. Approximately 15 HGV movements a day will happen over a 12-month period and approximately 38 LGV movements over the same period. The predicted AADT is provided in Table 13-5 and the average daily HGV trip distribution during construction is indicated in diagram 13.1.

8.17.9. The development of the grid connection route will require approximately 12 additional HGV trips per day over the period of its construction. The local road network has an estimated AADT of less than 500 trips per day. Impacts will be localised and temporary in nature. Trip generation during the operation phase will be minimal and neutral overall. The decommissioning phase will be temporary in nature and slight in significance. No mitigation measures are required during the decommissioning phase of the development.

8.17.10. The overall 'Impact Summary' is provided in Table 13-7 and includes the Construction, Operation and Decommissioning phases. In addition, details are provided for Unplanned Events (i.e. Accidents).

8.17.11. **Mitigation Measures**: These are detailed in Section 13.9.1 of the EIAR and include road/ traffic management measures, survey work, consultation and road repairs. The list of mitigation measures also includes the 'Turbine Component Delivery Mitigation' and the provision of the 'Permanent Met Masts'. Measures include the construction, operational and decommissioning phases of the development. The implementation of these mitigation measures will ensure that residual impacts are minimised during each phase of the development. A list of residual impacts post the use of suitable mitigation measures is provided in Table 13-8 of the EIAR.

8.17.12. **Conclusion:** No significant impacts are expected on the receiving environment from traffic during each phase of the development. Suitable mitigation measures have been identified and will be implemented by the developer at each stage.

8.17.13. **Submissions and Observations:** Traffic issues were raised in the observations and concern was expressed about road closures and construction extending into third party lands. Concern was also expressed about the impact of the development on the bridges that from part of the grid connection route.

8.17.14. **Assessment:** The second reason for refusal included the following:

'Having regard to the insufficient information contained within the Environmental Impact Assessment Report submitted with respect to;

(a) The structure/ strength and integrity of the roads of the proposed Haul/ Turbine Delivery Route to accommodate the proposed loading associated with the delivery of turbine components;

(b) The detail of the existing entrance on the L8297 junction with L8291 at Kilranelagh (main entrance) with regards to the ability of the existing road/ junction layout to safely accommodate traffic turning movements;

(c) Sightline detail on the 3 entrances proposed;

(d) A survey of the strength and integrity of roads proposed for underground cable route, specifically the bridges on the route;

(e) The detail on the public roads within the development site'

These particular issues were not identified/ detailed in the EIAR, which focused on the impact of the development on traffic movements. These are issues that could be addressed by way of a further information request, which the Planning Authority did not decide to issue. A fully detailed survey of the site including the grid connection route would address most of the issues raised in the refusal.

8.17.15. I am satisfied that the proposed development would not adversely impact on traffic in the area. There would be a short-term impact on existing traffic flows during the construction phase of the development. This would last for approximately a year and no such issues would arise during the subsequent operational phase of the development.

8.17.16. I agree with the Planning Authority though, that it is unclear if the road network could support the additional traffic movements/ the additional physical loading put on the integrity of the road surface and the three bridges that construction traffic/ the grid route connection will cross over. The road network, including width and road makeup, is generally adequate to accommodate the existing low volumes of traffic in the area, however relatively intense traffic over the course of a year could have negative consequences that were not adequately considered in this chapter of the submitted EIAR. The road network though is under the control of the Roads Authority – Wicklow County Council and as such any works in or on the road network would require road opening licences etc. in order to undertake such works. This mechanism, which is outside of the planning process, allows the Roads Authority to consider the nature and scale of development to be undertaken.

8.17.17. I therefore consider that the identified road network is adequate to accommodate construction traffic and that a condition requiring the applicant to make a financial contribution under section 48(2)(c) is an appropriate mechanism to make good any damage to the public road network arising from the construction or turbine delivery phases of proposed development. The applicant has made clear that the proposed development of the grid route will be undertaken in stages and

impact to local residents and traffic can be reduced by suitable traffic management plans and the terms/ conditions of any received road opening licence.

8.18. Chapter 14: Population and Human Health

8.18.1. This section of the EIAR has been prepared by Environmental Consultants at Arcus Consultancy Services Ltd. The impact of the development on population and human health are considered in this section. A full list of guidance used in this assessment is provided in Section 14.3.1 of the EIAR and includes EPA guidance, the Windfarm Energy Development Guidelines and the draft revised guidelines. Fáilte Ireland made a submission as part of the scoping process and full regard was had to tourism issues in this section of the EIAR.

8.18.2. The Assessment of this chapter considers the following:

- Population – Impact on the demographic profile of the area.
- Employment - Socio-economic impacts etc.
- Human Health, Tourism, and Amenity – Impacts during construction/operation, interlinked throughout this section of the EIAR.
- Health and Safety - Impacts during construction/operation.

8.18.3. The study area is detailed in Section 14.4.3 and Baseline Survey Methodology is provided in Section 14.4.4 of the EIAR. The methodology for the assessment of effects is detailed in section 14.4.5. Sensitivity of Receptors includes Very High, High, Medium, Low and Negligible and Degree of Change is Very High Magnitude, High Magnitude, Medium Magnitude, Low Magnitude and Negligible Magnitude. Table 14.2 provides a 'Framework for Assessment of the Significance of Effects' and effects can be positive, negative or neutral. No assessment limitations are listed.

8.18.4. The local environment is described in Section 14.5 of the EIAR, including population details on a local, county and national level. No houses are within 500 m of the turbines. Employment details are provided in Table 14.2, 14.3 and 14.4. Commercial forestry and agriculture are important sources of employment in the study area. The importance of renewable energy is detailed in Section 14.5.2.4 of the EIAR.

8.18.5. No rights of way cross the windfarm site and there is a limited amount of tourism to the area on an annual basis. Section 14.5.3.4 considers 'Public Attitudes towards

Wind Farm Developments' – a 2007 survey of tourists (domestic and overseas) found that 50% had seen a windfarm and only 15% claiming that they had a negative impact on their experience. Wind farms should be avoided in National Parks and in areas of scenic beauty but may be acceptable in other locations.

8.18.6. Health and Safety issues may include traffic, during lifting of materials, working with electricity and general construction safety. More than 60% of the people living in County Wicklow are considered to have very good health.

8.18.7. **Statement of Potential Impacts**: As the development does not contain any residential aspects (houses and properties), it will not have a direct effect on the long term local, regional or national population trends during the operational phase of development. There is not expected to be any impact on population during the various phases of the development and a similar impact is expected at the decommissioning stage.

8.18.8. In terms of employment, there may be the creation of some jobs in the supply chain and during the construction phase of the development. A list of potential construction stage jobs is provided in Section 14.6.2.2 of the EIAR. Potentially 15 to 20 staff could be on-stie on a daily basis and there would be knock-on benefits to the local economy during the construction phase. The capital expenditure associated with the development would be to the order of €26.25 million. The operational phase may require a part-time maintenance engineer and a small number of staff to service the turbines. The operational expenditure at a worse case scenario is circa €930,000 per annum. Employment impacts at decommissioning stage will be similar to those at construction stage.

