



An  
Bord  
Pleanála

## Inspector's Report ABP-301852-18.

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<b>Development</b>	A windfarm of 10 turbines and associated works.
<b>Location</b>	Ballyhorgan South and East, Irramore, Lissahane, Muckenagh Co. Kerry.
<b>Planning Authority</b>	Kerry County Council.
<b>Planning Authority Reg. Ref.</b>	14/13.
<b>Applicant(s)</b>	Stacks Mountain Windfarm Ltd.
<b>Type of Application</b>	10 Year Permission.
<b>Planning Authority Decision</b>	Refuse.
<b>Type of Appeal</b>	Third Party
<b>Appellant(s)</b>	Stacks Mountain Windfarm Ltd.
<b>Observer(s) Appeal Stage</b>	<ol style="list-style-type: none"><li>1. Dromclough National School Parents Association.</li><li>2. John O'Donoghue &amp; Loreto Wier.</li><li>3. Liam, Michael, Louise, Eileen Somers.</li><li>4. Drumclough National School.</li><li>5. Sinn Fein Advice Clinic.</li></ol>

6. An Taisce – Kerry Association.
7. Aidan Galvin.
8. Aidan Linnane.
9. North Kerry Wind Turbine Awareness Group.
10. John O'Sullivan.
11. Cllr. John Brassil.

**Observer(s) S132 Further Information  
October 2015**

1. Drumclough National School.
2. An Taisce – Kerry Association.
3. Aidan Linnane.
4. North Kerry Wind Turbine Awareness Group.
5. John O'Sullivan.
6. Banemore Residents Association.
7. Mary Browne.

**Observer(s) S132 Further Information  
June 2020**

1. Drumclough National School.
2. Drumclough National School Parents Association.
3. John O'Sullivan.
4. North Kerry Wind Turbine Awareness Group.
5. Aidan Linnane.
6. Mary Browne.
7. An Taisce.
8. Joe Harrington and Kay O'Leary.
9. Donal Hunt.
10. Banemore Residents Association.

**Date of Site Inspection**

20<sup>th</sup> February 2019 and 10<sup>th</sup>  
September 2021.

**Inspector**

Karen Kenny.

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**NOTE: This addendum should be read in conjunction with the Inspector's Reports dated 28<sup>th</sup> May 2015 and 24<sup>th</sup> March 2016 and the Inspector's Memo dated 29<sup>th</sup> March 2019.**

## **1.0 Introduction to Addendum Report**

- 1.1. An application for planning permission for a wind farm development comprising 10 no. turbines was lodged with Kerry County Council on 16<sup>th</sup> January 2014. The application was accompanied by a Planning Report, Drawings, Letters of Consent, Environmental Impact Statement (EIS), Appropriate Assessment Screening Report (titled Natura Impact Statement) and Photomontage's. Further information submitted to Kerry County Council on the 25<sup>th</sup> of July 2014 included new ecological data and a Natura Impact Statement. On the 8<sup>th</sup> of October 2014 Kerry County Council issued a decision to refuse permission for the proposed development for the following reason:

*"Having regard to the size and scale of the proposed turbines relative to the nature of the receiving environment of hilly and flat farmland, it is considered that a windfarm development of the scale proposed would create a significant visual intrusion in this landscape by reason of the height and spatial extent of the proposed turbines which are to be excessively dominant and visually obtrusive when viewed from the surrounding countryside and villages. The proposed windfarm would have a significant impact on the value and character of the landscape in the area and would seriously injure the amenities and quality of life of communities and individuals who dwell in the area. The proposed development would, therefore, seriously injure the visual amenities of the area, would be contrary to the provisions of the Wind Energy Guidelines for Planning Authorities, DoEHLG, 2006 and would be contrary to the proper planning and sustainable development of the area."*

- 1.2. The applicant lodged a first party appeal against the decision of Kerry County Council on the 4<sup>th</sup> of November 2014 (Appeal Ref. PL08.244066). A total of 11 no. observations were received from third-parties in response to the appeal. The Board considered the case (inc. Inspectors Report) at a meeting on the 1<sup>st</sup> of July 2015. It was decided to defer consideration of the case and in accordance with Section 132 of the Planning and Development Act 2000 (as amended) to request further information (Board Order dated the 27<sup>th</sup> of August 2015). The Section 132 request

drew the applicant's attention to the findings of a High Court Judgement<sup>1</sup> that found that a grid connection forms an integral part of the overall windfarm development and that it is necessary to consider the cumulative effects of the windfarm development and the grid connection in order to comply with the EIA Directive. The applicant submitted a response to the request for further information on the 27<sup>th</sup> of October 2015, which included a Natura Impact Statement addendum and an Environmental Impact Statement addendum both of which related to the grid connection. The updated information was circulated to observers and submissions / observations were invited from the public (via site and newspaper notices). A total of 7 no. submissions / observations were received from third parties. On the 15<sup>th</sup> of July 2016, the Board gave its decision to grant planning permission for the wind farm.

- 1.3. A third-party observer was granted leave to apply for judicial review in respect of the Board's decision on the 10<sup>th</sup> of October 2016. Mr. Justice Brian J. McGovern of the High Court determined that the applicant was not entitled to an order of certiorari on any of the grounds of legal challenge raised. This decision was appealed to the Supreme Court. A decision of the Supreme Court dated March 2018, quashed the decision of An Bord Pleanála. The Supreme Court ordered that the matter be remitted back to the Board with the Court noting the agreement of the parties that the case be considered in accordance with the principles set out in the judgement of the High Court in the case of Kelly v An Bord Pleanála 2014 IEHC 400.
- 1.4. The Board requested an Addendum Report from the inspectorate on the 23<sup>rd</sup> of November 2018 that re-evaluates the Screening for Appropriate Assessment and / or Appropriate Assessment in the context of the information on file, the passage of time, the requirement for additional information and further clarification, and the implications of recent court judgements on the subject. Having carried out a review of the information on the file and a site inspection, a memorandum from the inspector dated the 29<sup>th</sup> of March 2019 recommended that an updated Appropriate Assessment Screening Report, updated Natural Impact Statement and updated Environmental Impact Statement be requested. The Board considered the case and the memorandum at a Board meeting held on the 31<sup>st</sup> of May 2019. It was decided to defer consideration of the case and in accordance with Section 132 of the

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<sup>1</sup> Pol O Grianna and Others v An Bord Pleanála

Planning and Development Act 2000, as amended, to request the applicant to furnish further information in relation to the effects on the environment of the proposed development. A statutory notice was issued pursuant to Section 132 of the Act on 7<sup>th</sup> June 2019. The applicant responded to the notice on the 16<sup>th</sup> of June 2020 submitting the following documents:

- Environment Impact Assessment Report,
- Appropriate Assessment Screening Report,
- Natura Impact Statement,
- New Planning Drawings, and
- New Photomontage Images.

The updated information was circulated to observers and submissions / observations were invited from the public (via site and newspaper notices) over a five week period beginning on the date of receipt by the Board of the updated information. A total of 10 no. submissions / observations were received from third parties.

- 1.5. A Board Order dated the 21<sup>st</sup> of October 2020, requested an addendum report from the Inspectorate. Having regard to the passage of time since the original assessments and changes in policy at national and regional level the addendum report includes a new site description; development description, planning history; policy context, Environmental Impact Assessment, Appropriate Assessment and a supplementary Planning Assessment (addressing new matters).

## **2.0 Site Description**

### **2.1. Context and Topography**

- 2.1.1. The appeal site is located in the townlands of Ballyhorgan South and East, Irramore, Lissahane, and Muckenagh in County Kerry. The site is in a lowland rural area situated c. 5km southwest of the town of Listowel and around 2.5km east of the village of Lixnaw. Finuge is a smaller settlement focused on a crossroads that is c. 1.4 km northeast of the nearest turbine. Dromclough is a more dispersed settlement located to the southeast of the site with a school and church within 1.5 km of the nearest turbines.



- 2.1.2. The site is located in a plain that runs from Listowel in a southwest direction to Ballyheigue Bay, containing the settlements of Listowel, Finuge Lixnaw, Abbeydorney and Ardfert. Tralee is at the southern end, where the plain meets the sea. This plain is framed to the northwest by the coastal high ground running east from Kerry Head and to the Southeast by the Stacks Mountains.
- 2.1.3. The site sits between the N69 and the R557 two parallel roads that run from Listowel to Tralee. The N69 passes to the east and south of the site at the foot of the Stacks Mountains. The R557 passes to the north and west of the site. The L6055 local road between the N69 and the R557 passes through the eastern part of the site. There are other local roads and cul-de-sacs around the site. The River Feale runs to the north of the site where it flows between the town of Listowel and the coast.
- 2.1.4. The area around the site and outside of the small settlements is characterised by agricultural land uses with intermittent bogland and a small amount of commercial forestry. There is also dispersed housing in the area much of which is of relatively recent construction.

## 2.2. Site Characteristics

### Windfarm Site

- 2.2.1. The windfarm site is an irregular shaped site with a stated area of 97.28 hectares. It comprises an amalgam of landholdings and is crossed by public roadways. This site encompasses the proposed turbines and associated infrastructure. The site area was amended in the documents submitted to An Bord Pleanála on 27<sup>th</sup> October 2015 in response to a request made under Section 132 of the Planning and Development Act 2000, as amended, to include the grid connection route which extends along the public road network to a substation that is 11.1 km south of the site. The site is varied in terms of its character. It surrounds an area of intact raised bog that is bordered by a significantly larger area of cutaway bog. The proposed location for T10 is at the fringes of this intact bog (slight encroachment), whereas T2, T5 are within the cutaway bog. T1, T4 and T5 are on marginal land bordering the cutaway bog. T3, T6, T7, and T8 are in agricultural fields of varying quality. T9 is in an area of forestry.

2.2.2. The site and the lands to the north are generally level. To the immediate southeast of the site at Knockreagh and Knockburrane, the land rises and there are raised views across the site from housing and public roads in this area.

### 2.3. **Grid Connection**

2.3.1. The site (as amended) incorporates the proposed grid connection route (38 kV underground electricity cable) between the windfarm site and an existing electricity substation at Reamore to the south that is in the upland area of the Stack's Mountains. The grid connection will run from a proposed substation within the site east to the proposed site entrance in the townland of Lissahane; the cable route will run from the site south along a local road for c. 1.7 km before turning southwest and then south at Knockburrane Crossroads; the cable route will continue along the local road in a southerly direction (crossing the N69 National Road in the townland of Banemore) for c. 6.4 km before turning east in the townland of Lyracrumpane; the cable route will run south along a local road for c. 4.4 km before turning southwest at Reanagowan Cross Roads and continuing for c. 3.1 km and connecting to the existing 110 kV Reamore substation. The Reamore substation is c. 11.1 km south of the windfarm and the grid connection will extend over a length of c. 16.7 km along the public road network. The grid connection is partly within the designated area of the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (Site Code: 004161). The route crosses watercourses at two locations that are part of the designated area of the Lower River Shannon SAC (Site Code 002165).

## 3.0 **Proposed Development**

3.1. The scheme consists of works that were summarised in the original inspector's report dated 28<sup>th</sup> May 2015 as follows:

- The erection of 10 turbines with a tip height of 'not more than' 156.5m. The applicants have presented the proposal in terms of the permitted tip height setting a permitted 'envelope' for the scheme, such that any combination of hub heights and rotor diameters might be implemented by the applicant within this upper bound.

- The proposed turbine locations are linked by a u-shaped roadway consisting of some new roads, some existing bog roads (to be upgraded), and a short section of the L6056 public road. This route interfaces with the public road network at four points where it crosses or joins the L6056 and L6066. The main site access point would be at the L6066 and from the N69.
- The proposed site infrastructure is clustered along the internal roadway, including a number of peat disposal areas – notably around T5, a met mast location, the proposed substation, and temporary construction compound to the west of the L6056, just south of T7. A large borrow pit is proposed off a spur road to the south of T5, in the north-facing slope of the hillside.
- The applicant anticipates that the proposed turbines would have a rated electrical power output in the 3MW ‘range’ giving an estimated installed capacity of 30MW (EIS Section 3.4.1.6). As per the appeal submission, the scheme would have a nominal output of 25.3MW. The grid connection would be via an existing ‘Gate 3’ connection offer connected with Reamore electricity substation, 11.1km to the south, in the Stacks Mountains (as per appeal submission).

3.2. The further information received by the Board on 27<sup>th</sup> October 2015 amended the scope of the original application to include a proposed grid connection to an existing electricity substation at Reamore to the south of the main windfarm site<sup>2</sup>. The revised site boundary extends along the public road network until it enters the substation site at Reamore.

3.3. The further information received by the Board on 16<sup>th</sup> June 2020 seeks to further amend the proposed development and includes an alternative layout for the Boards consideration as follows:

- During the new 2020 scoping process for the EIAR, two new telecommunication links were identified crossing the site. These telecommunication links are in conflict with the locations of Turbines 1 and 7. To resolve this conflict the location of proposed Turbine 1 has been moved

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<sup>2</sup> Planning Inspectors Memo 29<sup>th</sup> March 2019 stated in error that consent is not sought for a connection to the national grid as part of the subject application. A more comprehensive review of further information received by the Board on 27<sup>th</sup> October 2015 indicates that the application was amended to incorporate the grid connection.

approximately 100 metres to the south-west of its previous location, and the location of proposed Turbine 7 has been moved approximately 50 metres to the south east of its previous location.

- The further information received by the Board includes an alternative 7 turbine layout. The submitted documents state that the proposed 10 turbine layout has been designed in accordance with the current Wind Energy Guidelines (2006) and is designed to respect the minimum setback distance of 500 metres from 3<sup>rd</sup> party properties detailed in the guidelines. It is noted that the Draft Wind Energy Guidelines (2019) includes a provision that no turbine should be located closer than 500 metres from involved properties and that a minimum setback of four times the turbine tip height be achieved for all third party properties. Based on the proposed tip height a minimum setback of 626 metres is proposed would be required in this instance. Should the revised guidelines come into force, as proposed, during the planning application process, an alternative seven turbine layout is provided that achieves the setback requirements set out in the draft guidelines. The alternative layout omits Turbines 6, 8 and 9 and the associated access infrastructure for those turbines. The amended 10 turbine layout and the alternative 7 turbine layout are assessed in full in the submitted EIAR.

## 4.0 Planning History

- 4.1. The appeal parties make reference to a large number of existing and permitted windfarms in the North Kerry area. The EIAR in Section 2.7.3.1 (Tables 2-2 and 2-3) sets out a planning history of windfarm developments within a 20 km radius of the site in County's Kerry and Limerick.

The upland areas to the south and south-east of the site that form part of the Stacks Mountain range contain a number of windfarms. The closest windfarms to the appeal site include: a 26 no. turbine development at Pallas that is situated c. 3 km south east of the main windfarm site<sup>3</sup> (PA Ref. 01/2720); a 4 no. turbine development at Kilflynn located c. 5 km south east of the appeal site (PA Ref. 03/1749); a 5 no. turbine development at Cloghaneleskirt located c. 6 km south east

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<sup>3</sup> Main windfarm site excluding grid connection.

of the appeal site (PA Ref. 03/1264); a 6 no. turbine development at Beennageeha located c. 7 km south of the appeal site (PA Ref. 98/487); a 31 no. turbine development at Tursillagh located c. 10 km south of the appeal site (PA Ref.'s 97/1865 and 01/390); a 16 turbine development at Ballincollig Hill located c. 10 km south of the appeal site (PA Ref. 02/3135), a 21 turbine development at Knocknagoum / Muingnamiane located c. 10 km south of the appeal site (01/635); and a 20 turbine development (approx.) at Cahercullanagh located c. 10 km south of the appeal site (03/1284, 05/3286 and 07/595).

There have been a number of permissions granted for windfarm developments on lower lying lands to the north of Listowel. This includes a recently permitted 6 no. turbine development at Ballylongford located c. 12 km north of the appeal site (19/381 and ABP Ref. 304807-19); and a constructed 13 no. turbine development at Tullahennel located c. 12 km to the north of the appeal site (08/2086, 08,2500 and 09/1175 and extended under 15/679 and 17/1146).

The Board made a determination in July 2021 in respect of a pre-application consultation under the Strategic Infrastructure Development process (ABP Ref. 309013-20) that a proposal for a windfarm development comprising 10 no. turbines of approximately 5.6 megawatts each on lands to the north of Lixnaw village and in townlands of Dysert Marshes, Curraghcroneen and Ballynagare, Co. Kerry is not Strategic Infrastructure Development.

I refer the Board to full and detailed history set out in the EIAR.

- 4.2. Table 2-4 and 2-5 of the EIAR set out an overview of planning applications on lands around the windfarm site and grid connection route.

The following permissions in the vicinity of the windfarm site may be of note: PA Ref. 15/694 for material change of use from nursing home to veterinary clinic; PA Ref. 16/480 for construction of a slatted cubicle house; PA Ref. 18/102 for a dwelling on lands c. 300 m south of the site; PA Ref. 19/356 for alterations to an existing

dwelling; PA Ref. 18/1050 for a dwelling house on lands c. 500m west of the site; PA Ref. 19/601 for a slatted cubicle house.

The following permissions in the vicinity of the grid connection route may be of note: PA Ref. 15/1044 / ABP 08.246205 for construction of grid connection and short access track for Cloghaneleskirt wind farm; PA Ref. 16/408 for refurbishment of Glen School (PS) and extension for use as local heritage centre / museum; PA Ref. 17/1295 for construction of an extension to the existing 38kV electricity substation at Reamore / Muingnaminnane to include 2 no. battery storage units; PA Ref. 18/374 / ABP Ref. 302990 for construction of battery storage compound adjacent to the existing substation at Reamore / Muingnaminnane with up to 10 no. container units.