8.18.9. Human health impacts range from noise, nuisance during the construction stage, traffic issues and potential impacts on tourism sites. Similar impacts during the decommissioning stage and no major impacts during the operational stage of the development.

8.18.10. Health and Safety impacts are considered in Section 14.6.4 of the submitted EIAR. Subject to the implement of best practice and adherence to the Construction Environmental Management Plan (CEMP), no significant impacts are foreseen at construction, operational and decommissioning stages of the proposed development.

8.18.11. The 'Do-Nothing' Alternative is considered. There would be no change for population and human health, however, the development is not likely to impact negatively on baseline data if it does go ahead as proposed in this application.

8.18.12. **Cumulative Impacts**: Section 14.7 of the EIAR considers cumulative impacts and a list of cumulative developments are provided, consisting of windfarm within 5.7 km and 18 km from the site. In terms of population, there would be an imperceptible effect in terms of the EIA Regulations. In terms of employment, there would be some additional jobs created at construction stage, but these would not be significant in terms of the EIA Regulations. No cumulative effects are expected at the operational stage and the impacts at decommissioning stage would be similar to those at construction stage. No significant effects are expected to human health, tourism and amenity at any of the three stages and the same is true for health and safety.

8.18.13. **Mitigation and Monitoring Measures**: No particular measures are proposed for population and employment. The design stage considered the impact on human health and amenity and impact on residential properties and walking routes were included in this. Full measures will be incorporated into the different stages of the development to ensure that there are no impacts on health and safety for those working on site and to members of the public who may interact with the development. No secondary mitigation measures are proposed.

8.18.14. **Interactions with other aspects of the Environment**: The following have the potential to result in effects on population/ human health:

- Landscape and Visual – May be an indirect effect through a change in a view etc. The LVIA considers the impact to be temporary and not significant. No significant effects were predicted on landscape during the three phases of the development.
- Shadow Flicker – Impacts from short distances have been avoided through the design/ location of the turbines/ windfarm. 11 residential units may be impacted by shadow flicker over the course of a year, however suitable measures can be employed to reduce the impact of this, and consequently the impact on population and human health to be not significant.
- Noise – The noise assessment finds that the noise generated at construction stage to be temporary and not significant, subject to suitable mitigation

measures. Noise at receptors, from the turbines, at operational stage will be below limits. Overall, there will be no effect on population and human health.

- Archaeology and Cultural Heritage – Archaeology and cultural heritage in the immediate area of the development can absorb the development without any impact on any recorded monument. It is accepted that there would be a moderate impact to the setting of national monuments for the duration of the operational phase of the development. This would impact on population and human health through interruption of views or destruction of historic assets. Surveys indicate that the development of a windfarm would not impact on tourism receptors.
- Transport, Traffic and Access – Increased traffic/ disruption would be temporary and not significant and no significant effects to population and human health are foreseen.
- Air Quality and Climate – Potential impact on air quality and climate and in turn on human health from dust and pollutants during the construction and decommissioning stages of the development. The assessment of the impacts on air quality and climate concluded that the development is unlikely to significantly increase pollutants or cause a breach of air quality standards, or impact on receptors. Note: This is detailed further in Chapter 15 of the EIAR.

8.18.15. **Conclusions:** In conclusion, the development will contribute positively to the provision of renewal energy and no significant effect in terms of the EIA Regulations are predicted on population and human health receptors during the different phases of the development.

8.18.16. **Submissions and Observations:** Issues relating to noise and shadow flicker were raised and have been considered already in this report. There is a wide gap between the generally positive description of the development in this chapter and comments in the observations about health issues associated with windfarms. Similarly, concerns were raised about an increase in traffic in the area and the implications of this on residents of the area.

8.18.17. **Assessment:** As stated, this chapter of the EIAR strikes a positive note towards the development and its implications for population and human health, relying on other chapters of this document. I have already considered in depth the

issues of shadow flicker, noise, traffic, and impact on views etc. I would question the rather narrow assessment of potential impacts with particular reference to military aviation which is not identified at all in this chapter of the EIAR. The nearby Military Camp and the Glen of Imaal are important to the local area and no consideration is given to cumulative impacts on these.

8.19. **Chapter 15: Air and Climate**

8.19.1. This section of the EIAR has been prepared by Fehily Timoney & Company. The impact of the development on Air and Climate are considered in this section.

8.19.2. A list of relevant legislation is provided in Section 15.1.1 in relation to Air Quality and Table 15-1 provides 'Limit Values of CAFE Directive 2008/50/EC' – levels that pollutants are not to exceed/ to ensure the protection of humans/ vegetation/ ecosystems. CAFE is 'The Ambient Air Quality and Cleaner Air for Europe Directive'. No statutory limits are provided for dust and Table 15-2 provides the 'Target Values for Ozone'. Generally, air quality in Ireland is considered to be acceptable. In the short term, particulate matter and PHA's are of concern, and it is expected that increase traffic will give rise to an increase in NO2 levels. Fossil fuels increase NOx and SOx levels, but wind generation does not give rise to such emissions.

8.19.3. CO2 as a greenhouse gas can lead to an increase in temperature and in turn impacts on climate. The proposed development will have a positive impact on climate by reducing the need for fossil fuels to generate energy. It is policy to reduce dependency on fossil fuels and to ensure that increases in global warming are slowed. The December 2018 – revised Energy Efficiency Directive, the revised Renewable Energy Directive and the new Governance Regulation, set out a binding renewable energy target for the EU for 2030 of 32% with an upwards revision clause by 2023. The Irish Government Climate Action Plan 2019 sets out a range of actions to combat climate change including an increase in renewable energy generation to 70% by 2030, with up to 8.2 GW of increased onshore wind capacity.

8.19.4. **Methodology**: The operation of the wind turbines does not give rise to emissions, backup generators will not be used regularly, and the chapter focuses on potential emissions that may be generated at construction and decommissioning phases of the development. A number of relevant guidelines are listed in Section 15.2.1 in

relation to Air Quality. Table 15-3 provides 'Assessment Criteria for the Impact of Dust Emissions from Construction Activities, with Standard Mitigation in Place', Table 15-4 provides 'Definition of Magnitude' and Table 15-5 provides 'Air Quality Impact Descriptors for Changes to Annual Mean Nitrogen Dioxide and PM_{10} and $PM_{2.5}$ Concentrations at a Receptor'. The proposed development will have a positive effect through a displacement of CO_2 from other energy sources. Section 15.4.4 provides additional information on the calculations of carbon saved as a result of the proposed windfarm. Carbon emission details are set out in Section 15.2.3 of the EIAR.

8.19.5. **Existing Environment**

- **Air Quality:** Ireland is divided up into four zones for air quality and County Wicklow/ the subject site are located within Zone D. Air quality in Ireland is generally good.
- **Climate:** The Irish climate is dominated by the Gulf Stream and Ireland does not suffer from extremes of temperature as experienced by other countries at a similar latitude. Table 15.6 provides Climate Data for the period from January 2017 to July 2020.

8.19.6. **Impact Assessment**:

- In the case of the 'Do Nothing Impact' there will be no change to local air quality and the microclimate if the windfarm does not proceed. On a national scale there will be an increase in greenhouse gases if alternative forms of energy production are not developed.
- **Air Quality**: Potential impacts from dust generated from earthworks, tree felling, trench digging along cable routes, construction of new access routes, storage of materials, movement of vehicles and the movement of materials. Table 15-7 provides 'NRA Assessment Criteria for the Impact of Dust Emissions from Construction Activities with Standard Mitigation in Place'. Applying the NRA criteria, the site can be considered as a major construction site, soiling may occur up to 100 m from the source, with PM_{10} deposition/ vegetation effects occurring up to 25 m from the source. The nearest receptor is circa 550 m from the site boundary and will not experience these effects

Construction equipment/ vehicles may increase concentrations of compounds such as NO_2, Benzene and PM_{10} into the receiving environment. Traffic is not predicted to impact on air quality having regard to UK DMRB guidance, on which TII base their guidance. The increase in traffic (HGV and LGV) by 53 trips a day I not sufficient.

- The operational phase of the development will not impact on air quality, though there will overall be a positive impact through the displacement of fossil fuels as an energy source.
- At decommissioning stage, the impacts will be similar to those at construction stage, though with a reduction in vehicle movements.
- **Climate**: Some potential for impacts at construction stage through the use of on-site generators, pumps etc. Circa 0.015% of the windfarm site will be changed to permanent hardstanding from its current greenfield status. This will not directly or indirectly impact on air temperature and microclimate. At a macroclimate level, the proposed development would help reduce greenhouse gases and provides for a security of energy supply for the country.
- **Carbon Balance**: Appendix 15.1 details the information put into the online 'Scottish Windfarm Carbon Assessment Tool', used to determine the carbon savings and losses.

  There is a loss of CO_2 at manufacture, construction, and decommissioning phases of the development and through the loss of vegetation. Calculations only account for the loss of forest and not planting outside of the site area. Although there is no peat on site, the tool assumes that there is peat on site and therefore the results relating to carbon loss are slightly over-estimated. Table 15-8 provides the Carbon Balance Results and the headline figure is that 64,474 tonnes of CO_2 will be displaced/ saved per annum.
- Cumulative Impacts: The windfarm is not likely to act cumulatively in terms of the generation of dust within 100 m of the subject site. No significant impacts from traffic or waste are foreseen. In terms of climate there is a cumulative positive as fossil fuels will be displaced, resulting in a slight-moderate, positive impact on climate.

8.19.7. **Mitigation Measures**: An Environmental Management Plan (EMP) is included in Appendix 3.5 and a number of measures are outlined to ensure that air quality is maintained to an appropriate level. Many of these measures are best practice and are regularly used on construction sites. The windfarm will have positive impacts on air quality during the operational phase and the decommissioning phase impacts will be similar to those at construction stage. No particular mitigation measures are proposed in relation to climate as the development would have a positive impact at operational stage. Residual impacts are considered to be imperceptible in terms of air quality and there will be positive residual impacts in terms of climate.

8.19.8. **Submissions and Observations:** No specific issues were raised.

8.19.9. **Assessment:** The proposed development if constructed and in operation would have a positive impact on climate through a reduced need for the use of fossil fuels to generate electricity. Some impacts on air quality through dust and low-level emissions would be expected at the construction phase of the development. The EIAR suggests similar impacts at the decommissioning stage, which is taking a very conservative approach as I would expect that vehicles and equipment would be powered by more sustainable means such as electricity or hydrogen in 30+ years times, and that emission levels would be a lot less than those emitted at the construction stage.

8.19.10. Overall, I am satisfied that Chapter 15 of the EIAR has adequately considered the impacts on Air and Climate and that there are no evident omissions in this assessment.

8.20. **Chapter 16: Forestry**

8.20.1. This chapter of the EIAR has been prepared by Purser Tarleton Russell Ltd. who have 25 years in the forestry sector in Ireland. The impact of the development on Forestry is considered in Chapter 16.

8.20.2. A list of relevant legislation and guidance is provided in Section 16.3 of the EIAR. Tree felling in Kilranelagh cannot proceed until a tree felling licence is obtained to do so.

8.20.3. **Methodology**: A desktop survey was undertaken; a number of site visits were undertaken and assessments of the trees on sites were made. In addition, a number of photographs were taken to illustrate the tree inventory results. Section 16.5 of the

EIAR describes the existing environment, the forestry strata in-situ and Table 16.1 provides details of the trees located in the area of the five wind turbines – WTG 1 to 5 and the access tracks serving the windfarm development.

8.20.4. **Potential Impacts**: The proposed development will require the felling of 5.85 hectares of trees as detailed in Table 16.1. Felling will be dependent on the receipt of a suitable licence and will take place in one phase. No further felling is planned in the next five years, thinning as part of normal forest management will take place in the next five years and following that, in approximately 10 to 15 years' time. Premature cutting of holes in a forest can lead to stability issues, but this is not what is planned here.

8.20.5. A list of 'Minor Impact Potential' is provided in Table 16.2 of the EIAR and includes blocking of drains, damage to retained trees and loss of diverse tree species. The provision of improved infrastructure in the area associated with the windfarm will improve the economic status of the existing forestry business. An alternative planting area of 6.17 hectares has been identified at Dunran, Co. Wicklow and which has been licenced by the Forest Service.

8.20.6. **Cumulative Impacts**: None identified. The proposed roads are as expected within a commercial forest and the area proposed for felling to support the turbines and substation is approximately 3.17 hectares located within an existing forest of circa 370 hectares.

8.20.7. **Mitigation and Monitoring Measures**: Recommend that new felling edges are marked by a professional forester with a view to optimising the stability of any new forest edges. Details of this are outlined in Section 16.8. It is recommended that any broadleaf trees that are felled are replaced at a rate of 2:1. This is not a substitute for any area that is to be planted in lieu, on another site. It is estimated that this will mean a requirement for 60 native trees to be planted and protected from deer. There are no potential residual effects.

8.20.8. **Conclusions:** The proposed development which includes the felling of 5.85 hectares of existing trees, and which are proposed for replacement at Dunran, Co. Wicklow, is not envisaged to have any negative impact on forestry in Kilranelagh. Some other minor issues have been identified in the EIAR, but these can be mitigated during the construction phase of the proposed development.

8.20.9. **Submissions and Observations:** No particular issues were raised.

8.20.10. **Assessment:** The site is located within an existing commercial forest and a significant amount of infrastructure has already been provided for to service this forest. The most significant issue in terms of forestry is the felling of 5.85 hectares of forest, but this is compensated by the planting of circa 6.17 hectares at Dunran, also in County Wicklow and as required under relevant Forestry legislation. The proposed mitigation measures are relatively minor actions that can be carried out during the construction phase of the development. I note that it is recommended that any broadleaf trees that are felled are to be replaced at a ratio of 2:1.

8.20.11. Overall, I am satisfied that Chapter 16 of the EIAR has adequately considered the potential and likely impacts on Forestry and that there are no evident omissions in this assessment.

8.21. **Chapter 17: Interactions**

8.21.1. This chapter of the EIAR has been prepared by ABO Wind Ireland Ltd and assesses interactions between the preceding Chapters 5 to 16 of this EIAR. The interactions are detailed in Table 17.1 and are detailed in Sections 17.1.1 to 17.1.18.