## **5.0 Legislative and Policy Context**

### **5.1. European and National Policy Context**

#### **5.1.1. Renewable Energy Directive (Directive 2009/28/EC)**

The European Union Directive on the Promotion of the Use of Energy from Renewable Sources (Directive 2009/28/EC) was adopted on 23rd April 2009. It establishes the “20-20-20” targets as follows:

- a minimum 20% reduction in greenhouse gas emissions based on 1990 levels,
- 20% of overall EU energy consumption to come from renewable sources by 2020,
- 20% reduction in primary energy use compared with projected levels to be achieved by improving energy efficiency.

Under the terms of the Directive, each Member State is set an individually binding renewable energy target, which will contribute to the achievement of the overall EU goal. The Directive legally obliges each Member State to ensure that the target is met. It further requires that each Member State publish a national renewable energy action plan outlining how these binding commitments would be met and to submit the plan to the European commission.

The 2020 target for Ireland was to source 16% of all energy consumed from renewable resources to be met by 40% from renewable electricity, 12% from renewable heat and 10% from the renewable transport sector. The pathways to achieve this are set out in the National Renewable Energy Action Plan.

#### 5.1.2. Revised Renewable Energy Directive 2018/2001/EU (January 2019)

It sets out a new target for share of energy from renewable sources in the EU to at least 32% for 2030, with a review for increasing this target through legislation by 2023. A major shift within the revision is the way in which Member States will contribute to the overall EU goal. Where previously (for 2020 target) member states had an individual national binding target, the 2030 framework is solely based on an EU-level binding target of 32 per cent. It requires Member States to set national contributions to meet the binding target as part of their integrated national energy and climate plans. Ireland has submitted a NECP to the EU in 2019.

#### 5.1.3. National Planning Framework Project Ireland 2040 (2018)

The National Planning Framework – Project Ireland 2040 is a high-level strategic plan for shaping the future growth and development of Ireland to 2040. The NPF sets out a vision for Ireland to 2040, expressed through ten National Strategic Outcomes (NSO). National Strategic Outcome 8 is to “Transition to a Low Carbon and Climate Resilient Society”. The NPF acknowledges that Ireland’s energy policy is focussed on the pillars of sustainability, security of supply and competitiveness. Section 9.2 states that “In the energy sector, transition to a low carbon economy from renewable sources of energy is an integral part of Ireland’s climate change strategy and renewable energies are a means of reducing our reliance on fossil fuels.” It is an objective that: “40% of our electricity needs will be delivered from renewable sources by 2020 with a strategic aim to increase renewable deployment in line with EU targets and national policy objectives out to 2030 and beyond.” National Policy Objective 55 is to “Promote renewable energy use and generation at appropriate locations within the built and natural environment to meet national objectives towards achieving a low carbon economy by 2050.

#### 5.1.4. Draft Revised Wind Energy Development Guidelines (2019)

The interim Guidelines do not replace or amend the existing Wind Energy Development Guidelines 2006, but it is intended that the administrative provisions contained therein will be incorporated into the revisions to the 2006 Guidelines when finalised. The key aspects of the preferred draft approach are:

- The application of more stringent noise limits, consistent with World Health Organisation noise standards, in tandem with a new robust noise monitoring regime, to ensure compliance with noise standards:
- A visual amenity setback 4 times the turbine height between a wind turbine and the nearest residential property, subject to a mandatory minimum distance of 500 metres between a wind turbine and the nearest residential property.
- The elimination of shadow flicker, and
- The introduction of new obligations in relation to engagement with local communities by wind farm developers along with the provision of community benefit measures.

#### 5.1.5. Wind Energy Development Guidelines for Planning Authorities (2006)

The guidelines provide advice on wind energy development in terms of the Development Plan and development management processes. Guidance is given on matters such as noise, shadow flicker, natural heritage, archaeology, architectural heritage, ground conditions, aircraft safety and wind take. Whilst a setback distance is not established, it is stated that noise is unlikely to be a significant problem where the distance to the residential property is more than 500m. In respect of noise, the recommended standard is a lower fixed limit of 45dBA or a maximum increase of 5dBA above background noise at nearby noise sensitive locations, apart from very quiet areas where the daytime level is limited to 35-40dB(A). A night time limit of 43 dB(A) is recommended. In terms of shadow flicker, the recommended standard is a maximum of 30 hours per year or 30 minutes per day for dwellings and offices within 500m. It is further stated that at distances of greater than 10 rotor diameters, the potential for shadow flicker is very low. Chapter 6 provides guidance on siting and



design of wind energy development in the landscape. This includes advice on siting, spatial extent and scale, cumulative effect, spacing of turbines, layout of turbines and height of turbines. Advice is also given regarding landscape character types as a basis for the application of the guidance on siting and design.

#### 5.1.6. Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement (DCCAE, 2016)

In December 2016, the DCCAE published a Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement. The Code cites ten key areas for delivery on the part of wind energy developers and includes measures relating to the various project phases and a guide regarding annual reporting.

#### 5.1.7. Climate Action Plan 2019

The Climate Action Plan 2019 sets out an ambitious course of action over the coming years to address the impacts which climate change may have on Ireland's environment, society, economic and natural resources. The decarbonising of the electricity sector and harnessing our significant renewable energy resources is a key aspect of the strategy. It sets a target of increasing electricity generated from renewable sources to 70% by 2030 to include offshore renewable energy, solar and increased onshore wind capacity. Regarding agriculture, forestry and land-use sector, it is proposed to better manage peatlands and soils to deliver carbon abatement from land-use. It is noted that peatlands cover 21% of the State's land area and accounts for 64% of its total soil organic carbon stock, but is very vulnerable to drainage from forestry, grazing and extraction.

#### 5.1.8. National Mitigation Plan 2017

The National Mitigation Plan was published in July 2017 as required under the Climate Action and Low Carbon Development Act 2017. It outlines a range of measures to lay the foundations for transitioning Ireland to a low carbon, climate

resilient and environmentally sustainable economy by 2050. It recognises that Ireland has abundant, diverse and indigenous renewable energy resources which will be critical to decarbonising our energy system, including electricity generation. Onshore wind has to date been the most competitive renewable energy technology in Ireland, accounting for 22.8% of electricity generation in 2015. With regard to wind energy and meeting targets, the National Mitigation Plan states: “To date, wind energy has been the largest driver of growth in renewable electricity. The total amount of renewable generation connected to the national grid at December 2016 was 3,120MW, of which wind generation was approximately 2,796 MW, hydro was 238MW and biomass was 86MW. EirGrid estimates that a total of between 3,900MW and 4,300MW of onshore renewable generation capacity will be required to allow Ireland to achieve 40% renewable electricity by 2020. This leaves a further requirement of between 780MW and 1,180MW to be installed by 2020 if the 2020 electricity target is to be reached”.

#### 5.1.9. National Landscape Strategy for Ireland, 2015-2025

This document seeks to integrate landscape into our approach to sustainable development, carry out an evidence-based identification and description of landscape character, provide for an integrated policy framework to protect and manage the landscape and to avoid conflicting policy objectives.

#### 5.1.10. Other Policy Documents

- The EU Energy Directives are supported by roadmaps and strategies including the EU Green Deal a set of policy initiatives with the overarching aim of making Europe climate neutral in 2050 and with a target for 2030 for greenhouse gas emission reductions to at least 50% (and towards 55%) compared to 1990 levels.
- Renewable Energy Policy and Development Framework DCENR, 2016
- Ireland’s Transition to a Low Carbon Energy Future, DCENR, 2015-2030
- Climate Action and Low Carbon Development Act 2015

- White Paper – Transition to a Low Carbon Energy Future for Ireland 2015-2030
- Government Policy Statement on the Strategic Importance of Transmission and Other Energy Infrastructure, DCENR, 2012
- Strategy for Renewable Energy 2012-2020 (DCENR 2012)
- National Renewable Energy Action Plan 2010
- EU Directives on Flooding and the Water Framework Directive.
- EU Guidance (2013) Wind Energy Developments and Natura 2000 Sites.

## 5.2. Regional Policy

The Regional Planning Guidelines 2010-2022 have been superseded by the Regional Spatial and Economic Strategies (RSES). The RSES for the Southern Regional Assembly Area (2020) recognises the need to safeguard and enhance the environment through sustainable development and to transition to a low carbon and climate resilient society. Supporting Regional Policy Objectives include objectives to reduce greenhouse gas emissions (RPO 87), to support the National Mitigation Plan and the National Adaptation Framework: Planning for a Climate Resilient Ireland (NPO 88), and to support the sustainable development of renewable wind energy (RPO 99). The RSES recognises and supports the many opportunities for onshore wind as a major source of renewable energy.

## 5.3. Kerry County Development Plan 2015-2021

This plan was adopted on 16<sup>th</sup> February 2015, subsequent to the initial decision of the PA, submission of the appeal to the Board, and the closing date for submissions in respect of the appeal. The 2015-2021 plan was the operative plan at time of the Inspector’s initial assessment and the Boards initial consideration of the appeal. The 2015-2021 County Development Plan is under review but remains the extant statutory plan for this area. The following provisions are considered to be relevant.

Section 7.6 relates to ‘Energy/Power Provision’. The stated aim of this section is “*To support and provide for the sustainable development of indigenous energy resources,*

*with an emphasis on renewable energy supplies, in the interests of economic progress and the proper planning and sustainable development of the county”.*

EP-1 Support and facilitate the sustainable provision of a reliable energy supply in the County, with emphasis on increasing energy supplies derived from renewable resources whilst seeking to protect and maintain biodiversity, archaeological and built heritage, the landscape and residential amenity. [Objective EP-7 covers a similar theme].

EP-3 Facilitate sustainable energy infrastructure provision, so as to provide for the further physical and economic development of the County.

EP-4 Support and facilitate the sustainable development of enhanced electricity and gas supplies, and associated networks, to serve the existing and future needs of the County.

EP-7 Facilitate the sustainable development of additional electricity generation capacity throughout the region/county and to support the sustainable expansion of the network. National grid expansion is important in terms of ensuring adequacy of regional connectivity as well as facilitating the development and connectivity of sustainable renewable energy resources.

Objective EP-11: Implement the Renewable Energy Strategy for County Kerry (KCC 2012).

Section 1.8 of the Plan which lists Section 28 Guidelines states the following:

*“The DEHLG is currently revising the National Wind Energy Guidelines. It is the intention of the Planning Authority to review its Renewable Energy Strategy (RES) following the completion of the revised National Wind Energy Guidelines.”*

Section 7.6.2, which deals with Renewable Energy specifically states the following:

*“Due to the fact that the planning permission for 402 turbines have been granted and 216 of them remain to be constructed, the majority of which are located in the Municipal Districts of Tralee and Listowel the most densely populated rural area in western Europe , planning for windfarms in areas open to consideration in the Tralee and Listowel Municipal Districts will only be considered when the areas designated as*

*Strategic have been developed to their capacity and the effect of such development can be fully quantified or when the existing turbines in the areas zoned as strategic are considered obsolete have been replaced due to technological advancements by modern turbines producing multiple outputs of energy in comparison to existing turbines.*

This statement is reflected in objective EP-12.

EP-12 Not to permit the development of windfarms in areas designated “open to consideration” in the Tralee and Listowel Municipal Districts until 80% of the turbines with permissions in those areas, on the date of adoption of the Plan, have either been erected or the relevant permission has expired or a combination of both and the cumulative affect of all permitted turbines in the vicinity of the proposal has been fully assessed and monitored.

Chapter 10 contains objectives relating to the protection of the Natural Environment. Objectives NE11 and NE12 relate to requirements of the Habitats Directive. NE-13 is to maintain the conservation value and integrity of NHA's, pNHA's and Nature Reserves; NE-14 relates to the protection of species of plants listed in the Flora Protection Order (S.I. No. 94 of 1999), species protected under the Habitats Regulations (S.I. No. 94 of 1997, 233 of 1998 and 378 of 2005) and animal and bird species protected under the Wildlife Acts 1976-2000 (including the habitats of all species). NE-15 and 16 relate to the implementation of River Basin Management Plans and seek to ensure that development shall not contravene the objectives of the Water Framework Directive, the European Communities Environmental Objectives (Surface Waters) Regulations 2009 SI 272 of 2009 and the European Communities Environmental Objectives (Groundwaters) Regulations 2010, SI 9 of 2010. Objective NE-20 seeks to ensure that development is not permitted where it would have an unacceptable and significant impact on the water resource of the area, including surface water and groundwater quality and quantity, any fish bearing watercourse, riparian zone, river corridors and associated wetlands of significance, while Objective NE-22 relates to the protection of rivers, streams and other watercourses. Objective NE-30 is to have regard to the provisions of the (draft) National Peatlands Strategy, the (draft) National Raised Bog Special Areas of Conservation (SAC) Management Plan and a Review of Raised Bog Natural Heritage Areas (NHAs). Objective NE-44

require, where necessary, that proposals are accompanied by a habitat map prepared in accordance with the Heritage Councils Best Practice Guidance for Habitat Survey and Mapping, 2011.

Chapter 11 sets out objectives relating to the protection of built and cultural heritage. Objective H-26 seeks to secure the preservation of all sites, features and objects of archaeological interest within the County. Objective H-28 is to ensure the protection and preservation of unrecorded archaeological monuments and features. H-29 is to ensure that development (including renewable energy developments) within the vicinity of a recorded monument, zone of archaeological potential or archaeological landscape does not detract from the setting of the feature. Objective H-27 is to ensure that developments that may impact on archaeological heritage are subject to an Archaeological Assessment.

Chapter 12 sets out objectives relating to the protection of landscapes and other spatial designations. Objective ZL-1 is to protect the landscape of the County as a major economic asset and an invaluable amenity which contributes to the quality of people's lives. Objective ZL-5 is to preserve the views and prospects as defined on Map No's 12.1, 12.1a – 12.1u. Map 12.1c covers the subject site and environs on this issue of Amenities/Views and Prospects. The site is not subject to any designations, nor does it contain specific features. Protected views and prospects to the south and southeast of Listowel are considered to be relevant in the context of the subject application.

#### **5.4. Kerry County Renewable Energy Strategy**

In 2012, variation 8 to the 2009 County Plan introduced a Renewable Energy Strategy (RES). It is of relevance in this instance as the 2015 Plan refers back to the 2012 RES in its own policies, notwithstanding that the 2015 plan supersedes the 2009 plan, of which the RES is a variation.

The RES has as a major input a Landscape Character Assessment (an associated document). The Landscape Character Area which relates to the subject site is the Listowel Plain.

Table 7.4 of the RES finds that there is capacity in the area for wind energy development, but that constraints include population and impact on landscape.

Table 7.5 sets out the 'Wind Deployment Zones'. The top tier 'strategic site search areas' lie to the east of the site, on the Limerick border. The subject site sits centrally within the largest block of second tier 'open to consideration' lands, stretching from Abbeydorney through Lixnaw to Tarbert. The next largest block lies to the west and southeast of Castleisland, with smaller blocks along the Cork border and centrally on the Iveragh Peninsula.

## **6.0 Third Party Submissions**

### **North Kerry Wind Turbine Awareness Group 1**

- Procedural matters relating to the publication of notice of significant further information.
- Alternative layout would constitute a material change to the development and as such would require a new application for permission and would require standalone EIA.
- The Board is required to assess the appeal in the context of the Draft Wind Energy Development Guidelines. This is critical if any forthcoming decision is to provide, in the interests of the common good, for proper planning and sustainable development.
- Under the Habitats Directive there must be certainty that the project will not have lasting effects on the integrity of a European Site. Reference to CJEU decision in case C-258/11 Sweetman v ABP relating to reasonable scientific doubt as to the absence of effects and lacunae in available information. Argued that applicant has not successfully provided proofs.

### **North Kerry Wind Turbine Awareness Group 2**

- Procedural matters relating to changing the nature of the application in response to ABP's request.

- Procedural matters relating to date of submission of new information and use of S251A time extension. Notice parties should be afforded an equally extended period.
- Breach of travel restrictions during pandemic and notice parties difficulty accessing documentation during pandemic.
- Impact on Hen Harrier. Collision risks with proposed wind farm and cumulative risks arising from number of windfarms in the area. No acceptable threshold for threats to endangered and protected species. Hen Harrier are migratory and move their nests – as area becomes saturated with wind farms unaffected areas for breeding purposes are shrinking. Avoidance of foraging and hunting in wind farms, with shrinking size of foraging habitat around this and surrounding wind farms needs to be calculated and given consideration.
- Impact on Otters. Otters well documented along the banks of the River Feale and have been sited during lockdown within the boundaries of the proposed windfarm. The River Feale and smaller local rivers are contained in the Lower River Shannon SAC. Otter and Salmon are in the Annexes.
- The Ballyhorgan area, in particular the boglands, must be recognised as being hydrologically linked to the River Feale, through streams and rivulets which run off from the bog and surrounding areas into the Feale and its catchment. Changes or damage to watershed, changes to how and where water runs off into the local stream will have an impact. This has not been studied and no proper mitigation appears to be in place. Oils and other non-organic materials washing into the small local waterways from the windfarm will eventually wash into the Feale and into the Lower Shannon SAC and have a negative impact on otter, salmon and other protected species. Developer has not provided sufficient evidence either in the original or newly submitted application to prove beyond scientific doubt that this development will have no adverse impact on the adjacent SAC and Natura 2000 sites and species. Contrary to Objective NE-12 of the CDP.
- Kerry County Council has not had an opportunity to consider the appropriateness of the submitted material and in particular the grid



connection. Decision of KCC to refuse permission correct due to inability of surrounding landscape to accommodate development, community opposition to the project, and unanimous decision of elected members of KCC to designate the relevant locality as being of last resort for a windfarm (Chapter 7.6.3 of the CDP).

- Proposal will material contravene development plan provisions in Chapter 7.6.3 and Objective EP12.
- Contrary to objectives of the Issues Paper for CDP 2022-2028 relating to economic development, attracting inward investment, promoting quality of life, strengthening rural areas, protecting and enhancing the natural and built environment, and funding.

### **John O’Sullivan**

- Do not concur with Landscape Character Assessment for County Kerry and view that the north Kerry landscape is not ‘important for scenery, tourism or recreation’.
- Impact on the River Feale, an EU protected river for salmon, lamprey, refers only to pollution impact.
- Cumulative impact of windfarms on River Feale has not been considered, especially the drainage of bogs and mountains in the region associated with windfarms.
- Special Area of Conservation is the catchment for the river Feale, with 225 turbines in the SPA.
- Drainage involved in north Kerry windfarms has meant that the natural sponge effect of bogs is diminished, reducing the catchment of the river that has c. 2,000km of tributaries. Impact needs to be considered as an impediment to the migration of salmon to the upriver spawning grounds. Data exists via water meter installed by OPW. Separate report needed on this matter.
- Area has highest density of wind turbines in the world. Question at what stage ABP deem area to be over populated with wind turbines? Capable of producing 12% of national renewable energy target.

- Question whether this is one or two applications – of 7 no. or 10 no. turbines.
- Limited information on the quarry. Volume of stone to be quarried merits a separate application.
- Concerns in relation to visual impact from N69 and cumulative visual impact arising from existing turbines.
- Programme for government states that priority will be for off shore windfarms. The changes indicate that the government deem onshore wind farms to be unacceptable. Clarity needed in relation to government policy.

### **Drumclough National School Parents' Association**

- New application that should have gone to KCC for review. Original application did not include the grid connection and particulars relating to the grid connection were submitted directly to ABP as additional information, bypassing KCC and preventing residents of the area and those along the connection route from making observations on the route.
- Reference to 7 no. turbines represents a new application.
- Drumclough NS has grown since the original application with over 250 students.
- The 'WHO' has released new environmental noise guidelines for Europe, recognising noise as one of the top environmental hazards. Recommend a setback of 10 times the tip height to protect health and wellbeing. This would result in a setback of 1565 m. The submission states that the school is 1.7 km from the nearest turbine (Photomontage View 15). Previous submissions has the setback at 1.5 km from the school.
- School is too close to the nearest turbine and noise impact cannot be underestimated.
- Construction of the windfarm and grid connection will result in months of disruption to the community with traffic diversions for vehicles including school buses, cars and commuters on the N69.

### **Drumclough National School**

- Proposed development is detrimental to the area and does not take cognisance of Drumclough NS.
- Visual impact detailed in Photomontage View No. 15.
- Noise and Flicker Impact.
- Impact on wellbeing.
- Omission of existing turbines from photomontages.
- Disruption to bus routes arising from construction of grid connection.
- Impact on communications systems.
- 30-40% of permitted windfarms yet to be built.

**Aidan Linnane (and Fiona Linnane)**

- Need to consider public health during Covid 19.
- Material changes to original application.
- Ecological studies are insufficient. No collision rate is acceptable for Hen Harrier an Annex 1 species. Otter present in the area, while surveys suggest that there is little or no trace of otter. Numerous families of bats in the area which is not reflected in the studies.
- Breach of travel restrictions during pandemic.
- Impact on existing dwellings from shadow flicker and noise.
- County Kerry saturated by wind farms and taking 18% of the country's wind energy production.
- Unable to attend public meetings due to public health restrictions.

**Mary Browne**

- Impact on bird species including snipe (amber listed), Hen Harrier (Annex 1 species). Disagree with conclusions of NIS of no adverse effects on SPA. In relation to collision rate the cumulative impact of wind farms in the area needs to be considered. Conservation objective is to restore the declined population of Hen Harriers within the SPA to its previous density. Hen Harrier regularly move nests and hunting areas. Cannot be assumed that breeding will not

occur in the area in the future. Sufficient areas of good quality habitat are required to be maintained to protect Hen Harrier. Reasonable scientific doubt remains in relation to impact on Hen Harriers.

- Area home to bats which are protected under Bonn Convention, Bern Convention and EU Habitats Directive (92/43/EEC) and under the Birds and Natural Habitats Regulations 2011 and Wildlife Acts 1976-2019. Appalling that turbines can be erected and kill these protected species.
- Turbine 10 is proposed on lands characteristic of a raised bog. The Bog is protected under EU law Annex 1. This is not addressed in the NIS or EIAR. The turbine along with the associated access road would cause considerable destruction to an area of unique raised bog habitat which is still reasonably intact.
- Wind energy falling to achieve a reduction in carbon emissions.
- Risk of bog slippage and water runoff.
- Risk of pollution to River Feale SAC impacting protected species in the SAC.
- Impact on otter which are present in the area.
- Material changes to original application. Should be a new application.

### **Donal Hunt**

- Application refused by Kerry County Council and the ABP Inspector recommended refusal.
- Excessive concentration of wind turbines in North Kerry area. There is a large strong hold of existing turbines in the upland area between Listowel, Tralee and Castleisland. CDP review event KCC stated that: Kerry produces 18% of national wind energy; Kerry has 6-7% of national land area; that there are 300+ wind turbines in Kerry; and high percentage of windfarms with planning are yet to be built.
- Windfarms are owned by international funds, place a burden on the Irish tax payer and question end of life arrangements.

- Proposed development will damage and devalue property in the area. Emphasis on impacts on flora and fauna. There is also a human cost associated with the development.
- Given extent of grid connections associated with the wind farm efficiency of the wind farm is in question.
- Question the option to include a 7 turbine proposal.
- Question support for structures of 156 km in height when there is a precedent of local refusals for dwellings based on visual intrusion.
- Concern in relation to future phases.

### **Joe Harrington and Key O’Leary**

- No consultation with community along the grid connection route. The townlands of Banemore, Lyreacrompane, Carrigannon and Renagowan were not identified in original planning application. Communities along the grid connection route were not given an opportunity to voice their opinions in the normal way. Applicant should have to re-apply for permission.
- Concerns about impact on roads and bridges due to construction works along the grid connection route. Bridges have a heritage value and are maintained by the community.
- Concern in relation to the use of battery units at the sub-station.
- Significant detours will be needed during construction of the grid connection – potential for re-routed trips of 15km.
- Opposed to any interference with community car park adjacent to the Four Elms bar in Carrigannon – related to local festival.
- Works in vicinity of invasive Japanese Knotweed.
- Concern in relation to impact of trenching works on water quality in River Smearlagh which forms part of the Lower River Shannon SAC and is a source of water for the area.
- Impact on Otter which are present along the grid connection cable route.

- Grid connection should be made adjacent to the wind farm. Taking a cable along 15 km of bog road is unreasonable.
- The fact that the raised bog in Ballyhorgan or the blanket bog in the general Lyreacrompane area is damaged is not a justification for further damage by way of turbine foundations and access roads that act as a drain and cause the bog to dry out and collapse and the carbon they hold to be reasoned.

## 7.0 Environmental Impact Assessment

### 7.1. Introduction

- 7.1.1. The applicant was requested pursuant to Section 132 of the Planning and Development Act 2000 (as amended) to submit an updated Environmental Impact Statement. In response to this request the applicant has submitted an Environmental Impact Assessment Report (EIAR) that addresses the project in its entirety. The submitted Report supersedes the previous EIS submitted with the application and the EIS addendum submitted to the Board in response to the initial Section 132 request in 2015.
- 7.1.2. The Report states that the EIAR complies with the amending 2014 EIA Directive (Directive 2014/52/EU) and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018. The application was lodged with Kerry County Council before the last date for transposition of the 2014 EU (EIA) Amendment Directive (Directive 2014/52/EU) which came into direct effect in May 2017 and before the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 came into effect in September 2018. The provisions of the 2014 EIA Directive and the subsequent regulations do not therefore apply in my view. Nonetheless, the EIAR meets and exceeds the requirements of Article 3 of the European Directive 85/337/EEC, as amended by Council Directives 97/11/EC and 2003/35/EC and Section 171A of the Planning & Development Act 2000-2010 and is sufficient to support Environmental Impact Assessment. Furthermore, in considering the EIAR I have applied the more onerous requirements of the 2014 Directive and 2018 Regulations.

- 7.1.3. The application seeks a ten year permission for a wind farm development with a 25 year operational life. The proposed development comprises: 10 no. wind turbines with a maximum blade tip height of up to 156.5 metres; new and upgraded internal site access roads; anemometry mast (height 100 metres); 1 no. borrow pit (providing fill material required for the construction of access roads and turbine bases only); underground electricity connection cabling; upgrading of one site access junction; provision of four new site access junctions; a 38 kV electricity sub-station with associated equipment and wind farm control building; temporary construction compound; peat disposal area; and all ancillary site and ground works. The proposed development also includes a 38 kV underground electrical cable connection to the national grid which will run within the public road corridor between the windfarm site and the Reamore Substation, in the townland of Muingnaminnane. The proposed development has an estimated installed capacity of 30MW (ten turbines in the 2-3+ MW range).
- 7.1.4. The revised documentation received by ABP in June 2020 includes an alternative seven turbine layout. This layout achieves the setbacks from houses detailed in the Draft Revised Wind Energy Development Guidelines 2019 on the basis that the guidelines could be published as proposed prior to the Board making a decision. The alternative layout omits turbines 6, 8 and 9 and associated access infrastructure. The EIAR assesses both the 10 turbine layout and the alternative 7 turbine layout.
- 7.1.5. The site is described in detail in Section 2.0 of this report. In summary, the site is in a lowland rural area situated c. 5km south-west of the town of Listowel and around 2.5 km east of the village of Lixnaw. Finuge is a smaller settlement focused on a crossroads that is c. 1.4 km northeast of the nearest turbine. The settlement of Dromclough is located to the immediate south-east of the site. While this settlement has no discernible centre there is a church and a school located c.1.5 km of the closest turbines (T6 and T8). The predominant land-use in the area is agriculture with some peat extraction and forestry. The EIAR study area encompasses 6 no. ED's with a population of 3,835 persons (Census 2016). The age structure of the population reflects that at county and national levels. Under the proposed 10 turbine layout the turbines maintain a setback of over 500 metres from the closest dwellings that are not associated with the project. Under the 7 turbine layout the turbines maintain a setback of over 626 metres from the closest dwellings that are not

associated with the project (4 times the tip height). The grid connection will run over a distance of 16.7 km within the road network.

- 7.1.6. Item 3 (i) of Part 2 of Schedule 5 of the Planning and Development Regulations 2001 and section 172(1)(a) of the Planning and Development Act 2000 (as amended) provides that an EIA is required for Energy Projects that involve “*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*”. Item 2 (b) of Part 2 of Schedule 5 of the Planning and Development Regulations 2001 provides that EIA is required for the: “*Extraction of stone, gravel, sand or clay, where the area of extraction would be greater than 5 hectares*”.
- 7.1.7. While the proposed burrow pit in its own right would be sub-threshold having regard to the provisions of Item 2 (b) the proposed development, comprising 10 no. turbines with an estimated output of greater than 5 MW, exceeds the threshold for mandatory EIA for wind energy production.
- 7.1.8. The EIAR contains a non-technical summary, main report and appendices. Chapter 1 is an introduction which sets out the relevant legislation and the format and structure of the EIAR as well as outlining the experts involved in preparing the document. Chapter 2 provides detail of policy context and background to the project including details of scoping and consultations and the methodology for cumulative impact assessment. Chapter 3 provides detail with regard to the consideration of alternatives. Chapter 4 provides a detailed description of the project. Chapters 5 to 14 provide an assessment of likely significant direct and indirect effects on the environment considering environmental factors separately. Chapter 15 considers interactions between the environmental factors and Chapter 16 provides a summary of mitigation measures.
- 7.1.9. The EIAR sets out the inputs and qualifications of the study team and contributors in Chapter 1. I am satisfied that the EIAR has been prepared by competent experts. I am satisfied that the information contained in the EIAR adequately identifies and describes the direct, indirect and cumulative effects of the proposed development on the environment and complies with article 94 of the Planning and Development Regulations 2000, as amended.



7.1.10. Article 3 (2) of the amending Directive requires the consideration of the effects deriving from the vulnerability of the project to risks of major accidents and / or disasters that are relevant to the project concerned. I am satisfied that the vulnerability of the project to the risks of major accidents and / or disasters has been adequately addressed within the submitted EIAR under relevant headings and that the vulnerability of the project to major accidents and / or disasters is acceptable. Specifically, I refer the Board to Chapters 5 Population and Human Health, Chapter 9 Hydrology and Hydrogeology and to the Construction Environmental Management Plan which includes an environmental management framework and emergency response measures for natural disasters.

7.1.11. The likely significant direct and indirect effects on the environment, are considered in Chapters 5-15 under the following headings:

- Population and Human Health
- Shadow Flicker
- Noise and Vibration
- Biodiversity (Flora and Fauna)
- Ornithology
- Land, Soils and Geology
- Hydrology and Hydrogeology
- Climate and Air
- Landscape and Visual
- Material Assets
- Archaeology and Cultural Heritage

7.1.12. The content and scope of the EIAR is considered to be acceptable and in compliance with the requirement of Articles 94 (content of EIS) and 111 (adequacy of EIS content) of the Planning and Development Regulations, 2001 (as amended) and the provisions of the new amending directive.

7.1.13. The EIAR in Chapter 2 details the scoping and consultation processes carried out by the applicant. A scoping document was initially issued in relation to the EIS

document submitted with the application in January 2014 and additional scoping was undertaken in February 2020 to inform the updated EIAR report. Details of bodies consulted, and the responses received are set out in Table 2.6 and Table 2.7 of the EIAR. The applicant hosted a public consultation event in Listowel prior to the application being lodged in January 2014, with advertising of the event in local newspapers and direct notification to residents within c. 1 km of the site. The public participation requirements of the 2014 EIA Directive and minimum timeframes for consultation have also been provided for through the statutory consultation periods at application and appeal stages, including the advertisement of further information received by the Board. Details of the project have also been uploaded on the governments EIA portal (Reference 2020028).

7.1.14. I have carried out an examination of the information presented by the applicant, including the EIAR, and the submissions made during the course of the application. A summary of submissions received in response to the information submitted in June 2020 has been set out at Sections 7 of this report. The issues raised that are relevant to the EIA are summarised as follows:

- Material changes to the original development. Alternative 7 turbine layout represents a further material change. Proposed development requires a new application for permission and standalone EIA.
- Notification requirements for EIA applications.
- Impact on protected species including hen harrier, otter, bats, salmon and lamprey and on snipe bird species.
- Impact on hydrological environment, surface water system and on local river system which may impact River Feale and Lower River Shannon SAC due to changes in the hydrological environment and pollutants.
- Impact on bogs – including a raised bog.
- Impact on economy and inward investment, quality of life, natural environment and built environment.
- Landscape and visual impact.
- Cumulative impact arising from the number of windfarms / turbines in the area.

- Limited information on the quarry. Volume of stone to be quarried merits a separate application.
- Impact on local community due to noise and shadow flicker.
- Disruption to local traffic and impact on the road network.
- Impact on communications systems.
- Wind energy failing to achieve improvements for climate and green house gas emissions.
- No consultation with community along the grid connection route.
- Impact on bridges of heritage significance due to construction works along the grid connection route.
- Impact of works in vicinity of invasive Japanese Knotweed.

7.1.15. Issues raised that are relevant to the EIA are addressed below under the relevant headings, as appropriate, and in the reasoned conclusion and recommendation including conditions.

## 7.2. **Consideration of Alternatives**

The submitted EIAR outlines the alternatives examined at Chapter 3. The main alternatives studied comprise alternative locations, alternative renewable electricity technologies, alternative turbine number and models and alternative turbine layout and design. It is noted that under a 'do nothing scenario' the opportunity to harness the renewable energy resource at this location would be lost. Locational considerations include policy and environmental constraints. The selection of turbine number and layout is based on physical constraints and the need for setbacks from existing features such as roads and houses, wind take, noise and shadow flicker. It is noted that a larger number of smaller turbines could have been used to achieve the same output, but that this would have implications in terms of overall footprint and the extent of supporting infrastructure with the potential for greater environmental impact. In relation to alternative renewable energy technologies solar energy was considered. It is noted that a significantly larger development footprint would be required to achieve the same energy output from solar energy.

An alternative 7 no. turbine layout that omits turbines 6, 8 and 9 and associated infrastructure is presented. This layout is a response to separation standards proposed in the Draft Wind Energy Development Guidelines, 2019. This layout is presented based on the applicants view that the Draft Guidelines could come into effect (as proposed) during the application process. It is noted that the turbine model will be the subject of a tendering process. In my opinion reasonable alternatives have been explored and the main reasons for the option chosen are set out taking account of the effects on the environment. I consider the information on alternatives to be comprehensive and in accordance with the requirements of EIA Directives.

The applicants have presented the proposal in terms of an upper tip height of 156.5m and seek a permitted 'envelope' for the scheme, such that any combination of hub heights and rotor diameters within the upper tip height might be implemented by the applicant.

Recent case law<sup>4</sup> holds that under Articles 22 and 23 of the Planning and Development Regulations 2001 (as amended) a planning application made under Section 34 of the Planning and Development Act 2000 (as amended) must include such plans and other particulars, as are necessary to describe the works to which the application relates. I am satisfied that planning drawings submitted with the application and updated by the booklet of drawings submitted to the Board in June 2020 are sufficient to meet the requirements of the regulations. The turbine detailed on DW121117c-33 has a tip height of 156.5m, hub height of c. 98m and blade length of c. 45m. I would note that the EIAR considers a number of turbine types within the height envelope of 156.5 metres. The modelling undertaken to assess shadow flicker (EIAR); noise (EIAR); and collision risk for bird's (EIAR and AA) is based on a standard 3 blade turbine with tip height of 156.5m, hub height of 88.5m and rotor diameter of 136m. The Landscape and Visual Impact Assessment (EIAR) relies on a taller turbine with tip height of 156.5m, hub height of 98m and rotor diameter of 117m. The implications of this are addressed under the relevant headings below.