8.21.2. **Conclusions:** It is considered that in terms of indirect and interaction of impacts, no unacceptable environmental effects are envisaged during the construction, operation or decommissioning of the Kilranelagh windfarm as proposed, when suitable mitigation measures are implemented in full.

8.21.3. **Submissions and Observations:** Raised issues have been commented on already in the EIAR section of this report. Most of the observations referred to multiple issues of concern.

8.21.4. **Assessment**

8.21.5. This chapter of the submitted EIAR is considered to be acceptable. Issues previously raised in Chapters 5 to 16 have been considered for interactions and no new issues of concern have been identified.

8.22. **Reasoned Conclusion:**

8.22.1. Having regard to the examination of environmental information contained above, and in particular to the EIAR and supplementary information provided by the Developer/ Appellant, and the submission from the Planning Authority, Prescribed Bodies, 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 are, and would be mitigated as follows:

- Impacts on birds which will be mitigated by the full implementation of a detailed Construction Environmental Management Plan (CEMP) and the undertaking of different stages of the development at appropriate times of the year.
- Impacts on biodiversity which will be mitigated by the full implementation of a detailed Construction Environmental Management Plan (CEMP) and the implementation of best practice during the course of the development.
- Impacts on land, soils and hydrogeology which will be mitigated by the full implementation of a detailed Construction Environmental Management Plan (CEMP) and the implementation of best practice during the course of the development.
- Impacts on human health through shadow flicker which will be mitigated by the provision of a control on wind turbine use at defined times of the year.
- Impacts on Air and Climate which will be mitigated by the full implementation of a detailed Construction Environmental Management Plan.

The following environmental/ material assets have not been adequately detailed in the EIAR and suitable mitigation measures are not provided/ do not demonstrate that they are sufficient to address issues of concern:

- The site is important in terms of being used by Irish Air Corps aircraft on approach to a military camp and an important training site; insufficient details have been provided that demonstrate that the safety of military aviation would be ensured.
- It has been demonstrated that the site is important in terms of archaeology and cultural heritage, however insufficient details have been provided to demonstrate that these archaeological sites and their surroundings would not be adversely impacted by the development in terms of directly altering the character of the area and in terms of noise impacts from the wind turbines during the operational phase of the development.

In conclusion, it has not been sufficiently demonstrated that the development would not adversely impact on aviation safety and archaeology and a refusal of permission will be recommended.

9.0 Appropriate Assessment (AA)

9.1. The requirements of Article 6(3) of the Habitats Directive, as related to screening for the need for appropriate assessment of a project under Part XAB, Section 177U of the Planning and Development Act 2000, as amended, are considered fully in this section of the report.

9.2. **Background:**

9.2.1. Ecology Ireland Ltd. have been engaged by the applicant to prepare a Natura Impact Statement. This provides for Stage 1: Screening for Appropriate Assessment (AA) and a Natura Impact Statement (NIS). Also included within Appendix B is an Environmental Management Plan (EMP). A team of ecologists were commissioned to carry out intensive surveys at the proposed wind energy development site since 2018 in order to inform the EIAR and NIS. A list of the contributors to the NIS is provided.

9.2.2. An introduction to the development and methodology to be used in the screening is provided. The Screening Report provides information to enable the competent authority to undertake screening for Appropriate Assessment in order to perform its statutory functions. Wicklow County Council was the competent authority for the initial application and An Bord Pleanála performs this role for the appeal process.

9.2.3. The Executive Summary finds that the AA Screening has determined that likely significant effects could arise, in the absence of suitable mitigation measures, to the Slaney River Valley SAC, a Natura 2000 site. Potential hydrological links between the proposed development site, the grid connection route, and the Slaney River Valley SAC. The designated site is located within the project Zone of Influence (ZOI) and the impact of the development on the designated site/ its conservation objectives, are considered further in the Natura Impact Statement (NIS). Subject to the implementation of suitable identified mitigation measures, it is considered that there will be no adverse impacts to the integrity of any of the Natura 2000 sites within the zone of influence of the proposed development.

9.3. **Compliance with Article 6(3) of the EU Habitats Directive**

9.3.1. 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 before consent can be given.

9.3.2. The site is not directly connected with, or necessary to the management of a Natura 2000 sites. The proposed development is therefore subject to the provisions of Article 6(3).

9.4. Screening the need for Appropriate Assessment

9.4.1. The first test of Article 6(3) is to establish if the proposed development could result in likely significant effects to a European site. This is considered stage 1 of the appropriate assessment process, i.e. screening. The screening stage is intended to be a preliminary examination. If the possibility of significant effects cannot be excluded on the basis of available objective information, without extensive investigation or the application of mitigation, a plan or project should be considered to have a likely significant effect and Appropriate Assessment shall be carried out. The applicant has submitted a screening report for Appropriate Assessment and a Natura Impact Statement as part of the planning application.

9.4.2. The applicant's Stage 1 - AA Screening Report was prepared in line with current best practice guidance and provides a description of the proposed development and identifies European Sites within a possible zone of influence of the development.

9.4.3. **Description of the Site and Project**: The windfarm development site is located approximately 4 km to the northeast of Baltinglass and a circa 6.5 km proposed electricity grid connection from the windfarm site to the existing Stratford substation to the north west. The site area is given as 60 hectares and the windfarm is located on the northern slope of Kilranelagh Hill, an upland area of between 180 – 350 m above sea level. The grid connection route continues along public road and connects to the existing grid at Stratford, which is less than 180 m above sea level. Access to the windfarm site will be over existing forest tracks and new access trackways.

9.4.4. The Slaney River Valley SAC is the closest Natura 2000 site to the subject lands. The windfarm is also within the Slaney and Wexford Harbour Catchment (Slaney sub-catchment, Hydrometric Area 12) and the development site is within the Southeastern River Basin District. There are no watercourses within the windfarm development site, though there are two watercourses in the greater area, and which receive drainage from the subject site. These watercourses are the East Spinans Stream and the Boleycarrigeen Stream – both tributaries of the River Slaney and part of the River Slaney is crossed by the grid connection route. Both tributaries range between high quality water status to moderate quality. The River Slaney and Bolleycarrigeen Stream are considered to be 'at risk' under the Water Framework Directive (WFD) and the East Spinans Stream is considered 'not at risk' – information from www.epa.ie

9.4.5. The proposed development is for a windfarm of five turbines and a grid connection of circa 6.5 km to the existing grid network at Stratford, including all necessary electrical works. A metrological mast of 30 m is also proposed. The application also includes all site works, new access tracks of circa 1.5 km, drainage works and temporary compound sites. As part of the development, a heritage trail of circa 1 km in length is to be developed and will include associated signage and a car parking area. A ten-year planning permission is sought, and the development has a life span of 30 years.

9.4.6. Although the total site area is given as 60 hectares, the actual development site will be less than 10% of this. A total of 4.35 hectares of commercial forestry will be felled to enable the development of this site. A replacement area of 6.17 hectares is proposed at Dunranhill, Co. Wicklow. Three separate site entrances are proposed; the western access will serve as the main construction site entrance. Access tracks will be 5 m in width on straight sections and 8 m wide at bends. A temporary compound is included in the proposal. A suitable drainage scheme will be incorporated into the development to ensure that silt runoff is managed. During the construction phase of development, it is proposed that a 50 m buffer zone will be maintained for all streams/ watercourses, except at crossings of a watercourse. Full details of mitigation measures are included in the Environmental Management Plan which is included as Appendix A of the NIS.