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<sup>4</sup> [2021] IEHC 390 (Sweetman V ABP).

## 7.3. Assessment of Effects

### 7.3.1. Population and Human Health

Chapter 5 of the EIAR considers population and human health. The potential for impacts on population and human health are considered in the context of impacts on population, economy, property, tourism, land use, health and safety (inc. electromagnetic radiation) and risks arising from major accidents and natural disasters. I have considered the potential impacts on population and human health arising from other environmental factors such as shadow flicker, noise, landscape and visual under separate headings.

#### Receiving Environment

The site is c. 5km south-west of the town of Listowel and around 2.5 km east of the village of Lixnaw. Finuge is a smaller settlement focused on a crossroads that is c. 1.4 km northeast of the nearest turbine. The settlement of Dromclough is located to the immediate south-east of the site. While this settlement has no discernible centre there is a church located c.1.3 km to the east of turbine 6 and a school located c.1.5 km to the south-east of turbine 8. The EIAR study area encompasses 6 no. ED's<sup>5</sup> with a population of 3,835 persons (Census 2016). The age structure of the population reflects that at county and national levels.

#### Assessment of Effects

There will be no discernible change to the area's population as a result of the proposed development. There will be positive economic impacts during the construction phase. Longer term impacts during the operational phase will be negligible as the windfarm will not be maned with occasional visits relating to the maintenance / management of the development. The proposed development would not displace or impact on established land uses in the wider area such as peat extraction, agriculture and forestry.

A number of third party submissions have raised concerns in relation to the impact of the proposed development on local property values and on tourism. I would note that the concerns raised are not supported by empirical evidence. While there has

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<sup>5</sup> The ED's are Ballyhorgan, Kiltomy, Kilfeighny, Rathea, Lixnaw, Ennismore – discrepancy in labelling on drawing no. 5.1.

been no empirical studies in Ireland on the impact of wind farms on property prices, international studies (described in the EIAR) conclude that wind farms do not impact property values. In relation to impacts on tourism I would note that there are no tourism assets of note within or in the immediate vicinity of the site. Studies in Ireland and Scotland (described in the EIAR) suggest that wind farms do not have a significant negative impact on tourism and do not impact on future visits to an area. The potential for visual interaction with sensitive tourism and recreational destinations and routes and heritage features is considered under separate heading. There is potential for health and safety impacts during the construction phase. The risks are typical of those arising from any large scale construction project and can be mitigated through adherence to health and safety legislation and best practice construction management. There are no specific safety considerations in relation to the operational phase of the development.

There is no published credible evidence of links between wind turbines and adverse health effects. The EIAR refers to a position paper published by the HSE in 2017<sup>6</sup> which considered the potential for adverse effects due to impacts from noise, shadow flicker and electromagnetic radiation. The publication notes that scientific evidence of adverse impacts on health is weak or absent, noting the need for further research in this area. In relation to electromagnetic radiation the publication states that there is no direct evidence of an association between electromagnetic radiation from wind farms and health effects noting that the limited evidence available suggests that the level of low-frequency electromagnetic radiation close to wind farms is less than average levels measured inside and outside suburban homes. The potential for impacts arising from shadow flicker and noise are considered in detail under separate headings.

The risk of a major accident or natural disaster is considered to be low given Ireland's stable climatic and geological conditions. The potential for a fire or flood event is identified in the EIAR. The risk of flooding is addressed in Chapter 9 Hydrology and Hydrogeology. Risk from fire is not considered to be significant as the wind farm is not a recognised source of significant pollution and the spacing of turbines and distance from sensitive receptors is such that no significant

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<sup>6</sup> Position Paper on Wind Turbines and Public Health, February 2017.

environmental impacts are envisaged. The Construction and Environmental Management Plan includes an emergency response plan to mitigate any risks arising.

In terms of cumulative impacts on population and human health during construction I would note that there are no other large-scale projects permitted or proposed in this area. The closest windfarm development is over 3 km from the site and the potential for cumulative impacts has been fully considered and detailed in the EIAR. As the impacts from the proposed development would be localised, I am satisfied that significant negative cumulative impacts would not arise.

### Conclusion

I have considered all of the written submissions made in relation to population and human health. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of the proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of population and human health. I am also satisfied that cumulative effects are not likely to arise.

#### **7.3.2. Shadow Flicker**

Chapter 5 of the EIAR includes an assessment of potential impacts from shadow flicker.

### Receiving Environment

The consideration of shadow flicker impacts relates to the operational phase of the development only. A number of third party submissions raise concerns in relation to the potential impact of shadow flicker on residential and educational buildings. The previous Inspectors Report and Addendum Report recommended refusal for reasons including the level of shadow flicker at dwellings in excess of the relevant thresholds set out in the 'Wind Farm Development: Guidelines for Planning Authorities' 2006 (Department of Environment, Heritage and Local Government). The 2006 Guidelines recommend a maximum threshold of 30 hours shadow flicker per year or 30 minutes per day at dwellings and offices within 500 metres of the windfarm development. Draft Revised Wind Energy Development Guidelines published in

2019 (DHPLG and DCCAE) adopt a new position in relation to shadow flicker. The Draft Guidelines recommend that there should be no shadow flicker at neighbouring properties stating that with careful site design and appropriate mitigation (most critically the use of appropriate equipment and computer software) no existing dwelling or other affected property should experience shadow flicker. It is recommended that clearly specified measures which provide for automated turbine shut down to eliminate shadow flicker should be required as a condition of a grant of permission. One of the third party submissions states that the Board is required to assess the appeal in the context of the Draft Wind Energy Development Guidelines (DWEDG) 2019. I would note that the Section 28 Guidelines published in 2006 remain in force and that the Board is obliged to have regard to these guidelines. While the Board is not bound by the guidance contained in the draft guidance, given the passage of time since the publication of the 2006 guidelines, technical and scientific changes and updated industry practices that have occurred in the intervening period, I consider that the Board is not precluded from having regard to the more up to date information presented in the Draft Guidelines (2019). I would recommend that the Board satisfy itself of the status of the Draft Guidelines when making a decision in respect of the subject appeal.

### Assessment of Effects

The assessment of shadow flicker in the EIAR relies on specialised computer software (WindPro) that is used to predict the level of shadow flicker at dwellings within a distance of 10 rotor diameters of the proposed wind turbines (10 and 7 no. turbine layouts modelled). For the purposes of the assessment, a turbine with a rotor diameter of 136m and a hub height of 88.5m was modelled. The EIAR presents a 'worst case' scenario. It assumes that there is 100% sunshine during all daylight hours, no vegetative or other screening, the sun is behind turbine blades at all times, there is a window facing each turbine, turbine blades face the property, and turbine blades are moving at all times. Expected shadow flicker is expressed as maximum shadow hours per year, maximum shadow days per year and maximum shadow hours per day. The EIAR also presents a 'real case' scenario adjusted to take account of turbine operational hours, forecast wind directions and with a regional sun factor of 29.5%. The 'real case' shadow flicker is expressed as



expected shadow hours per year only. Table 5.7 details predicted shadow flicker at each sensitive receptor (e.g., dwelling or school) as follows:

- Under the 10 no. turbine layout a total of 172 no. residential properties fall within 1,360 metres (10 rotor diameter distance) of a turbine. It is predicted that 135 no. properties may experience daily shadow flicker, with 87 no. properties experiencing daily shadow flicker in excess of the threshold of 30 min per day and 52 no. properties experiencing annual shadow flicker in excess of the threshold of 30 hours per year (2006 Guidelines). Using the 'real case' scenario a total of 134 no. properties would experience some level of shadow flicker, with 1 no. property (an involved property) exceeding the annual threshold of 30 hours per year. There is no prediction of daily shadow flicker for the 'real scenario'.
- Under the 7 no. turbine layout a total of 118 no. residential properties fall within 1,360 meters of a turbine. It is predicted that 90 no. properties may experience daily shadow flicker, with 49 no. properties experiencing daily shadow flicker in excess of the threshold of 30 min per day and 40 no. properties experiencing annual shadow flicker in excess of the threshold of 30 hours per year (2006 Guidelines). Using the 'real case' scenario a total of 90 no. properties would experience some level of shadow flicker, with 1 no. property (an involved property) exceeding the annual threshold of 30 hours per year. There is no prediction of daily shadow flicker for the 'real scenario'.

I would draw the Boards attention to the fact that forecast impact at individual receptors is based on an assessment of impact from all turbines. Distance to the closest turbine is stated, however, it cannot be assumed that the impact at a receptor arises solely from the closest turbine. It is likely in some instances that shadow flicker impacts arise due to shadow cast by a number of turbines.

I refer to discussion in the previous Inspectors Reports in relation to the use of a 'write down' of shadow flicker based on metrological corrections. The DWEDG 2019, to which the Board can have regard, postdate the earlier reports. The draft guidelines sets out circumstances within which shadow flicker may arise and acknowledge the role of factors such as sunlight hours, position of turbines relative to a property and cut in and cut out wind speeds in influencing shadow flicker.

Having regard to the updated technical information presented in the draft guidelines and to current industry practice, I consider the adjustments for metrological conditions to be acceptable. The DWEDG 2019 are clear in their expectation that with careful site design and appropriate mitigation (most critically the use of appropriate equipment and computer software) no existing dwelling or other affected property should experience shadow flicker.

Mitigation measures are proposed in Section 5.9.3.3 of the EIAR to reduce the impact of shadow flicker. The measures are similar to those proposed in the original EIS. It is suggested that where daily or annual shadow flicker exceedances are experienced, a site visit will be undertaken to determine the level of occurrence, details of weather and details of the site. Mitigation measures will be discussed with the affected homeowner and if agreement can be reached the required mitigation would be implemented in cooperation with the affected landowner at the expense of the wind farm operator. If it is not possible to mitigate exceedances locally wind turbine control measures will be implemented. The EIAR goes on to state that should shadow flicker associated with the permitted development be perceived to cause a nuisance at any home the affected homeowner is invited to engage with the windfarm developer. The homeowner will be asked to log the date, time and duration of shadow flicker events occurring on at least five different days. The provided log will be compared with the predicted occurrence of shadow flicker at the dwelling, and if necessary, a field investigation will be carried out. The EIAR concludes that there is the potential for long-term slight negative impacts from shadow flicker but that with the proposed mitigation measures there will be no impact from shadow flicker on human beings for either the 10 no. turbine or 7 no. turbine layouts. The EIAR notes that a condition similar to that set out in the DWEDG 2019 (standard type condition) can be applied by the Board.

I consider the mitigation measures detailed in the EIAR to be unacceptably vague and that a condition to this effect would be contrary to guidance set out in Section 7.3.3 of the S28 Development Management Guidelines (2007). I am satisfied, however, that the use of modern turbine control measures detailed in the DWEDG 2019 can be effective in reducing the residual impact from shadow flicker to an acceptable level. I recommend, in the event of a grant of permission, that the Board

include a condition that requires the use of suitable equipment and software on each turbine to limit cumulative shadow flicker from the proposed development to the thresholds set out in the 2006 Guidelines (30 minutes per day or 30 hours per year). Given the cumulative nature of the assessment presented in the EIAR and the absence of modelled outputs for each individual turbine, I consider that it is necessary to employ the wind turbine control measures on all turbines. In addition to the use of control measures, I recommend that the developer should be required to agree details of a shadow flicker monitoring programme with the PA and to implement the monitoring programme following commissioning of the development to ensure that the thresholds specified in national guidance are not exceeded. I also recommend that a condition is imposed that limits the turbine dimensions (hub height, tip height and rotor diameter) to those used in the assessment of shadow flicker.

The potential for cumulative impacts with other developments are excluded on the basis that there are no other wind turbines within 2km of the site or within 10 rotor diameters of dwellings in the study area.

### ***Conclusion***

I have considered all of the written submissions made in relation to shadow flicker. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of shadow flicker. I am also satisfied that cumulative effects are not likely to arise.

### **7.3.3. Noise and Vibration**

Chapter 11 of the EIAR describes potential impacts on the environment due to noise and vibration. The previous Inspectors Report and Addendum Report recommended refusal for reasons including the level of noise at neighbouring dwellings in excess of the relevant thresholds set out in the 'Wind Farm Development: Guidelines for

Planning Authorities' (Department of Environment, Heritage and Local Government, 2006). The information received by the Board in June 2020 includes a new assessment of noise impacts.

### Receiving Environment

There are a total of 172 no. noise sensitive locations within 10 rotor diameters (c. 1.36 km) of the proposed turbines, reduced to 118 for the alternative 7 turbine layout. Under the 10 turbine layout the closest third party dwelling<sup>7</sup> (no. 86) is over 500 metres from the nearest turbine location (referencing standard in the WEDG 2006). Under the 7 turbine layout all third party dwellings would be located over 626 metres or four times the proposed tip height from the nearest turbine location (referencing standard in the draft WEDG 2019).

### Assessment of Effects

During the construction phase noise and vibration impacts will arise from general construction activities and traffic movements. Noise control measures are to be applied (EIAR and CEMP refers) and the impacts arising are generally typical of those arising from any large scale construction project. There are no specific national noise limits for construction works. British Standard 5228 (Code of Practice for Noise and Vibration Control on Construction and Open Sites) refers to a maximum standards of 65dB  $L_{Aeq,T}$  dB for daytime hours. The TII document Guidelines for the Treatment of Noise and Vibration in National Road Schemes (NRA 2004) sets out guidance on construction noise and vibration levels during construction. In low noise environments an  $L_{Aeq}$  (1-hour) of 60 is recommended Monday to Friday during daytime hours and an  $L_{pA(Max), slow}$  of 65. Forecast noise levels around the main windfarm site (Section 11.5.2 refers) are well below the levels detailed in the TII guidance. While the blasting or crushing of rock will create heightened noise and vibration levels this activity will be very short-term and intermittent in nature. The grid connection will run along the public road. It is expected that works associated

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<sup>7</sup> This refers to properties that are not involved in the windfarm development.

with the layout of the grid connection will exceed the recommended noise levels where works are proposed close to existing dwellings. However, the works will be undertaken in short sequential stages and the noise and vibration impacts will be very short-term in nature (c. 2-3 days). Significant vibration effects are not expected. Overall, the impacts arising during the construction phase will be short-term in nature. No significant or long-term impacts are anticipated at any noise sensitive receptors. The effects during decommissioning will be similar but of lower magnitude as much of the ground infrastructure will remain in place.

During the operational phase there is potential for long term noise impacts arising from mechanical and aerodynamic noise. The noise emissions can include special audible characteristics such as tonal noise, amplitude modulation and low frequency components. The EIAR sets out a detailed assessment of potential noise impacts based on the background noise conditions in the area and predicted noise levels arising from the development. The assessment is based on the recommended noise criteria contained in the 2006 Wind Energy Development Guidelines. Under the guidelines a lower fixed limit of 45 dB(A) or a maximum increase of 5dB(A) above background noise at noise sensitive locations is recommended. In low noise environments (<30 dB(A)) it is recommended that the daytime level of the LA90, 10min of the wind energy development noise be limited to an absolute level within the range of 35-40 dB(A). During night hours a fixed limit of 43dB(A) is recommended. The assessment methodology for noise detailed in the 2006 Guidelines is based on a 1996 publication that is now considered to be out of date (DWEDG 2019 refers). The noise assessment detailed in the EIAR adopts the more up to date Institute of Acoustics (IoA) publication: A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise, 2013 and Supplementary Guidance Notes, referred to hereafter as the IoA GPG 2013 and supplementary guidance. The background noise environment in the absence of existing operational windfarm development has been established through noise monitoring surveys undertaken at 5 no. locations surrounding the proposed

development (Figure 11.2 refers). Typical background noise levels for day and night periods at wind speeds of between 3-10 m/s have been modelled in accordance with guidance contained in the IoA GPG 2013 and supplementary guidance. The results were used to derive appropriate noise criteria for the development on the basis of the thresholds in the 2006 Guidelines (i.e., standard and low noise areas). The adjusted background noise levels are shown graphically in Section 11.4.1.5 and in Table 11.10. The results identify daytime noise levels ranging from 26.3  $L_{A90,10min}$  (dB) at low wind levels to 41.8  $L_{A90,10min}$  (dB) at high wind levels; and night-time noise levels ranging from 21.6  $L_{A90,10min}$  (dB) at low wind levels to 40.2  $L_{A90,10min}$  (dB) at high wind levels (Table 11.10 refers). A night-time increase of 5dB(A) above background is adopted by the applicant as this is commonly applied by PA's and ABP. It is noted that ETSU-97 allows a lower noise threshold for properties involved with the proposed development of 45  $dBL_{A90,10min}$  and / or higher above the prevailing background noise level.

The applicant has prepared day and night-time noise curves based on the guidance set out in the Institute to Acoustic's Good Practice Guide (2013) and supplementary guidance. Calculations are based on a turbine hub height of 88.5 m (as per that used in assessing shadow flicker) and noise emissions from the Vestas V136 turbine adjusted to account for turbine noise emissions from other makes / models. Day and night-time noise limits are set for each noise sensitive locations based on the thresholds in the 2006 Guidelines and using the modelled baseline levels at varying wind speeds (Appendix 11.4 details the results of this exercise for all NSL's).

A series of worst case turbine noise prediction models have been prepared using ISO 9613-2. EIAR Appendix 11.4 sets out predicted cumulative omni-directional turbine noise levels for the 10 turbine layout using  $dB L_{A90, 10min}$  at standardised wind speeds of 3 - 9 (m/s). Appendix 11.5 sets out a similar data for the 7 turbine layout. Noise Contour Maps are presented in Appendix 11.6 for the omni-directional rated power wind speed (9 m/s) for the proposed development (10 and 7 turbine layouts) in isolation and for the cumulative scenario. At all noise sensitive locations noise

levels are below the criteria curves, save for at two properties (R089 and R091) where at the 6m/s wind speed the cumulative scenario for the 10 turbine layout exceeds the upper noise levels. I consider that the exceedances at these locations of 0.1 - 0.6 dB LA90,10min are not material. I would note that properties involved in the project would experience higher noise levels, however, the 2006 guidelines allow for exceedances of up to 45 dB(A) at properties that are involved.

In relation to the use of the more up to date IoA GPG 2013 and supplementary guidance I note that the courts have determined that the Board is required to have regard to the current Wind Energy Development Guidelines 2006 but that it is not obliged to follow or apply the guidelines in whole or in part in any individual case<sup>8</sup>. This was in relation to a challenge in relation to whether the guidelines remain fit for purpose. I am satisfied that the applicant has adopted the noise thresholds recommended in the 2006 guidelines while applying more up to date forecasting methodology. The IoA's Best Practice Guide is referenced in the DWEDG 2019 which were developed in the context of modern wind turbine design and international best practice. While the Board is not bound by the guidance contained in the draft guidance document, the Board is not precluded from having regard to information contained therein. I accept the methodology used in the assessment of noise impacts and the findings of same.

On the basis of the foregoing, I am satisfied that the potential for adverse impacts will be mitigated to an acceptable level by the measures detailed in the EIAR and by condition. I would recommend in the event that the Board is minded to grant permission that a condition is attached in relation to noise monitoring and a condition that limits the turbine hub height (and consequently the rotor diameter) to that used in the assessment of noise to ensure that any impacts arising have been fully assessed.

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<sup>8</sup> Judgement in supreme Court Appeal No.: 167/18 refers.

In terms of cumulative impacts, I would note that there are no other large-scale projects permitted or proposed in the immediate area. The potential for cumulative impacts arising from other windfarms has been integrated into the assessment of noise impacts.

### Conclusion

I have considered all of the written submissions made in relation to noise and vibration. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of noise and vibration. I am also satisfied that cumulative effects are not likely to arise.

#### **7.3.4. Biodiversity (Flora and Fauna)**

Chapter 6 of the EIAR describes potential impacts on biodiversity focusing on habitats and fauna. Avian receptors are considered under the separate heading Ornithology.

### Receiving Environment

The site is in a rural area that is characterised by agriculture, forestry and peat extraction. The windfarm site and its surroundings comprise improved grassland (GA1), cutover bog (PB4), wet grassland (GS4), raised bog (PB1), conifer plantation (WD4), scrub (WS1), broadleaved woodland (WN7), immature woodland (WS2), buildings and artificial surfaces (BL3), treelines (WL2), hedgerows (WL1), spoil and bare ground (ED2), drainage ditches (FW4) and depositing / lowland rivers (FW2) (refer to Habitat Map 6.4). Turbine's 1, 3, 4, 6 and 8 and the construction compound, met mast, substation, borrow pit and peat disposal area are all located on improved agricultural grassland. Turbine 7 is located on wet grassland. Turbines 2, 5 and 10 are located on cutover bog with turbine 10 encroaching into an area of raised bog. Turbine 9 is located within a block of conifer plantation. The grid connection will extend over a distance of c. 16.8 km within the existing road corridor with a total of 32 no. stream and culvert crossings (8 no. crossings of streams). The route is bordered by grassy verges for the most part. The watercourses at points 1, 2, 3 and



6 consist of large rivers / streams. The remaining crossings are of small, modified streams and culverts.

In relation to fauna, site walkover surveys and dedicated species surveys were undertaken to inform the initial EIS and EIS addendum. Updated surveys were undertaken in 2019 and 2020 to inform the EIAR submitted to the Board in June 2020. Bats, marsh fritillary (butterfly), otter, lamprey, Atlantic salmon and badger are known to occur in the area.

- Bats are identified as a key ecological receptor. Bat surveys identified Common Pipistrelle, Soprano Pipistrelle, Brown Long Eared Bat, Leisler's Bat, Myotis sp and Nathusius pipistrelle within the windfarm site.
- There is March Fritillary habitat within the site and this species is considered to be of local importance and high value. The suitable habitats for this species have been fully avoided by the proposed development and the potential for impacts is excluded.
- There was no evidence of badger during any of the dedicated surveys in 2014, 2015, 2019 and 2020. There is potential for this species to occur in the wider study area due to the presence of suitable habitat. Badger is considered to be a key ecological receptor.
- There was no evidence of otter during any of the dedicated surveys in 2014, 2015, 2019 and 2020. There is habitat available to the species in the vicinity of the proposed development and it is considered likely that otter do utilise the site on occasion. It is noted that any potential otter population from the wider area are likely to be associated with the Lower River Shannon SAC. Otter is considered to be a key ecological receptor.
- Fish surveys found salmonids in the surrounding streams and rivers. Aquatic habitats (watercourses), salmonids, lamprey, coarse fish, white-clawed crayfish, European eel, aquatic invertebrates, molluscs (inc. Freshwater Pearl Mussel) and other aquatic species that exist within the local water environment are identified as key ecological receptors. Species listed as QI's of the lower River Shannon SAC are known to occur downstream of the development site within the SAC, namely Atlantic Salmon and Lamprey species. Populations of Freshwater Pearl Mussel are known to occur

downstream of the proposed works on the grid connection route. This pearl mussel population is not a QI of any European site. A portion of the grid connection route is located within the Feale Margaritifera Sensitive Area – classified as catchment of other extant populations of Pearl Mussel.

- During walkover surveys the signs of other common species such as frog, lizard, newt, fox were identified. Given the habitats on site it is likely that other common species also exist within the area.

A number of third party submissions raise concerns in relation to the potential for impacts on Bats, Otter, Salam, Lamprey. Submissions state that Otters are well documented along the banks of the River Feale (SAC) and have been sited within the boundaries of the proposed windfarm.

#### Assessment of Effects – Construction Phase

The greatest potential for impacts on biodiversity arises during the construction phase. The construction stage will result in loss and disturbance of habitats and the disturbance of species. This will involve the loss of areas of agricultural grassland, wet grassland, cutover bog, degraded raised bog, conifer plantation, hedgerow, tree lines and encroachment onto an area of intact raised bog.

Most of the habitats to be removed are not of ecological significance and their loss would not be significant in the context of the wider area. While hedgerow and trees support semi-natural habitat types with high biodiversity value, the extent of removal is limited in the context of the wider area. There is potential for disturbance impacts on general terrestrial species that were recorded on the site but were not considered to be a key ecological receptor. Given the extensive areas of habitat that will remain undisturbed in the area and the avoidance of most significant areas of faunal habitat the potential for it significant effects can be excluded.

#### Otter

The site contains suitable habitat for Otters, and it is possible that otter may be present within the site. The proposed development has been designed such that all major infrastructure works remain a suitable buffer zone from significant watercourses and wetland habitats (save where culverts are to be constructed). In addition, no instream works are proposed along the grid connection route. The proposed development will not give rise to significant habitat destruction, loss of

breeding or resting places, direct mortality or create barriers to the movement of otter. Best practice disturbance limitation measures for Otter are described in Section 5.2.2 of the NIS and it is proposed to undertake a pre-construction otter survey and to implement disturbance limitation measures, as a precaution and prevent any direct or indirect impacts during the construction phase.

## Bats

There is potential for disturbance and displacement impacts on bat species during the construction phase due to loss or damage to commuting or foraging habitat. The loss of hedgerow to facilitate the construction of turbines and new road infrastructure will be in short sections. An extensive network of linear landscape features will be retained in the area and there will be no significant habitat fragmentation, loss of commuting habitat or loss of foraging habitat. The opening up to conifer forestry plantation to facilitate turbine construction would result in a net gain in linear landscape features with positive impacts. A small number of bats were observed emerging and / or re-entering buildings within the site. These structures will not be altered. Trees on site do not provide potential roosting habitat of significance. Habitats on site will remain suitable for bats and no significant displacement of individual or populations is anticipated. Mitigation will involve planting replacement hedgerows within the development. I am satisfied that significant construction stage impacts will not arise. The impacts at decommissioning would be similar to those associated with the construction stage but to a lesser extent.

## Aquatic Species

There is the potential for indirect effects on aquatic receptors including aquatic habitats (watercourses), salmonids, lamprey, coarse fish, white-clawed crayfish, European eel, aquatic invertebrates, molluscs (inc. Freshwater Pearl Mussel) and other aquatic species. The watercourses within the windfarm site are highly modified but are conduits to waterbodies with a higher biodiversity value including the Lower River Shannon SAC. The scheme is designed to avoid significant impacts on watercourses and there will be no net loss of fisheries habitat and no potential for the development to result in any barrier to the movement of aquatic species. No significant habitat for salmonids, lamprey, coarse fish, white-clawed crayfish, European eel, aquatic invertebrates or other aquatic species were recorded within

the footprint of the proposed development and all major infrastructure (inc. culverts and crossings) are designed to avoid direct impacts on water courses. I am satisfied that the scheme includes design mitigation and construction mitigation measures (detailed in the Construction and Environmental Management Plan) to ensure that there are no significant direct effects on sensitive aquatic habitats or species. The run off of silt, nutrients and other pollutants that could have indirect downstream impacts on biodiversity in the form of habitat degradation and water pollution. In this regard, I note that it is proposed to maintain a setback / buffer from watercourses for the majority of new infrastructure / works and that the CEMP includes mitigation measures to protect the water environment.

## Bog

The grounds of appeal and observations have raised concerns in relation to the impact of the proposed development on the intact raised bog habitat in the centre of the study area (c. 34 hectares) which it is claimed is an Annex 1 Habitat. The EIAR notes that until 2019 all vegetated areas of high bog which were not delineated as active raised bog were classified as Annex 1 Habitat – degraded raised bog still capable of natural regeneration (7129). NPWS Article 17 reporting in 2019 changed the definition of the Annex 1 habitat in an Irish context. To qualify a degraded raised bog must still be capable of natural regeneration to achieve bog within 30 years if hydrology is repaired. High bog that is neither an active raised bog or degraded raised bog is now referred to as ‘Supporting Raised bog habitat’ (The Status of EU Protected Habitats and Species in Ireland Volume 2 Habitats Assessment 2019). The EIAR argues that all peat areas within and surrounding the development footprint are degraded and do not support active peat formations, due to the existing drainage pattern, slope and surface shape. This includes the location of turbine 10 which is positioned on marginal bog habitat and subject to drainage on three sides. It is argued that the habitat areas within the development footprint best conform to ‘supporting raised bog habitat’ status (NPWS 2019); and that the peatland areas within the development footprint do not have the potential to revert to active forming systems within a 30 year timeframe (see Chapter 9 Hydrology). It is assumed as a precaution that areas of Annex 1 Degraded Raised Bog habitat may occur towards the centre of this peatland complex – particularly where ‘Depressions on peat

substrates of the Rhynchosporion' (Natura 2000 Code 7150) was recorded during survey in 2013.

I would concur with the view in the EIAR that it is clear on inspection that the hydrology that maintained the original raised bog at Ballyhorgan has been significantly altered and impaired as a result of human interventions with the outer periphery of the raised bog completely removed. Turbine 10 is on the edge of (and encroaches into) the intact bog close to the peat cutting face on the north side of the intact raised bog. The remaining turbines within the original raised bog footprint (T2, 5 and 9) are located in areas of cutover bog. The natural hydrology at all of the proposed turbine locations (including T10) has been significantly altered by peat cutting and manmade drainage. The excavation required to construct T10 will mean that there will be some loss of raised bog, however, I am satisfied and accept the applicants argument that this will be marginal in the context of the overall area and that the overall hydrological impacts is consistent with present day trends. The access road to T10 is in the cutover bog. Wet bog pools, which correspond to this Annex 1 habitat are found towards the centre of the remaining uncut raised bog and will not be affected by the proposed development. I am satisfied on the basis of the reclassification of this habitat type by NPWS in 2019 that the proposed development would not impact on areas of potential Annex 1 habitat should such habitat exist within the central section of the site. These areas are fully avoided by the development and given the limited encroachment into the raised bog I am satisfied that the potential for significant impacts can be excluded.

#### Invasive Species

Invasive species have been identified adjacent to the grid connection route and the potential for environmental impacts from invasive species is identified in a third party submission. This issue is addressed in detail in Section 4.2.5.6 of the NIS (Table 4-13 details recorded Invasive Species). Species recorded during survey include Rhododendron and Japanese Knotweed – species listed under Part I of the Third Schedule of the EC (Birds and Natural Habitats) Regulations 2011. Recorded infestations are avoided by the proposed development. Notwithstanding this, an Invasive Species Management Plan which describes biosecurity measures and treatment proposals for works within 7m of identified infestations is provided as Appendix 7 to the NIS. I am satisfied that any potential environmental impacts can

be suitably mitigated through the implementation of the Invasive Species Management Plan.

I am satisfied that any potential for significant impacts can be adequately mitigated through the measures proposed in the EIAR and in the Construction and Environmental Management Plan and that following implementation of the mitigation measures that there will be no significant effects on biodiversity.

#### Assessment of Effects – Operational Phase

- 7.4. During the operational phase the main potential for impact on biodiversity relates to impacts on rivers, streams and sensitive aquatic fauna due to increased run off and the potential for pollutants (e.g., silt, sediment, nutrients and hydrocarbons) to enter the water system. The impact on avian receptors are considered under separate heading. Windfarms are not recognised as a significant source of pollution. Measures are proposed to control run off from roads and hard standing areas and to address risks arising from accidental spillage or leaks of polluting substances. The mitigation in relation to surface water impacts are outlined in Chapter 9 Hydrology and Hydrogeology. There is a risk to bat species arising from collision risk. High risk species of Leisler's Bat, Common Pipistrelle, Soprano Pipistrelle and Nathusius Pipistrelle were identified. The overall risk level for high collision risk bat species was typically medium with high seasonal peaks for some species. To mitigate impacts it is proposed to reduce the value of habitat for bat species in the area surrounding turbines as a mitigation measure. Continued monitoring of the operational wind farm for up to three years post construction is also to be undertaken. I recommend that a condition to this effect is included in the event of a grant of permission.

#### Assessment of Effects – European Sites

The proposed windfarm is not located within a European site. The closest sites are the Lower River Shannon SAC located c. 340 metres north of the windfarm site at the closest point and the Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA located c. 1.4 km east of the windfarm site. The grid connection route traverses the Lower River Shannon SAC at 2 no. locations and runs over a distance of c. 11.9 km within the Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA. The impact of the proposed

development on European sites is addressed in Section 8.0 of this report. The possibility of likely significant effects on all European Sites was screening out, with the exception of the Lower River Shannon SAC and the Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA Tralee Bay Complex SPA. It was concluded on foot of Stage II Appropriate Assessment that the proposed development is not likely to have significant effects on any European site, alone or in combination with other projects.

In terms of cumulative impacts, I would note that there are no other large-scale projects permitted or proposed in this area. Given the localised nature of any impacts arising from the proposed development I am satisfied that the potential for cumulative impacts in conjunction with other developments does not arise.

### Conclusion

I have considered all of the written submissions made in relation to biodiversity. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of biodiversity. I am also satisfied that cumulative effects are not likely to arise.

#### **7.4.1. Ornithology**

Chapter 7 of the EIAR describes potential impacts on avian receptors. The potential for impact on bird species and on protected birds due to disturbance, displacement and collision risk has been raised in numerous third party submissions. A number of submissions state that any risk to Hen Harrier an Annex 1 Bird Species is unacceptable.

Bird species within the potential zone of influence of the project were identified via desk based study, field surveys and consultation with stakeholders. Field surveys were undertaken over a two year period from March 2018 to March 2020 and were informed by the earlier survey work for the initial application. 2018-2020 surveys extended over two breeding seasons and over two non-breeding seasons.

In the absence of specific national guidance, surveys were designed and undertaken in accordance with “Recommended bird survey methods to inform impact assessment of onshore windfarms’ Scottish National Heritage, 2017. Vantage Point Surveys, Breeding Walkover Surveys, Breeding Raptor Surveys, Hen Harrier Roost Surveys, Winter Walkover Surveys, Wildfowl Distribution Surveys and Grid Connection Route Surveys were undertaken. The EIAR provides an overview of field survey results. Detailed survey data is contained within the technical appendices (Section 7.4 refers).

The following European sites are close to the development:

- The Stack’s to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161) is 1.4 km to the south east of the wind farm site and the grid connection runs through this SPA. QI: Hen Harrier (*Circus cyaneus*) [A082].
- Kerry Head SPA (004189) is 11.5 km to the west of the wind farm site and 13.6 km from the grid connection route at the closest points. QI’s: Fulmar (*Fulmarus glacialis*) [A009], Chough (*Pyrrhocorax pyrrhocorax*) [A346].
- Tralee Bay Complex SPA (004188) is 17.4 km from the wind farm site and 12.9 km from the grid connection route at the closest points. QI’s: Whooper Swan (*Cygnus cygnus*) [A038], Light-bellied Brent Goose (*Branta bernicla hrota*) [A046], Shelduck (*Tadorna tadorna*) [A048], Wigeon (*Anas penelope*) [A050], Teal (*Anas crecca*) [A052], Mallard (*Anas platyrhynchos*) [A053], Pintail (*Anas acuta*) [A054], Scaup (*Aythya marila*) [A062], Oystercatcher (*Haematopus ostralegus*) [A130], Ringed Plover (*Charadrius hiaticula*) [A137], Golden Plover (*Pluvialis apricaria*) [A140], Grey Plover (*Pluvialis squatarola*) [A141], Lapwing (*Vanellus vanellus*) [A142], Sanderling (*Calidris alba*) [A144], Dunlin (*Calidris alpina*) [A149], Black-tailed Godwit (*Limosa limosa*) [A156], Bar-tailed Godwit (*Limosa lapponica*) [A157], Curlew (*Numenius arquata*) [A160], Redshank (*Tringa totanus*) [A162], Turnstone (*Arenaria interpres*) [A169], Black-headed Gull (*Chroicocephalus ridibundus*) [A179], Common Gull (*Larus canus*) [A182], Wetland and Waterbirds [A999].