9.4.7. The construction period for this development is expected to be 12 months, with a further three months to complete the restoration of the areas around the individual turbines. The operational life of this development is expected to be 30 years. The turbines will be connected to the national grid via a 38kV underground cable from a substation at the site to the 38kV/ 110 kV substation at Stratford. This cable will pass under existing public roads. The works to provide the grid connection are expected to take six months and will be undertaken concurrently with the development of the wind farm. The cable will cross three watercourses by way of existing bridges in the form of cable ducting in the roadside verge/ or within the road itself. This is subject to a structural review of the bridge at detail design stage. If the bridge cannot be used, alternative measures such as horizontal directional drilling or the use of overhead powerlines will be implemented to avoid any instream works. Full details of these crossings are provided in Appendix 3.2 and 3.6 of the EIAR.

9.4.8. The dominant habitat present is commercial conifer plantation, which is of low local importance. Other habitats include improved agricultural grassland, semi-natural wet grassland, verges and stone walls, associated trees of lower importance and broad leaf woodland and conifer woodland, which are of higher local importance. The grid connection will pass under roads of no particular ecological value, conifer plantation and improved agricultural grassland, again of low local importance. Roadside verges, stone walls, other stonework (bridges), hedgerows and trees/ treelines are of higher local importance.

9.4.9. No Annex I habitats are present within the area of the subject site. Habitats in the development area are primarily of a low ecological value. No protected botanical species or Red listed in Ireland were recorded. No invasive species of high risk were recorded within the windfarm development area or along the proposed cable route. Mammal species within the site were generally common and no bat roosts were found; bat activity recorded on site was low to moderate overall.

9.4.10. Peregrine Falcon and the Lesser Black-backed Gull were recorded within the zone of influence of the development.

9.4.11. The grid connection route requires the crossing of three watercourses including the River Slaney which forms part of the Slaney River Valley SAC, within which Otters, Brook Lamprey and Salmon are found.

9.4.12. A vantage point survey of the windfarm site was undertaken for a period of 24 months from March 2018 to March 2020 – a total of 144 hours of survey. The grid connection route did not form part of this survey area. The following were noted:

- Peregrine Falcon: Qualifying species of Wicklow Mountain SPA (6 km from the subject site): Five records in August 2018 and February 2019, two in September 2019 and one in February 2020. Passed through the site on each occasion.
- Lesser Black-backed Gull: Qualifying species of the Poulaphouca Reservoir SPA (12 km to the north of the subject site). Passed through the site and a peak count of 310 was made in October 2019. May be associated with the River Slaney rather than the Poulaphouca Reservoir SPA.

9.4.13. Suitable habitats for at least three qualifying semi-aquatic or aquatic species of the Slaney River Valley SAC – Otter, Brook Lamprey and Salmon is present within the development site boundary in association with the proposed crossing points of the watercourses by the grid connection. There are hydrological links between the proposed development and the Slaney River Valley SAC where there is suitable habitats for Otter. There are no links between the site and the Wicklow Mountains SAC or the River Barrow and River Nore SAC. No evidence during surveys was found of Otter within sections of the East Spinans Stream or Boleycarrigeen Stream, though they may use the banks as a holt/ hiding place. The aquatic survey undertaken indicates that Salmon and Brook Lamprey are likely.

9.4.14. The applicant's AA Screening Report concluded that:

'The proposed development has potential hydrological connectivity with one Natura 2000 site (Slaney River Valley SAC) via the Slaney River and tributaries associated with the Slaney Valley catchment. Significant effects during the project construction phase cannot be discounted without the implementation of best practice construction design measures and the implementation of an Environmental Management Plan (EMP).

Therefore, it cannot be concluded, that the proposed project, individually or in combination with other plans or projects, will not have a significant effect on a Natura 2000 site, without the consideration and analysis of further information. Therefore Stage 2 NIS (AA) is required'.

9.4.15. Having reviewed the documents and submissions, I am satisfied that the information allows for a complete examination and identification of any potential significant effects of the development, alone, or in combination with other plans and projects on European sites.

9.5. Stage 1 Screening – Test of Likely Significant Effects

9.5.1. The proposed development is examined in relation to any possible interaction with European sites, designated Special Conservation Areas (SAC) and Special Protection Areas (SPA), to assess whether it may give rise to significant effects on any designated European Site. The project is not directly connected with or necessary to the management of a European Site and therefore it needs to be determined if the development is likely to have significant effects on a European site(s).

9.5.2. The description of the development has already been provided and the applicant has identified that the development, through the grid connection, crosses watercourses include the River Slaney, which is part of the Slaney River Valley SAC.

9.5.3. A number of the observations refer to impact on the SAC and biodiversity and these are noted in this assessment. I note also the comments from the prescribed bodies in relation to impacts on designated sites.

9.5.4. **Zone of Influence:** A summary of European sites that are located proximate to the proposed development, including their conservation objectives and Qualifying Interests has been examined by the applicant. A precautionary approach in the submitted Screening Report of including all SACs/ SPAs within 15 km of the development site was taken to be the zone of influence of the development site, which are listed in the table below:

Name	Site Code	List of Qualifying Interest/ Special Conservation Interest	Connections	Distance from Site
Slaney River Valley SAC	000781	The Conservation Objectives of this SAC are to maintain/ or restore the favourable conservation of the following qualifying interests: • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140]	The proposed grid connection crosses the	0 km

		• Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] • Mediterranean salt meadows (Juncetalia maritimi) [1410] • Water courses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation [3260] • Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] • Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] • Petromyzon marinus (Sea Lamprey) [1095] • Lampetra planeri (Brook Lamprey) [1096] • Lampetra fluviatilis (River Lamprey) [1099] • Alosa fallax fallax (Twaite Shad) [1103] • Salmo salar (Salmon) [1106] • Lutra lutra (Otter) [1355] • Phoca vitulina (Harbour Seal) [1365]	River Slaney SAC.	
Wicklow Mountains SAC	002122	The Conservation Objectives of this SAC are to maintain/ or restore the favourable conservation of the following qualifying interests: • Oligotrophic waters containing very few minerals of sandy plains (Littorelletalia uniflorae) [3110] • Natural dystrophic lakes and ponds [3160] • Northern Atlantic wet heaths with Erica tetralix [4010] • European dry heaths [4030] • Alpine and Boreal heaths [4060] • Calaminarian grasslands of the Violetalia calaminariae [6130]	No hydrological connection.	5.2 km