Tables 7.9 and 7.10 set out a list of ‘breeding birds’ and ‘wintering birds’ in the area based on data contained in the Breeding Bird and Wintering Bird Atlases. A list of all bird species recorded during surveys is set out in Appendix 7-1 of the EIAR (63 no.



in total). The target species recorded within the zone of influence of the wind farm are as follows: Hen Harrier (Annex 1 species), Little Egret (Annex 1 species), Merlin (Annex 1 species), Whooper Swan (Annex 1), Barn Owl (Red listed regarding breeding populations), Black-headed Gull (Red listed regarding breeding populations), Curlew (Red listed regarding breeding & wintering populations), Herring Gull (Red listed regarding breeding populations), Lapwing (Red listed regarding breeding & wintering populations), Buzzard (Raptor, Schedule IV of the Wildlife Act; 1976), Sparrowhawk (Raptor, Schedule IV of the Wildlife Act: 1976), Kestrel (Raptor, Schedule IV of the Wildlife Act; 1976), Common Snipe (Amber listed regarding breeding & wintering populations), Red listed passerine species regarding breeding populations (Meadow Pipit and Grey Wagtail). The species are listed in accordance with conservation significance.

The EIAR sets out an assessment of impact on Key Ornithological Receptors (KOR's)<sup>9</sup>.

#### 7.5. Assessment of Impacts - Construction, Operational and Decommissioning Phase

- Hen Harrier (Annex 1 species; BoCCI Amber List and Irish Wildlife Act) is a very high sensitivity species. The estimated population in Ireland of 269-349 birds; 108-157 breeding pairs (NPWS). Hen Harrier is an SCI for the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161) located c. 1.4 km from the windfarm site. The grid connection runs over a distance of c. 11.9 km in this SPA. The site is potentially within the core foraging range of hen harrier associated with this SPA.

Hen Harrier was recorded on 11 occasions in total during surveys. During the vantage point surveys hen harrier was recorded on 7 occasions (March 2018 – March 2020). All observations were of individual birds commuting or hunting over areas of cutover bog. During the dedicated roost surveys hen harrier was observed on 2 occasions. On one occasion the hen harrier was recorded commuting over a conifer plantation with no evidence of roosting observed. On the other occasion the hen harrier was recorded flying into a potential wintering night roost located c. 1.3 km from the windfarm site and c.

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<sup>9</sup> Species occurring within the zone of influence of the development upon which likely significant effects are anticipated and assessed.

2km from the nearest proposed turbine. On subsequent visits no hen harrier were observed using this roost site. The EIAR concludes that the roost does not appear to be in regular use and that a hen harrier is not likely to be dependent on a site that is rarely used. There were two incidental observations both of birds commuting.

Hen harrier were recorded on 6 occasions during the breeding season on 2 occasions within the windfarm site and on 4 occasions at distances of over 500m from the windfarm site. One observation from the core breeding season was of an adult female and the other observation was of a male. No evidence of breeding was recorded during any of the surveys. The hen harrier recorded during both winter and breeding seasons are associated with wintering / breeding populations from the wider area and are deemed to be of National / International importance (based on % of national population).

Potential effects during the construction phase relate to direct loss of potential supporting habitat (ex-situ <sup>10</sup>) within the windfarm site and displacement and barrier effects within the windfarm site and along the grid connection route during works. Potential effects during the operational phase relate to displacement, barrier effects and collision risk within the windfarm site.

The majority of the observations were of individual Hen Harrier commuting or foraging over cutover bog. No regularly used hen harrier roosts and no breeding activity was recorded. Hen harrier was recorded foraging within the windfarm site on a number of occasions.

Given the nature and the extent of activity recorded during survey I accept the findings of the EIAR in relation to the potential for impact on Hen Harrier as follows: the extent of suitable habitat for hen harrier in the wider area would adequately compensate for any loss of habitat arising from the proposed development; significant displacement or barrier effects are unlikely during construction, operational and decommissioning phases given the infrequent nature of visits by hen harrier to the site and the availability of large areas of similar habitat in the wider area. The grid connection route will be positioned

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<sup>10</sup> While the grid connection route is partially within the SPA, it is confined to the existing public road corridor and will not result in the loss of any potential supporting habitat for hen harrier.

underground and is largely within the existing roadway with no loss of suitable habitat. Temporary displacement of Hen Harrier is possible due to noise and disturbance associated with the laying of the grid connection. However, the works will be undertaken in short sequential stages and are temporary in nature. On this basis no significant or long-term impacts are envisaged. The potential for mortality due to collision with turbines is modelled at 0.0007 collisions per year or one bird every 1,429 years. For the purposes of collision risk modelling the EIAR assumes a turbine rotor diameter of 136m and a hub height of 88.5m. The risk is considered negligible in the context of the overall national pollution and the estimated population within the SAC<sup>11</sup>. Overall, I consider that it is reasonable to conclude on the basis of the available information that the potential for significant environmental impacts on Hen Harrier (A082) are not likely to arise and that the magnitude of potential impact in the long-term would be imperceptible.

- Little Egret (Annex1 species and Irish Wildlife Act) observed twice (individual birds) during the winter walkover surveys and on six occasions (13 birds in total) during the wildfowl distribution surveys. During the winter bird survey one bird was observed commuting over the windfarm site and the second was observed at a distance of over 500m from the site. During the wildfowl surveys the observations were of birds flying and foraging in terrestrial habitats. Occasionally recorded commuting across the windfarm site or within 500m of the site. The EIAR concludes that wintering and breeding populations are not dependent on the windfarm site and no pathways for significant effects were identified. I accept the findings of the EIAR in this regard.
- Merlin (Annex 1, EU Bird Directive; BoCCI Amber List & Irish Wildlife Acts) is deemed to be of local importance. This species was observed on one occasion during surveys (March 2018-March 2020) perched and commuting within the wind farm site. No roosting or breeding was observed. The potential for impact due to direct habitat loss, displacement and barrier effects

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<sup>11</sup> Natura 2000 Data Form updated 09-2018 (NPWS) states that the site supports c. 21% of the all-Ireland population of *Circus cyaneus* (Hen Harrier), which is the largest concentration in the country for the species.

during the construction phase, and displacement, barrier effect and collision during the operational phase is considered. Given the low levels of activity recorded and the extensive areas of suitable foraging habitat that will remain in the wider area post construction the EIAR concludes that any impact arising from loss of habitat, displacement and barrier effects during all phases would be imperceptible. An assessment of collision risk was not considered necessary as no flights were recorded during VP surveys. I accept the findings of the EIAR.

- Whooper Swan (Annex 1 species) was not observed on or within 500m of the wind farm site. The species was recorded on 87 occasions in the wider area. Whooper Swan was recorded regularly during the wildfowl distribution surveys with observations confined to distances of between 2km and 5 km from the wind farm site. During the breeding raptor survey a single Whooper Swan was heard calling (incidental observation) from a location c. 800m to the west of the wind farm site. No significant activity was recorded within or in the vicinity of the site. The EIAR concludes that no pathways for significant effects were identified. I accept the findings of the EIAR.
- Barn Owl (BoCCI Amber List & Irish Wildlife Acts) was recorded on two occasions within the wind farm site. On both occasions barn owl was flushed from a tree by the surveyor on route to vantage point surveys. Low levels of activity and no evidence of breeding activity were recorded. The peatland habitats of the site are considered sub-optimal foraging habitat for barn owl and as such, significant impacts from loss of habitat are not likely. Significant displacement and / or disturbance is not anticipated given the low levels of activity. An assessment of collision risk was not considered necessary as this species was not recorded flying at potential collision height during VP surveys. The potential impacts arising from the proposed development in the long term are quantified as slight negative in the EIAR. I accept the findings of the EIAR.
- Black Headed Gull (Red Listed regarding breeding populations) was recorded on four occasions during the wildfowl distribution surveys. One observation occurred within 500m of the windfarm site and the other recordings were within 5 km of the windfarm site. Black Headed Gull was not recorded on site

during the breeding season and is not dependent on the windfarm site for breeding. No pathways for significant effects were identified.

- Curlew (Red listed with regards to breeding & wintering populations) was recorded on three occasions during the wildfowl distribution surveys. The observations were in the 2019/2020 winter season, with flocks ranging from five to sixty two individuals. All observations were of curlew foraging in terrestrial habitats more than 5 km from the wind farm site. Given the absence of recordings within and close to the site during comprehensive survey the EIAR concludes that no pathways for significant effects were identified. I accept the findings of the EIAR.
- Herring Gull (Red list with regard to breeding populations) was recorded on one occasion (May 2018) at a distance of c. 400m from the windfarm site. This species was not recorded close to the site in winter months. Given the absence of recordings within and close to the site during survey the EIAR concludes that no pathways for significant effects were identified.
- Lapwing (Red list with regards to breeding & wintering populations) were observed on three occasions during the wildfowl distribution surveys (Oct – Dec 2019) in flocks of 47-50 birds (County importance). All observations were of birds feeding or commuting over improved agricultural grassland at distances of 4 km and over from the windfarm site. Given the absence of recordings within and close to the site during comprehensive survey the EIAR concludes that no pathways for significant effects were identified. I accept the findings of the EIAR.
- Buzzard (Irish Wildlife Acts) was recorded within the wind farm site during the breeding and winter seasons on 14 occasions in total. The EIAR considers the potential for impact on Buzzards due to direct habitat loss, displacement and barrier effects during the construction phase, and displacement, barrier effect and collision during the operational phase. This species was occasionally recorded within the wind farm site during the breeding and winter seasons. There was no evidence of breeding activity within the site. Display behaviour was observed at 500m and 2km from the wind farm site, however, no nests were located. The low level of recorded activity limits the potential

for ecologically significant impacts. The EIAR states that research shows that Buzzards have been found to show significant turbine avoidance extending up to at least 500m. Significant effects are not predicted given the low levels of activity recorded within the site and the extensive areas of suitable foraging habitat that will remain post construction within the site and in the wider area. It is noted that direct loss of foraging habitat to the footprint of the development will be minimal. The species was recorded flying within the potential collision risk zone during survey. While there is potential for some mortality due to collision (ratio of 0.06 collisions per year or one bird every 16.7 years) the calculated magnitude of risk is insignificant in the context of the county, national and international populations. I accept the findings of the EIAR.

- Sparrowhawk (BoCCI Amber List & Irish Wildlife Acts) were recorded on five occasions during surveys (breeding raptor and winter walkover surveys). All recordings were of individual birds commuting. 4 of the 5 observations occurred within, or partially within 500m of the turbine layout. This species was not recorded using habitat within the windfarm site for foraging or breeding (a reference in Table 7-11 to species using habitats within the windfarm site would appear to be an error). There was no evidence of breeding activity for this species. Significant effects in terms of habitat loss, displacement and barrier effect not predicted given the low levels of activity recorded and the fact that extensive areas of suitable habitat will remain within the site and in the wider area post construction. No significant impacts are envisaged. I accept the findings of the EIAR.
- Kestrel (BoCCI Amber List & Irish Wildlife Acts) was frequently recorded within the windfarm site during the breeding and winter seasons. No evidence of breeding activity was recorded. There is potential for impact due to loss of habitat and displacement and barrier effects during construction, and displacement and barrier effect and collision risks during the operational phase. Significant impacts not anticipated on the basis that: substantial areas of undisturbed suitable breeding and foraging habitat will remain within the site and in the wider area; and raptor studies have generally found low levels of turbine avoidance with some species including Kestrel known to continue foraging activity close to turbines. The species was recorded flying within the

potential collision risk zone during survey. While there is potential for some mortality due to collision (ratio of 0.37 collisions per year or one bird every 2.7 years) the EIAR concludes that the calculated magnitude of risk is insignificant in the context of the county, national and international populations<sup>12</sup>. I accept the findings of the EIAR.

- Common Snipe (BoCCI Amber List & Irish Wildlife Acts) was recorded regularly during surveys with the majority of observations during winter months. There is potential for impact due to loss of habitat and displacement and barrier effects during construction, and displacement and barrier effect and collision risks during the operational phase. It is considered that the loss of breeding and foraging habitat will be minimal as the infrastructure is confined to a narrow corridor and that significant areas of suitable habitat will remain post construction and in the surrounding area. Should displacement occur there are extensive areas of suitable habitat in the wider area to render this potential impact inconsequential. Studies show that breeding snipe showed significant avoidance of turbines extending up to 400m. Given the extent of suitable habitat in the wider area significant displacement is not anticipated. The species was recorded flying within the potential collision risk zone during survey. While there is potential for some mortality due to collision (ratio of 0.02 collisions per year or one bird every 50 years) the EIAR concludes that the calculated magnitude of risk is insignificant in the context of the county, national and international populations<sup>13</sup>. I accept the findings of the EIAR.
- Passerines (Red Listed) species meadow pipit and grey wagtail were recorded during the surveys. Meadow pipit was recorded in song on 7 occasions during the breeding walkover surveys and regularly during other surveys. Grey wagtail was observed on 1 occasion within the windfarm site. No significant impact envisaged. I accept the findings of the EIAR.

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<sup>12</sup> For the purposes of collision risk assessment, a turbine with a rotor diameter of 136m and a hub height of 88.5m was modelled.

<sup>13</sup> For the purposes of collision risk assessment, a turbine with a rotor diameter of 136m and a hub height of 88.5m was modelled.

Impacts on bird species during decommissioning would be of a similar nature to those associated with the construction stage but to a lesser extent.

I am satisfied that the applicant has undertaken comprehensive ornithological surveys over a two year period and implemented best practice survey methodologies. I am satisfied that the potential for impacts have been assessed in detail and that subject to the mitigation measures detailed in Section 7.11 of the EIAR and to a condition that limits the turbine to the turbine hub height, tip height and rotor diameter used in the assessment of collision risk (to ensure that any impacts arising have been fully assessed) that there will be no significant effect on avian habits or species, at any geographic scale.

#### 7.5.1. Cumulative Impacts

In considering the potential for cumulative impacts arising in conjunction with other plans and projects in the area the EIAR considers plans, land-uses and developments that are permitted / operational or pending / under appeal.

The species assemblages and the level of recorded activity (where available) for other developments listed in Section 7.14 of the EIAR are broadly similar to that recorded at the appeal site. Following desktop study and field survey undertaken in accordance with best practice methodology, no important migratory route has been identified for any species within the immediate vicinity of the site. Therefore, no significant cumulative barrier effect is anticipated. No potentially significant residual disturbance, displacement or habitat loss effects were reported for any receptors within any of the nearby windfarms or other assessments reviewed and no potentially significant cumulative disturbance, displacement or habitat loss effects have been identified for the proposed windfarm development. Taking into consideration the reported residual effects from other plans and projects in the area and the predicted effects arising from the proposed development significant cumulative or in-combination effects are not anticipated. I accept the findings of the EIAR in this regard.

#### 7.5.2. Conclusion

I have considered all of the written submissions made in relation to ornithology. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures



and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of ornithology. I am also satisfied that cumulative effects are not likely to arise.

### 7.5.3. **Land, Soils and Geology**

Chapter 8 of the EIAR describes potential impacts on the land, soil and geology. The potential effects are considered in the context of peat / soils, subsoils, geology.

#### Receiving Environment

The geology of the site comprises poorly draining mineral soil and peat overlying subsoil which in turn is underlain by primarily limestone bedrock. The central part of the site comprises raised bog. The raised bog has been extensively cutaway around the periphery leaving a central uncut area. The turbines and associated infrastructure does not encroach onto areas of uncut raised bog for the most part, save for the area around T10 which is at a transitional location and with slight encroachment onto uncut raised bog. Much of the cutover peat in this area has been reclaimed and converted to grassland. The land around the cutaway bog comprises flat poorly draining agricultural land. The limestone, mudstone and sandstone bedrock at the site and the peat deposits at the site are classified by GSI as having 'low' importance. The topography of the windfarm site is generally flat ranging from 10m to 20 m OD and rising up abruptly on the southern periphery to 80m OD. The grid connection route is within the existing road network, underlain by glacial tills and mainly sandstone bedrock. The elevation of the grid connection route is between c. 10m OD and 230 OD as it extends from the windfarm site into uplands associated with the Stacks Mountain Range. The area around the windfarm site is drained by several streams and a network of drainage ditches that flow towards the River Feale which is less than 1 km to the north of the site.

The EIAR details peat depths on site. The peat depths on site range from 0-4.2 metres. This excludes the area around T10 where peat depths in excess of 6.2 m were recorded. Apart from T10 all of the proposed turbines are located in areas of relatively shallow peat of 0-2.2 m. Peat depths along the proposed access roads are typically less than 1.0m with some localised peat depths of up to 3.6m recorded.

### 7.6. Assessment of Effects

The main risks to soil and geology during construction and operational phases arise from the removal of peat, soil and bedrock. The removal of soil and rock during the construction phase will increase the potential for landslides and for the contamination of soil or geology through accidental leaks or spillages of contaminating substances.