		• Species-rich Nardus grasslands, on siliceous substrates in mountain areas (and submountain areas, in Continental Europe) [6230] • Blanket bogs (* if active bog) [7130] • Siliceous scree of the montane to snow levels (Androsacetalia alpinae and Galeopsietalia ladani) [8110] • Calcareous rocky slopes with chasmophytic vegetation [8210] • Siliceous rocky slopes with chasmophytic vegetation [8220] • Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] • Lutra lutra (Otter) [1355]		
Holdenstown Bog SAC	001757	The Conservation Objectives of this SAC are to maintain/ or restore the favourable conservation of the following qualifying interests: • Transition mires and quaking bogs [7140]	No hydrological connection.	5.2 km
Wicklow Mountains SPA	004040	The Conservation Objectives of this SPA are to maintain/ or restore the favourable conservation of the following qualifying interests: • Merlin (Falco columbarius) [A098] • Peregrine (Falco peregrinus) [A103]	No hydrological connection.	6.3 km
River Barrow & River Nore SAC	002162	The Conservation Objectives of this SAC are to maintain/ or restore the favourable conservation of the following qualifying interests: • Estuaries [1130] • Mudflats and sandflats not covered by seawater at low tide [1140] • Reefs [1170] • Salicornia and other annuals colonising mud and sand [1310] • Atlantic salt meadows (Glauco-Puccinellietalia maritimae) [1330] • Mediterranean salt meadows (Juncetalia maritimi) [1410] • Water courses of plain to montane levels with the Ranunculion fluitantis	No hydrological connection.	11.4 km

		and Callitricho-Batrachion vegetation [3260] • European dry heaths [4030] • Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels [6430] • Petrifying springs with tufa formation (Cratoneurion) [7220] • Old sessile oak woods with Ilex and Blechnum in the British Isles [91A0] • Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) [91E0] • Vertigo moulinsiana (Desmoulin's Whorl Snail) [1016] • Margaritifera margaritifera (Freshwater Pearl Mussel) [1029] • Austropotamobius pallipes (White-clawed Crayfish) [1092] • Petromyzon marinus (Sea Lamprey) [1095] • Lampetra planeri (Brook Lamprey) [1096] • Lampetra fluviatilis (River Lamprey) [1099] • Alosa fallax fallax (Twaite Shad) [1103] • Salmo salar (Salmon) [1106] • Lutra lutra (Otter) [1355] • Trichomanes speciosum (Killarney Fern) [1421] • Margaritifera durrovensis (Nore Pearl Mussel) [1990]		
Poulaphouca Reservoir SPA	004063	The Conservation Objectives of this SPA are to maintain/ or restore the favourable conservation of the following qualifying interests: • Greylag Goose (Anser anser) [A043] • Lesser Black-backed Gull (Larus fuscus) [A183]	No hydrological connection.	12.2 km

9.5.5. Other than the Slaney River Valley SAC, which has a hydrological connection to the subject site, the other identified SACs and SPAs do not have an identified hydrological or other connection to the subject site. The submitted AA Screening refers to Wexford Harbour and Slobs SPA, which is located downstream of the subject site, however this is over 50 km from the subject site and the hydrological link is not relevant due to the significant distance between it and the subject site.

9.5.6. The grid connection may impact on otters which inhabit the River Slaney and whilst it is noted that otters inhabit some of the other identified designated sites, the lack of direct impact and the lack of a hydrological connection, and the intervening distances, will ensure that these sites are not impacted upon.

9.5.7. The proposed development site is primarily under conifer trees and as such it is not an environment that attracts qualifying bird species. The presence of Peregrine and Lesser Black-backed Gull is noted. However, the available records indicate that these are crossing the site and do not inhabit it.

9.5.8. There is a potential for collisions with the proposed development of the wind turbines for Lesser Black-backed Gulls. However, these are a relatively widespread species and the impact on them is rated as slight significance. From the available information, I am satisfied that the development will not impact on the qualifying species from either Wicklow Mountains SPA or from Poulaphouca Reservoir SPA.

9.6. Elements of the Development likely to impact on Natura 2000 sites

9.6.1. Further consideration is to be given to the impact of the development on the Slaney River Valley SAC. The site location of the turbines will not impact on this SAC through lack of hydrological connection, and it is approximately 4.7 km from the SAC/ where the bridge crosses the River Slaney. It is therefore considered that the wind turbine site will not impact on any Natura 2000 sites and no further consideration of impacts on this element of the development need be considered.

9.6.2. It is primarily where the grid connection in the form of a cable crossing the River Slaney, which is a designated Natura 2000 site, that the potential for impact arises.

Potential indirect impacts during the development of the grid connection include:

- Increased siltation increasing run-off to the river.
- Nutrient release and/ or contamination.

- Increased traffic giving rise to damage to roadside drainage and sedimentation and there is potential for release of hydrocarbons into the river/ watercourses.
- Earthworks can give rise to sedimentation and material release to watercourses.
- Potential for dewatering during foundation construction and for the release of concrete during the construction of these foundations.
- Chemical spillage.

9.6.3. Development of the cable route may disturb otter during the construction phase. Works will take place during the day, with no works proposed at night. The construction phase in the vicinity of the river will be short taking up to three days. I note that alternative methods of river crossing are proposed if ducting within the bridge is not possible. These include directional drilling and the provision of overhead cabling.

9.6.4. Details on directional drilling are provided in Section 3. of Appendix 4 of the EIAR and Appendix 3.6 – '38kV Overhead Line Cable Route Methodology'. There is potential for the release of suspended sediment and nutrients during the use of each of these alternative methods of crossing the river and also potential for the release of bentonite during the use of directional drilling. Suitable mitigation measures have been provided for each of these river crossing methods.

9.6.5. There will be a requirement for excavations and removal of topsoil to undertake the proposed development of the gird connection route. The cable route will be completed in stages so as to reduce the extent of the impact on the area. No emissions to the air are foreseen. Traffic increases will be during the construction phase and will be limited in volume and length of time.

9.6.6. A total of four other wind farms are permitted in the area, however none of these are located within 15 km of the subject site. One solar farm in Friarstown, Co. Carlow is permitted and is circa 18 km from the subject site. Cumulative/ in-combination effects can be ruled out at this stage.

9.7. **Screening Determination:**

9.7.1. The proposed development was considered in light of the requirements of Section 177U of the Planning and Development Act 2000, as amended. Having carried out Screening for Appropriate Assessment of the project, it has been concluded that the

project individually could have a significant effect on European Site 000781 – Slaney River Valley SAC, in view of the site's Conservation Objectives, and Appropriate Assessment (and the submission of a NIS) is therefore required.

9.7.2. The applicant has submitted a NIS and this is considered in the next stage of this report.

9.8. Stage 2 – Appropriate Assessment (AA)

9.8.1. I am satisfied that the submitted NIS is in accordance with current guidance/ legislation/ best practice and the information included within the report in relation to baseline conditions and potential impacts are clearly set out and supported with sound scientific information and knowledge. The NIS examines and assesses the potential adverse effects of the proposed development on the Slaney River Valley SAC. As noted in the AA Screening, all other European designated sites can be excluded from the need for further assessment. The development of the wind turbines/ associated site works would not impact on any Natura 2000 sites and it is only the impact from the grid connection route on the Slaney River Valley SAC that is considered here.

9.8.2. Table 4.1 of the NIS includes a list of qualifying interests (Qis) and the impact-receptor pathway relevancy. Out of all of the Qis, Brook Lamprey, River Lamprey, Salmon and Otter were identified as relevant. The Brook and River Lamprey are located downstream of the crossing and Salmon and Otter are located throughout the SAC.