In accordance with the requirements of the Wind Energy Guidelines 2006 the EIAR includes a detailed Peat Stability Report (Appendix 8.1 refers). The report is an update of previous reports submitted with the application. The turbines are located in areas of relatively shallow peat for the most part, save for Turbine 10 where a depth in excess of 6.2 m was recorded. The peat at turbines 1-9 has a low risk of peat instability. The peat at Turbine 10, where the greatest peat depths occur, is less. However, the terrain at this turbine location was recorded as being well drained and the peat in the area was noted as having relatively high strength. While there is an elevated or higher risk of peat instability at this location the EIAR concludes that Turbine 10 can be constructed without any peat instability subject to control measures – detailed in the stability report. This includes design and construction mitigation measures to protect the peat. The overall risk of peat instability is quantified as low to medium. I accept the findings of the Peat Stability Report.

The contamination risks to soil and geology are typical of those arising from any construction project. The Construction and Environmental Management Plan appended to the EIAR includes control measures for peat and soil stripping and excavation, for the use and storage of polluting materials and for the management and containment of run off.

The laying of the grid connection will be within existing roads for the most part and as such no impacts are envisaged on land, soil and geology.

I am satisfied that any potential for significant impacts during the construction and operational phases can be adequately mitigated through the measures proposed in the EIAR and in the associated Plans and Reports and that following implementation of the mitigation measures that there will be no significant effects on land, soil and geology, at any geographic scale. It may also be possible to reverse or reduce some of the impacts caused during construction by rehabilitating construction areas during the decommissioning phase.

In terms of cumulative impacts, any impacts arising from the proposed development are localised in nature. The potential for cumulative effects in conjunction with other developments in the area can, therefore, be excluded.

### ***Conclusion***

I have considered all of the written submissions made in relation to land, soils and geology. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of land, soils and geology. I am also satisfied that cumulative effects are not likely to arise.

#### **7.6.1. Hydrology and Hydrogeology**

Chapter 9 of the EIAR describes potential impacts on the water aspects of the receiving environment.

##### Receiving Environment

The windfarm site is located around an intact raised bog and comprises cutaway bog and poorly draining agricultural grassland for the most part. It is a relatively flat site ranging from c. 10 m OD to 20 m OD with an abrupt increase in elevation to c. 80m OD along the southern boundary. The grid connection rises from 10m OD to 230m OD at the proposed electricity substation to the south of the main windfarm site. The windfarm development includes 13 no. water crossings for the 10 no. turbine layout (inc. 5 no. existing) and 9 no. crossings for the 7 no. turbine layout (inc. 5 no. existing). The grid connection includes a total of 32 no. stream and culvert crossings with 8 no. natural stream / river crossings. No instream works are proposed.

The area is drained by several streams and a network of drainage ditches that flow towards the River Feale (SAC) to the north of the site (Figure 9.1 and 9.2 refer). The River Feale flows into the Cashen River (Cashen River Estuary is a proposed NHA), which in turn flows into the Atlantic Ocean c. 5 km downstream of the development site. Both rivers are in the River Shannon Regional Catchment. A local hydrology map is shown in Figure 9.1 and Figure 9.2.

There is a limestone bedrock underlying most of the site that is classified as regionally important in terms of water yields. The vulnerability of the aquifer is classified as predominantly moderate to low by GSI. This increases to high and extremely vulnerable along the southern boundary of the site. No turbines are proposed in this more vulnerable area of the site. The proposed borrow pit is located on the south of the site where the vulnerability is rates as extreme due to the lack of soil coverage. Groundwater movement within the aquifer is good and as such groundwater can be classed as sensitive in terms of potential impacts from the proposed development. However, most of the bedrock is covered in peat / poor draining soil which acts as a protective cover to groundwater. There is sandstone bedrock under the grid connection primarily. This is typically low yielding in terms of groundwater. I would note that windfarm developments involve near surface construction and that impacts on groundwater are generally negligible. Surface water is generally the main sensitive receptor. There are no private wells, group schemes wells or public water supply wells within 1 km of the proposed development site.

### Assessment of Effects

There is potential risks to ground and surface water from hydrocarbon spillage or leakages. Any potential contaminants which may be accidentally released on site are more likely to travel to nearby streams within surface run off rather than recharge to groundwater given the level of soil / peat cover. A series of mitigation measures to avoid release of hydrocarbons and to manage any accidental leaks or spillages are proposed. The use of cement and cement based products will also be carefully management to ensure that impacts are mitigated to an acceptable level.

There is the potential for negative impacts on the surface water environment arising from surface water run off during the construction and operational phases which could impact the water environment and aquatic habitats. Risks associated with recharge to groundwater are considered low due to the soil cover (peat and poor draining soil) with a relatively high run off rate. Watercourses and drains within the site are highly modified but are conduits to waterbodies with a higher biodiversity value including the Lower River Shannon SAC and the Cashen River Estuary pNHA (Figure 9.1 details the watercourses).

During the construction phase it is proposed to implement mitigation measures to protect surface water quality and to prevent the movements of silt, sediment and nutrients into the water environment. This includes avoiding disturbance to natural drainage features, minimising works in or around artificial drainage features and diverting clean surface water flow around excavations and construction areas. Runoff from works areas will be collected and attenuated prior to diffuse discharge at pre-existing greenfield rates. There will be no direct discharges to surface water during the construction phase. The mitigation measures will ensure that surface water runoff from the proposed development areas will be of high quality and will not impact on the quality of downstream surface water bodies. The hydrological constraints map (9.7) shows that a setback is maintained from sensitive hydrological features within the site and that there is space for drainage mitigation measures to be installed up gradient of the primary drainage features. Pollutants such as fuels will be stored off site or in bunded areas.

No significant changes are proposed to the drainage system in the area – existing field drains will be routed under / over access tracks using culverts.

A number of third parties have expressed concern in relation to the potential for changes to the hydrological environment due to the drainage of peatlands (including the cumulative impact arising from all windfarm developments in the area). The proposed turbines and associated infrastructure are positioned on improved grassland, cut over bog and forestry for the most part with only marginal encroachment onto areas of uncut raised bog. The potential for impact on the hydrological environment associated with the removal of bog is therefore negligible.

During the operational phase runoff from access tracks, turbine bases and developed areas will be collected and treated in local proposed silt traps and settlement ponds and then discharge to the existing field drains. Given the flat lowland location it is envisaged that runoff velocities and runoff erosion will generally be low. The site is in flood zone C and no increased risk of flooding is envisaged. Buffer zones will be maintained around sensitive aquatic zones where possible - save for cross over locations (Figure 9.7 refers).

It is concluded that the impact on water quality during construction will be imperceptible to none. During the operational phase control measures will ensure

that surface water runoff from the developed areas of the site will be of good quality and will not impact on water quality downstream.

Risks during the decommissioning phase will be similar to those of the construction phase. It is proposed to leave concrete bases and roads in situ and to cover these with soil reducing the potential for impact.

I am satisfied that any risks identified will be adequately addressed by the mitigation measures detailed in the EIAR. In terms of cumulative impacts, any impacts arising in conjunction with other developments in the area are considered insignificant, and as such I am satisfied that the issue of cumulative impacts does not arise.

### Conclusion

I have considered all of the written submissions made in relation to hydrology and hydrogeology. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of hydrology and hydrogeology. I am also satisfied that cumulative effects are not likely to arise.

#### **7.6.2. Climate and Air Quality**

Chapter 10 of the EIAR describes potential impacts on air and climate including the potential for emissions to air during the construction phase, from construction machinery and dust. During the operational phase there would be effectively no emissions, with a net benefit due to reduction in dependency on fossil fuels.

A number of parties to the appeal question the contribution of wind energy to carbon and greenhouse gas reduction. The concerns raised are not substantiated on the basis of technical or scientific evidence and are without any basis in my view. EU and national policy supports the move away from fossil fuel based energy toward other forms of 'sustainable' energy including wind generation. The development will make a positive contribution to Ireland's Climate Action Plan (2019) including the target to provide 70% of electricity from renewable sources by 2030.

In terms of cumulative impacts, I am satisfied that any impacts arising from emissions during the construction phase would be localised in nature and that the

potential for cumulative negative effects in conjunction with other developments in the area can, therefore, be excluded. There is potential for cumulative positive impacts arising from other wind and solar farm developments in the area.

### 7.6.3. Conclusion

I have considered all of the written submissions made in relation to air and climate. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect negative impacts in terms of air and climate. I am also satisfied that negative cumulative effects are not likely to arise and that any cumulative impacts would be positive in nature.

### 7.6.4. **Landscape and Visual**

Chapter 12 of the EIAR provides an assessment of landscape and visual effects. The assessment methodology is set out in Appendix 12.1. A 20km study area is adopted for landscape and visual effects and 15km study area for effects on landscape character. The assessment includes theoretical visibility mapping and photomontage images from 18 viewpoints. A number of submissions received from third parties over the course of the application and appeal question the viewpoint locations. This has been addressed in the earlier Inspector Reports and I concur with the earlier conclusion that the viewpoints provide a representative sample of short-range, medium-range and long-range views. I would note that the turbines detailed in the photomontage images have a rotor diameter of 117m, hub height of 98m and tip height of 156.5m. This differs from the turbine dimension used in the assessment of shadow flicker, noise and bird collision. The turbine assessed in this instance would have a taller hub height (+9.5m) and shorter rotor diameter (-18m).

The PA refused permission for one reason relating to visual and landscape impacts as follows: *'Having regard to the size and scale of the proposed turbines relative to the nature of the receiving environment of hilly and flat farmlands, it is considered that a wind farm development of the scale proposed would create a significant visual intrusion in this landscape by reason of the height and spatial extent of the proposed turbines which would be excessively dominant and visually obtrusive when viewed from the surrounding countryside and villages. The proposed wind farm would have*

*a significant impact on the value and character of the landscape in the area and would seriously injure the amenity and quality of life of communities and individuals who dwell in the area. The proposed development would, therefore, seriously injure the visual amenities of the area, would be contrary to the provisions of the Wind Energy Guidelines for Planning Authorities, DoEHLG, 2006 and would be contrary to the proper planning and sustainable development of the area”.*

The windfarm site is located in an area of low lying and flat agricultural lands that is positioned between the Stacks Mountains to the east and south-east and the coast to the west, south-west and north-west. The Renewable Energy Strategy categorises the area as “Hilly and Flat Farmland, Coastal”. The character of the area is defined by mixed farmland, dispersed housing and small areas of woodland and bog.

The Kerry County Development Plan 2015-2021 (inc. Renewable Energy Strategy) is the relevant development plan. The Renewable Energy Strategy classifies the county into three wind development zones: Strategic Site Search Areas, Open to Consideration and Unsuitable. The site is in the ‘Open to Consideration’ zone. The CDP designates three categories of rural area, Rural General, Rural Secondary Special Amenity and Rural Prime Special Amenity (Map 12.1 Volume 3 refers). The site is in the general rural area. There are Rural Prime and Rural Secondary Special Amenity areas within the 20 km study area located around the River Feale as it enters Listowel (c. 6 km north-east), south of Ballybunion overlooking Cashen Bay on the River Feale estuary (c. 10.4 km north-west) and along the coast of the Shannon Estuary west of Ballylongford (c. 15.2 km north) (EIAR Fig. 12-6 refers). The CDP includes objectives to protect the landscape of the county (ZL1), to preserve views and prospects (ZL5) and to facilitate the sustainable development of viewing points identified by Failte Ireland along the Wild Atlantic Way (ZL6). Sensitive visual receptors within the study area include designated scenic views and prospects, tourism / recreational destinations (inc. beaches, cliffs, golf courses, coastal amenities) tourism routes (inc. ‘Wild Atlantic Way’), heritage features (Listowel Castle, Ardfert Cathedral), settlements and the national and regional road network (N69).

Chapter 6 of the Wind Energy Development Guidelines 2006 presents six broad locational categories for windfarm developments with recommended siting and



design responses for each. The guidance in relation to siting and design has been carried through to the Draft Wind Energy Guidelines 2019. In 'Hilly and Flat Farmland' ridges and plateaux are preferred, to maximise exposure and ensure a reasonable distance from dwellings. The guidelines state that sufficient distance should be maintained from farmsteads, houses and centres of population in order to ensure that wind energy developments do not visually dominate them. The guidelines note that turbines perceived as being in close proximity to, or overlapping other landscape elements, such as buildings, roads and power or telegraph poles and lines may result in visual clutter and confusion. The guidelines state that while in practice this can be tolerated, in highly sensitive landscapes every attempt should be made to avoid it. There is a preference for limited spatial extent and for sufficient distance from buildings, with the guidelines noting that this is most likely to be critical at lower elevations, in order to avoid dominance by the wind energy development. Regular spacing with a linear or staggered form is suggested. The guidelines state that the height of the turbine should relate in terms of scale to landscape elements and will therefore tend not to be tall. It is noted that the more undulating the topography the greater the acceptability of an uneven profile, provided it does not result in significant visual confusion and conflict. The Guidelines favour upland and undulating settings for wind energy developments over flat farmland and proximity to dwellings and settlements. However, wind energy developments are not precluded on areas of flat farmland subject to suitable siting and design considerations.

### **Assessment of Effects Construction Phase**

There is potential for localised landscape and visual impacts during the construction phase (c. 18 months). The construction stage will involve temporary construction compounds and works associated with the erection of the wind turbines and the construction of all associated infrastructure elements, including the upgrading of existing roads and junctions and the laying of the grid connection within the public road network. Landscape and visual effects during the decommissioning phase would be similar but of a reduced magnitude as much of the ground infrastructure will remain in place. The impacts are assessed as short term, slight and negative.

### **Assessment of Effects Operational Phase**

The impacts during the operational phase are assessed in terms of impact on landscape character and visual impact. Impacts during the operational phase will be long-term in nature.

The landscape character of the site and its immediate area will be altered by the proposed development. The County's Renewable Energy Strategy defines 46 no. Landscape Character Areas. The proposed development is in LCA 5 Listowel Plain and borders LCA 3 Cashen River to the west. The EIAR includes an assessment of LCA's within the 15 km landscape study area (Appendix 12-2 and summary in Chapter 12). LCA 5 Listowel Plain has low landscape sensitivity within the study area and higher sensitivity in coastal areas that fall outside of the 15 km study area. The magnitude of change in the immediate area is deemed to be moderate. Factors such as topographical screening and distance are considered to significantly mitigate effects on the more sensitive landscape receptors at the coast. The significance of landscape change is deemed to be slight. The proximate Cashen River LCA 3 to the north of the site is identified as having moderate sensitivity due to landscape resources located on the west coast and surrounding the River Feale and Cashen Bay (Prime and Secondary Special Amenity areas). It is noted that there is no potential visibility of the proposed development at the coast, and that views of the proposed development surrounding the River Feale and Cashen bay are mitigated by screening (+5-10 km setback). The magnitude of change and the significance of impact on landscape character is considered to be slight. The coastal landscape associated with LCA23 Kerry Head and Causeway Coast to the south is assessed as having high sensitivity, but the effects are assessed as slight due to intervening distance. The assessment determines that the effect on other landscapes would be 'not significant' and 'imperceptible'. I accept the conclusions of the EIAR in respect of effects on Landscape Character.

#### Visual Impact Assessment

I have consulted the ZTV mapping, photomontages and carried out inspections of the site and the surrounding area. The ZTV is overlaid on designations to illustrate the potential for visual interaction. There is potential visibility from Listowel Castle a National Monument that is within 5 km of the site. The Wild Atlantic Way falls within 15-20 km of the site and there is potential visibility on sections to the south-west, west, north-west and north of the site. CDP views 1, 3, 4 and 23 are within the zone

of theoretical visibility and are orientated towards the site (EIAR Map 12-8 refers). There is potential for visibility from settlements to the south-west, west and north of the site including the towns of Listowel, Ardfert, Ballyheigue and Ballybunion and villages of Finuge, Lixnaw, Abbeydorney, Ballyduff and Causeway. There are other sensitive visual receptors at distances of over 15 km from the site with intermittent visibility along the coastline including beaches, recreational routes, golf courses and coastal amenities.

I am satisfied that the potential for significant visual impacts beyond the 20km study area can be excluded. There is potential for some visibility from upland areas beyond 20 km, however, any potential for significant impact would be mitigated by distance and the intermittent nature of any views.

The proposed development will be visible at distances of 5-15 km. The potential for visual impact is greater in the flat coastal plain to the north, west and south-west of the site. In the more elevated and undulating areas to the south, east and north-east views of the site are more intermittent (including CDP views 3 and 4) and would be mitigated to a large degree by distance and landscape.

There are a number of visual receptors of high sensitivity along the west coast around the towns of Ballybunion to the north-west and Kerry Head and Ballyheigue to the west and south-west. The LVIA argues that the combination of topographical screening and distance is such that the proposed development is unlikely to be visible from these receptors. I accept that direct views of the proposed development from the west and south-west including the highly sensitive coastal landscape around Kerry Head and the Causeway Coast and areas around settlements such as Ballyheigue, Ardfert, Causeway and Abbeydorney would be obscured by landscape and vegetation. There is potential for more open views of the proposed development from the north-west in the areas around Ballyduff and Ballybunion (VP07 and VP08 refer). The proposed development is visible from VP07 south of Ballybunion along a stretch of regional road that is proximate to a designated 'Rural Secondary Special Amenity' area south of Ballybunion. The EIAR categorises the residual visual effect as slight. While the windfarm will be visible, I accept that the views from this location are distant. I consider that the spatial extent (extent and height) of the windfarm development is in proportion to the landscape and accept that the residual visual effect would be slight – moderate. VP08 located to the north of Ballyduff is proximate to a designated scenic view and prospect at 'fairy bridge' and is on the

nationally designated 'Wild Atlantic Way'. In the case of VP08 the EIAR categorises the residual visual effect as moderate. I consider the residual effect at this location to be more significant based on the spatial extent and dominance of the windfarm in the view coupled with the sensitivity of the visual receptors at this location (county and national designations). While other windfarm developments in the uplands behind are visible in the background they are at a higher level and appear more distant reducing the potential for cumulative visual impacts. I consider that the alternative 7 turbine layout has a substantially reduced spatial extent and that the residual effect of the 7 turbine layout to be moderate.