9.8.3. The proposed development may give rise to impacts as follows:

- Direct and indirect effects
- Short and long-term effects
- Construction, operational and deconstruction/ demolition effects and
- Isolated, interactive and cumulative effects.

9.8.4. Loss of habitat, disturbance to species, habitat/ species fragmentation, reduction in species density and changes to key indicators of conservation value such as the decrease in water quality/ quantity are identified as potential impacts. The

construction phase could give rise to sediments and other pollutants entering the watercourse and which would severely impact on the Qis.

9.8.5. Best practice will be undertaken during the construction phase of the development and an Outline Construction Method Statement (OCMS) and Environmental Management Plan (EMP) have been prepared in support of the application. The EMP is a preliminary document before the Construction Management Plan (CMP) is prepared and submitted to the Planning Authority for approval. A full time Environmental Clerk of Works will be employed during the construction phase of the development.

9.8.6. A 50 m buffer zone will be employed around all construction sites except where there are crossings of watercourses. Silt fencing will be provided in such areas to reduce the potential impacts on the watercourses. Further details are provided in Chapter 7 of the EIAR. Silt, nutrients, cement, hydrocarbons and chemicals are all considered in this section of the EIAR. A Drainage Monitoring and Water Quality Monitoring Plan will be put in place as further detailed in the EIAR. Monitoring will be carried out at times of heavy rainfall.

9.8.7. Watercourse crossings will be via the verge of the existing bridges and if this is not possible, alternative methods are considered such as directional drilling and/ or the use of elevated cables. Appendix 4 of the EIAR provides details on these alternative means of crossing the river and details potential impacts that are specific to these methods of river crossing. In addition, details are provided of suitable mitigation measures. Similar issues arise in both methods as in the provision of underground cabling/ ducting with potential for silt release, nutrient release, and also damage to river banks/ water channels. Careful site management and the implementation of best practice will address concerns.

9.8.8. Consultation was held with the applicant and the Fisheries Officer for the South East Region in relation to the proposed method of crossing of the identified watercourses along the grid connection route.

9.8.9. An ‘Integrity of the Natura 2000 sites within the Project Zone of Influence’ has been undertaken – Table 4.2 of the NIS. No negative impacts to the QIs are foreseen subject to the implementation of suitable mitigation measures.

9.8.10. I note the third reason for refusal as issued by Wicklow County Council in relation to water quality monitoring. This is an issue that can be addressed by way of condition. The AA Screening and NIS have clearly identified that the watercourses could be impacted by the proposed development with reference to siltation, nutrients, hydrocarbons, chemicals etc. and mitigation measures have been provided. I am satisfied that it is possible to provide for a suitable and robust form of water quality monitoring that would address the concerns of the Planning Authority. Alternative forms of crossing the river have been provided and whilst there may be a greater financial cost in using these, I am satisfied that directional drilling or supported cabling could be used without impacting on the watercourse, subject to the implementation of suitable mitigation measures. I am therefore satisfied that this reason for refusal can be addressed.

9.8.11. I consider the issue of protection of the watercourses to be more important than the form of water quality monitoring. This is the critical issue as the best form of monitoring available does not prevent negative impacts on water quality. I am satisfied that suitable measures can be employed to ensure the protection of the watercourses. This can be achieved through condition and agreement with the Planning Authority.

9.8.12. I have had full consideration of the information, assessment and conclusions contained within the NIS. I have also had full regard to National Guidance and the information available on the National Parks and Wildlife Service (NPWS) website in relation to the identified designated Natura 2000 sites. I consider it reasonable to conclude that on the basis of the information submitted in the NIS report, including the recommended mitigation measures, and submitted in support of this application, that the proposed development, individually or in combination with other plans or projects would not be likely to adversely affect the integrity of the Slaney River Valley SAC or any other Natura 2000 site, in view of the sites Conservation Objectives.

10.0 Planning Assessment

10.1. Principle of the Development

10.1.1. The proposed development consists of the following, in summary:

- The construction of 5 no. wind turbines with a maximum overall blade tip height of 165 m. Each turbine to include a transformer with associated hard standing areas. The development and relevant supporting information are based on the use of Nordex N131 turbines.
- The provision of one 38kV electrical substation and all associated infrastructure/ works.
- The provision of 20kV underground cables allowing for the connection of the turbines to a 38kV electrical substation and all associated infrastructure/ works.
- The provision of circa 6.5 km of 38kV underground cabling along public roads to facilitate the connection of the proposed 38kV wind farm electrical substation to the existing Stratford 38/ 110kV substation.

  The cabling/ connection is referred to as 'the grid route'.
- The provision of a heritage trail circa 1 km in length and which would include information signage, located at key heritage assets and parking areas.
- The replacement of the existing grass verge with a new 1-metre-wide footway at each bridge crossing also 'the grid route'. A total of three bridges are proposed to be crossed.
- New site access tracks and the upgrading of the existing tracks including all associated site works.
- The provision of one 30 m high metrological mast and all associated infrastructure/ works. This mast will be permanent.
- The provision of a temporary site compound and all associated works.
- All associated/ necessary site works.

10.1.2. This section of the assessment refers primarily to the land use planning aspects of the development, however there is inevitable repetition and crossover between this part of my report and the assessments of the EIA and AA. Full regard has been had to the original application, the appeal, the report of the Planning Authority and the

internal consultees, on the observations by prescribed bodies and on the observations made by third parties. I acknowledge again the considerable interest in this application.

10.2. **Design and Impact on the Character of the Area**

10.2.1. The proposed development provides for five turbines on the northern side of Kilranelagh, Cloghnagaune, Colvinstown Upper and Boleycarrigeen. The windfarm site is located on a hilly area of land that is currently covered in commercial forest. A substation is proposed to the west of the windfarm in Kilranelagh and a grid connection route along public roads extends westwards and then north to connect into the existing grid network at Stratford 38kV/ 110kV substation, adjacent to the N81 road.

10.2.2. The proposed substation, located on private lands and which is not visible to the public, is considered to be visually acceptable and would not impact on the character of the area. The proposed design will ensure integration with the surrounding lands, which primarily consist of conifer forests.

10.2.3. I have no concern about the design or visual impact of the grid connection route as the proposed cabling will be underground and not visible to road users etc. I do note the concerns about the physical impact of this element of the development on the structural integrity of the road/ its verge and the three bridges that are proposed to be crossed, however that is an issue for the Roads Authority to address through the Road Opening Licence process and also a suitable Bond Condition could be included if a grant of permission were issued.

10.2.4. I have no particular issue with the design of the wind turbines as there is very little difference in their appearance from one type to the other. The large turbines are of a standard design with a central mast/ support and three blades attached. The location of the turbines is of concern as this site has clearly been demonstrated in the EIAR to contain significant archaeology/ monuments. Comment was made in the EIAR that much of the smaller archaeological remains would have been disturbed by the development of the commercial conifer forest over the years. That may be true, and the undertaking of a comprehensive geo-physical survey is probably limited by these trees. The amount of known remains and physical structures does give rise

for concern that the site could be very rich in archaeology, and which may only be confirmed at construction stage on site.

10.2.5. The importance of the site is stated in the observations from UCC and UCD Archaeology Departments, but a number of the received observations confirm that the site is also important at a greater cultural level. The presence of burial grounds is of local importance, and I accept that the presence of structures of 165 m in height would significantly impact on the established character of the area. The growing of trees, generally of a non-domestic type, has changed the landscape in this part of County Wicklow, but these trees have provided a form of protection for the archaeology in the area.

10.2.6. From reading the submitted information, from the applicant and third parties including the prescribed bodies, I get the impression that the true extent and nature of the remains in this area are not fully understood. It may be possible that the quality/ importance of this area is overstated, however, there is no disagreement about the fact that the area does contain a number of sites of significance and that the proposed turbines are located amongst these sites. From the available information, Baltinglass, located to the south west, was an important settlement and the number of hillforts in the area confirms that.

10.2.7. I therefore consider that permission be refused for the development as it cannot be confirmed that the submitted proposal would not adversely impact on an area with a significant amount of archaeology present. To permit this development may result in an adverse impact on an important archaeological complex, the extent and nature of which is not fully understood to date. The applicant has not adequately demonstrated that the development would not adversely impact on this site and the surrounding lands.

10.3. Aviation Safety/ Military Operations

10.3.1. I have also commented on the potential impact on military aviation in the assessment of the EIAR. The Department of Defence were very clear in their submissions that the development of a windfarm in this location would have an adverse impact on the operations of the Air Corps and the Army in this area. The Glen of Imaal is a significant area used for the training of the army and aircraft, both fixed wing and

helicopters are used in the training programme and the subject site is on the approach to this area.

10.3.2. The submitted information in the EIAR does not adequately address the use of the area by military aviation. From the available information supplied by the Department of Defence, there are not many such areas in operation within this country and the submitted applicant and appeal fails to adequately consider/ acknowledge such activity. The Irish Aviation Authority have reported no objection to the development subject to conditions, however the Department of Defence state in their reports that military aviation does not have to abide with IAA rules in areas such as this. A refusal of permission is recommended as the development would impede the operations of the Irish Air Corps in this area.

10.4. **Other Issues**

10.4.1. A significant number of objections to this proposed development were received and the majority of the issues have been covered in the various sections of this report, mostly under the section on EIAR. The following issues address some of the issues not covered.

- Impact on Ballinroan Stud: I have no reason to believe that the development, if permitted, would impact on a nearby stud. Disruption would be for a relatively short period of time, and I do not foresee any adverse impact on the operation of the stud.
- Comment was made on the potential power output and the need for the proposed development. I can only go by the information provided in the application, and the stated power output as expressed in the supporting documentation. Justification for the development has been provided in the application and the EIAR and it remains national policy to promote/ develop the use of renewal forms of energy. Wind turbines based on land have been proven to be an efficient source of renewable energy.
- Concerns about Ice build-up in winter and fires from combusting lubrication oil are noted. These would be very rare events and would suggest that the turbines are not operating in an efficient manner. It is not beneficial for the developer/ future operator to provide a windfarm that is not operating to its optimum capacity.

- Concern was expressed about the preparation/ lodging of the application during periods of lockdown due to Covid19. I note the comments, however the planning process did not pause during the various lockdowns and there was no restriction on the lodging of applications during these times.
- Public consultation is not required before lodging a planning application and I do note that the applicant did make some effort to engage with people/ relevant groups in the area. The nature of this development is such that consultation could be required for a large area due to the impact of the development on visual amenity.
- I note the concerns of Inland Fisheries Ireland in relation to impacts from the development of trackways within the existing commercial forest. This is not an issue for consideration in this appeal and it not relevant to the proposed development.

10.4.2. Concern was raised by third parties about the nature of the heritage trail, and I agree that insufficient information has been provided about this, especially in terms of its long-term operation. This appears to be included as a form of planning gain for the local community, but its use may be sporadic and could cease to function over time. I accept that it is not a critical part of the proposed development, but I would query its benefit to the local community.

10.5. **Turbine Type**

10.5.1. Throughout the application, and the submitted EIAR, the details and description of the proposed turbines are based on the use of Nordex N131 model. These have a blade tip height of 165 m, but it is suggested throughout, that an alternative model may be used with similar dimensions, blade tip height and power output. This is dependent on tendering for the development, timeframes and available technology at the time of ordering.

10.5.2. It is therefore considered that should the Board be of the opinion that the proposed development is acceptable, I recommend that further information be sought prior to the grant of permission requiring the applicant to confirm the exact nature and extent of the development for which permission is sought, by reference to plans and particulars which describe the works to which the application relates, in compliance with the relevant provisions of the Planning and Development Regulations, 2001 (as

amended). Alternatively, if a range of options is sought the applicant should clearly indicate in the application documentation the detail of all such options and confirm that each option has been fully assessed within the application documentation including within the EIAR and/or NIS as appropriate.

10.6. **Overall Conclusion:**

10.6.1. There is support/ acknowledgement throughout the third-party submissions and the reports of the prescribed bodies for the development of windfarms/ renewable sources of energy. The need to move away from fossil fuels is accepted, however the suitability of the site is of concern and refusal for the development was recommended in most cases. I have had full regard to details provided in the submitted applicant, including the EIAR/ NIS and all supporting documentation and the subsequent appeal documents. I have also had full regard to the reasons for refusal as issued by the Planning Authority.

10.6.2. I have had full regard to National Policy which promotes the development of renewable forms of energy. However, I am not satisfied that the subject site is suitable due to:

- Potential negative impacts to the archaeological and cultural heritage of the area, especially adjacent to the proposed locations of the wind turbines.
- Insufficient consideration has been given to the impact of the development on military aircraft movements which take place in this area due to the presence of Coolmoney Camp and the Glen of Imaal training area.

It is therefore recommended that permission be refused for the proposed development for these reasons.

11.0 **Recommendation**

I recommend that the planning application be refused for the following reasons and considerations.

12.0 **Reasons and Considerations**

1. It is considered that the archaeological and cultural heritage significance of the lands adjoining the locations of the turbines is such that any development of the site in advance of a comprehensive archaeological assessment, carried out to the

requirements of the appropriate authorities, would be premature and would, therefore, be contrary to the proper planning and sustainable development of the area.

2. The site location for the proposed windfarm, where it is proposed to construct five turbines with a maximum blade tip height of 165 metres, is within an area designated by the Department of Defence as of critical importance for Air Corps operational requirements. The wind farm is located within Military Operating Area 3 which is used for the safe holding of aircraft before entering EI-D5 – a live firing round area. The proposed development at Kilranelagh will negatively impact the ability of Irish Air Corps aircraft to operate on and in the vicinity of Coolmoney Camp, which lies within 1.57 to 2.65 Nautical Miles of the subject site, an Air Firing Range and a larger training area in the Glen of Imaal, used for low level flight training and as an air firing range, and the proposed development, which is located on high ground immediately to the South west of Coolmoney camp, could negatively impact on any future instrument approach 'go around' and instrument departure at the camp. Therefore, the proposed development would endanger or interfere with the safety of aircraft or the safe and efficient navigation thereof and would be contrary to the proper planning and sustainable development of the area.

Paul O'Brien
Planning Inspector

17th December 2021