The EIAR argues that the visibility of the proposed development within 5 km of the site will be significantly mitigated by the spatial extent of the development and the highly vegetated nature of the landscape. Section 12.4.4 sets out an analysis of vegetative screening within 5 km of the site. Local photomontage images from VP01, VP03, VP16, VP17 and VP18 support this view. However, VP13 and VP14 show views from an elevated stretch of roadway to the south-east of the site and close to the proposed turbines (setback from closest turbines of 656m, 750m). VP2 and VP15 show views from roadways to the east of the site (setback from closest turbine 1.7km and 1.65 km). There is limited visual screening along the local road network resulting in open views of the proposed development from the roadways, residential properties, a church and school. The magnitude of change in the case of views 13 and 14 is described as substantial and in the case of view 15 moderate (reflecting greater setback and lower elevation). I would note in the case of VP13 and VP14 roads and structures associated with the wind farm are not shown in the photomontage images, although these features would be clearly visible from the elevated vantage points. The LVIA concludes that the residual effect is moderate in each case. I do not concur with the conclusion in relation to the residual visual effect at sensitive residential and community receptors close to VP2, VP13, VP14 and VP15. The relative proximity of turbines to residential and community receptors coupled with the potential for open and elevated views of the overall windfarm would have a significant negative visual impact in my view. Guidance in the Wind Farm Development Guidelines 2006 and carried through to the Draft Revised Guidelines 2019 states that in "Hilly and Flat Farmland" areas sufficient distance from buildings, most likely to be critical at lower elevations, must be established in order to avoid dominance by the wind energy development. I am of the view that this has not been

achieved in respect of residential and community receptors in this instance. I consider that the reduced spatial extent and increased setback from sensitive receptors offered under the 7 no. turbine layout (omitting turbines no. 6, 8 and 9) would reduce the visual impact to a more moderate level and would provide for a greater sense of proportion within the immediate landscape. Furthermore, that increased rotor diameter of the turbines modelled for shadow flicker, noise and collision impacts (and recommended by condition) would further increase the visual impact within the immediate environment. On the basis of the foregoing, I recommend in the event that the Board is minded to grant permission that turbines no. 6, 8 and 9 are omitted by condition.

In terms of cumulative impact, the layout of existing and permitted windfarms is given by the applicant in Figure 12-10 of the EIAR. There are 37 no. other existing, permitted and proposed wind farms within 20km of the proposed development. The EIAR states that the closest windfarm with the greatest potential to induce cumulative visual effects is the Pallas – Clahane wind farm located in an upland area c. 3 km from the subject windfarm site. I accept the argument set forward in the EIAR that the proposed turbines are isolated from nearby windfarms by factors of distance and elevation as the most proximate windfarms are in the upland area to the east and south-east of the site and the windfarms to the north are c. 20km from the site. Cumulative visual effects are significantly mitigated as the difference in scale of other existing wind farms will contrast to that of the proposed development. It is noted that the low elevation of the proposed development on the flat coastal plain visually separates it from other nearby wind farms located on the high ridges of the Stacks Mountains to the south-east. The ZTV (Fig. 12-11) shows that cumulative visibility over that of the existing and permitted turbines within the LVIA study area only increased in a small number of tiny pockets due to the addition of the subject development. The EIAR concludes that the proposed development would not have a significant impact on the extent of cumulative visibility within the study area and that the cumulative impact can be described as long-term, slight cumulative given the amount of wind farm development that has already occurred and the limited numbers of additional turbines that will come into view as a result of the proposed development.

The potential for visual impacts during the decommissioning phase will be similar to those of the construction phase but at a reduced scale. It is proposed to leave concrete bases and roads in situ and to cover these with soil reducing the potential for impact.

I am satisfied that any risks identified will be adequately addressed by the mitigation measures detailed in the EIAR and based on the recommendation to omit turbines no. 6, 8 and 9 and associated infrastructure. In terms of cumulative impacts, any impacts arising in conjunction with other developments in the area are considered insignificant, and as such I am satisfied that the issue of cumulative impacts does not arise.

### **Conclusion**

I have considered all of the written submissions made in relation to landscape and visual. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of landscape and visual. I am also satisfied that cumulative effects are not likely to arise.

#### **7.6.5. Material Assets**

Chapter 14 of the EIAR considers the effects of the proposed development on the road network, aviation, telecommunications infrastructure and other material assets.

##### Traffic and Transportation

The greatest potential for impact on the local road network arises during the construction phase which is expected last over a 12-18 month period. Several submissions received from local residents express concern in relation to the impact of additional traffic on the local road network and in relation to the impact of diversions on local roads including routes used by school traffic. The windfarm development would be accessed via the national and local road network (including the N69, M20, N21 and L6055). Details of construction stage traffic movements are detailed in Chapter 14 of the EIAR. It is estimated that there will be c. 3227 two way

truck movements to the site by trucks and large HGV vehicles. It is estimated that at peak employment there will be c. 65 no. staff travelling to the site by car. Swept path analysis for long loads concludes that minor amendments would be required within the road corridor at a number of points to facilitate the delivery of abnormal / long loads. In addition to the increase in traffic volumes on the local road network (up to 6.9%) it is anticipated that there will be increased delays due to the slow speed and geometric requirements of some vehicles. The impact on am and pm peak hour traffic flows at the junction of the N69 and L6055 have been modelled using PICADY software. The modelling shows that the additional trips will have a slight effect on the road junction but that significant capacity will remain. The proposed grid connection will be constructed within the public road over a distance of 16.7 km. It is estimated that the proposed grid connection will take up to 56 no. days to complete with two teams progressing c. 300m of cable laying per day and that some local diversions may be required. Construction management and traffic management measures are proposed to mitigate the level of impact. The initial Report of the PA's Roads Section recommended a request for further information in relation to transportation matters, while the Report subsequent to the further information states that the author is satisfied with the applicant's responses on these issues. I consider that the increase in traffic volumes during the construction stage would have a moderate but short-term impact on the narrow local road network in the area. The impact on the national and regional road networks would be less given the increased capacity. I recommend in the event of a grant of permission that the developer is required to submit a detailed traffic management plan to the PA for agreement prior to the commencement of works. The plan should include transport management measures for employees accessing the site (e.g., transfer by bus) to reduce the amount of traffic on the local road network and details of local road diversions to ensure that reasonable access is maintained to local residences and to community and educational facilities in the area. I am satisfied that subject to the implementation of mitigation measures any residual impact would be moderate but short-term in nature. Impacts during the decommissioning phase would be similar to those arising during the construction phase. Traffic movements during the operational phase would be confined to occasional maintenance visits with negligible impact on the local road network. In terms of cumulative impacts, I would note that there are no other large-scale projects permitted or proposed in the immediate area.

I am therefore satisfied that the potential for significant cumulative impacts on traffic can be excluded.

### Aviation

The proposed development is over 50 km from Shannon Airport but is within the Shannon Airport DME/DVOR. During the initial 5 week consultation period for the application the Irish Aviation Authority recommended conditions in relation to aircraft navigation. Under the more recent scoping the IAA suggested that the project might have an adverse effect on flight inspection procedures and profiles. The applicant makes the case that the proposed development is over 50 km from Shannon Airport and that the topography of the wider area is significantly higher in elevation than the proposed development. It is therefore unlikely that the proposed development would pose any significant adverse effects to the Shannon Airport DME/DVOR. It is noted that an obstacle warning light scheme required for tall structures by the Irish Air Corps and the Irish Aviation Authority will be agreed ahead of turbine construction. In the event of a grant of permission I recommend that a condition is included to this effect. Having regard to the sites distance from Shannon Airport and to the relatively modest OD tip height proposed relative to existing windfarms in the adjacent uplands, I consider that a refusal of permission on the basis of potential impacts would not be warranted on the basis of potential impact on aviation.

### Telecommunications Infrastructure

A number of third party submissions express concerns in relation to the potential for impacts on communications infrastructure. Details of consultation with broadcasters and communication companies and responses received are outlined in Table 14.22 of the EIAR. Turbines no. 1 and 7 have been relocated to avoid impact on Vodafone and Imagine Group links that traverse the site. No other impacts are anticipated. The applicant indicates that should any interference arise to television or radio reception due to the operation of the windfarm, required measures set out in a protocol document for 2RN will be implemented. I am satisfied that the issues of interference with television, radio and other communications infrastructure has been adequately addressed and that suitable mitigation measures are proposed to address any issues that may arise.



### Other Material Assets

The potential for impact on other material assets such as water pipes, gas pipelines and underground services is limited to the grid connection and temporary junction works. It is proposed to engage with the relevant bodies and undertake surveys to establish the location of existing services and to undertake measures to avoid impacts. Subject to the proposed mitigation it is anticipated that any impacts would be brief and imperceptible with neutral effects.

On the basis of the foregoing, I am satisfied that the potential for long-term significant impacts on aviation, telecommunications and other material assets can be excluded. In terms of cumulative impacts, any impacts arising in conjunction with other developments in the area are considered insignificant, and as such I am satisfied that the issue of cumulative impacts does not arise.

### Conclusion

I have considered all of the written submissions made in relation to material assets. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of material assets. I am also satisfied that cumulative effects are not likely to arise.

#### **7.6.6. Archaeology and Cultural Heritage**

Chapter 13 of the EIAR describes potential impacts on archaeology, architectural heritage and other tangible assets.

### Receiving Environment

I would note that there have been no significant changes to the receiving environment with respect of archaeology and cultural heritage subsequent to the initial Inspectors Report and Addendum Report.

The closest National Monument to the appeal site is situated over 5.3km from the site (Table 13.2 and Figure 13.2 refer).

There are a total of 7 no. recorded monuments within the site, a further 12 no. recorded monuments within 1 km of the site (Table 13.4 refers) and 164 no. monuments within 5 km of the site showing a high level of archaeological activity in the area. There are 2 no. recorded monuments along the route of (within 100 m) of the proposed grid connection route. There are no Protected Structures or structures, or items listed on the National Inventory of Architectural Heritage within or in close proximity to the windfarm site or the proposed grid connection. 5 no. items of cultural heritage merit were identified along the proposed grid connection route including bridges, a grotto and a monument. There are also townland boundaries within the windfarm site and along the grid connection route.

### Assessment of Effects

There is no potential for direct impacts on National Monuments given the level of setback. Within the site the proposed development avoids Recorded Monuments. The site was subject to pre-development archaeological testing in 2014 on foot of a request for further information from the PA. The report concludes that no archaeological finds, features, or deposits were noted in 50 of 51 test trenches. Trench 26 within the footprint of the proposed borrow pit presented possible remains of a relict field boundary. The DoAHG in their submission to the planning authority subsequent to the further information request, concur with the county archaeologist's recommendation to attach conditions requiring further archaeological testing and possible mitigation in the vicinity of the burrow pit and monitoring of ground works within the windfarm site. I am satisfied that subject to further testing in the vicinity of the burrow pit, the provision of suitable buffer zones around known archaeological features and archaeological monitoring of ground works that potential impacts can be mitigated to an acceptable degree. In the event of a grant of permission I recommend that conditions are attached in relation to these matters.

The grid connection route extends within the public road from the site to an existing electricity substation c. 11.1 km south of the main windfarm site. The EIAR notes that there is the possibility that subsurface archaeological remains associated with or forming part of ringfort KE-16-043 are contained within the southern side of the roadway. The EIAR suggests that at this location the proposed grid connection should be located at the north side of the public road in order to avoid any potential direct impacts to subsurface archaeology and any ground works within the Zone of

Notification for this monument should be subject to archaeological monitoring. I am satisfied that subject to the mitigation measures set out that any potential impacts on subsurface archaeology can be mitigated to an acceptable degree and that significant impacts would not arise.

In relation to architectural heritage, I would note that a number of third party submissions raise concerns in relation to the impact of the proposed grid connection on historic bridge structures along the route. The structures are not included on the Record of Protected Structures or on the NIAH. I am satisfied that the watercourse crossings detailed in the EIAR would not impact significantly on the character and setting of these structures and that significant impacts will not arise.

During the operational phase the main potential for impacts arises from impacts on the setting of Natural Monuments and Recorded Monuments. This is addressed separately as part of the LVIA.

In terms of cumulative impacts, any impacts arising from the proposed development are localised in nature. The potential for cumulative effects in conjunction with other developments in the area can, therefore, be excluded.

### ***Conclusion***

I have considered all of the written submissions made in relation to archaeological and cultural heritage. I am satisfied that the identified impacts would be avoided, managed and mitigated by the measures which form part of proposed scheme, the proposed mitigation measures and through suitable conditions. I am therefore satisfied that the proposed development would not have any unacceptable direct or indirect impacts in terms of archaeological and cultural heritage. I am also satisfied that cumulative effects are not likely to arise.

## **7.7. Interactions between Environmental Factors**

7.8. Section 15 of the EIAR deals with the interactions between environmental factors. A matrix is provided in Table 15.1 of the EIAR. The primary interactions summarised in the EIAR as follows:

- Population and Human Health – with Air and Climate; Noise; Land, Soils and Geology; Water; Material Assets; Landscape and Visual.

- Biodiversity – with Land, Soils and Geology; Water; Air and Climate; Noise and Vibration; Landscape.
- Ornithology – with Water; Air and Climate; Noise and Vibration.
- Land, Soils and Geology – with Water, Archaeological and Cultural Heritage; Landscape and Visual.
- Air and Climate – with Material Assets.
- Landscape and Visual – with Cultural Heritage.

The various interactions have been described in the EIAR and have been considered in the course of this EIA. I have considered the interrelationships between factors and whether this might as a whole affect the environment, even though the effects may be acceptable on an individual basis. In conclusion, I am generally satisfied those effects arising can be avoided, managed and mitigated by the measures which form part of the proposed development, mitigation measures, and suitable conditions.

## 7.9. Reasoned Conclusion on the Significant Effects

7.9.1. Having regard to the examination of the environmental information set out above, to the EIAR and other information provided during the course of the application and appeal, and in particular to the updated EIAR and supplementary information provided by the applicant, the submissions from the planning authority, prescribed bodies and observers, it is considered that the main significant direct and indirect effects of the proposed development on the environment are as follows:

- **Shadow Flicker:** Potential for significant adverse impacts on population and human health arising from shadow flicker at residences and other sensitive receptors (schools). The potential impacts will be controlled to an acceptable level by control measures that will curtail wind turbine operations in environmental conditions that give rise to shadow flicker.
- **Landscape and Visual:** Potential for significant adverse impacts on population and human health due to visual impacts arising from the proximity of the windfarm development to residential and community receptors (coupled with the elevated position of the receptors and limited vegetative screening).

The potential impacts will be mitigated to an acceptable level by the omission of the most proximate turbines (6, 8 and 9) and infrastructure associated with these turbines.

- **Biodiversity:** Potential for significant direct and indirect adverse impacts on biodiversity (flora and fauna) due to loss of habitat and direct interface with or displacement / disturbance of species. The potential impacts will be mitigated through design and mitigation measures detailed in the EIAR and in the appended Construction and Environmental Management Plan, pre-construction mammal surveys and implementation of the invasive species management plans.
- **Lands, Soil and Geology:** Potential for significant direct and indirect impacts on lands, soil and geology, as a result of the increased risk of peat slide and failure. The potential impacts will be mitigated by measures to address peat stability detailed in the EIAR and appended Peat Stability Report.
- **Hydrology and Hydrogeology:** Potential for significant direct and indirect impacts on hydrology and hydrogeology arising from the potential indirect effects caused by increased run-off, such as soil erosion and sediment release into the receiving watercourses during construction and operational phases. The potential impacts would be suitably mitigated by project design features, and the measures outlined in the EIAR and the appended Construction and Environmental Management Plan, which includes watercourse crossing methodologies and site drainage management plan.
- **Climate and Air Quality:** Potential for significant long term positive impact on climate and air from provision of a clean energy source that will replace current energy supplied from fossil fuel sources.

7.10. The EIAR has considered that the main significant direct and indirect effects on the environment that would be likely to arise as a consequence of the proposed development. The effects would be mitigated to an acceptable degree by environmental management measures detailed in the EIAR and appended Construction and Environmental Management Plan, and subject to the amendments proposed by condition including the recommendation to omit turbines 6, 8 and 9. The positive benefits of the scheme would outweigh any remaining minor negative

impacts. I am, therefore, satisfied that the proposed development would not have any unacceptable direct or indirect effects on the environment.

## 8.0 Appropriate Assessment

### 8.1. Appropriate Assessment Stage I Screening

- 8.1.1. The requirements of Article 6(3) as related to screening the need for appropriate assessment of a project under part XAB, section 177U and section 177V of the Planning and Development Act 2000 (as amended) are considered fully in this section.

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 any European site before consent can be given.

The documents submitted to the Board on 16<sup>th</sup> June 2020 included an updated Stage 1 Appropriate Assessment Screening Report and a Natura Impact Statement (NIS). These documents have been prepared by MKO Planning and Environmental Consultants. The Screening Report provides a description of the proposed development, identifies European Sites within a likely Zone of Impact and considers possible interactions with European sites. The report concludes that *"it cannot be concluded beyond reasonable scientific doubt, in view of best scientific knowledge, on the basis of objective information and in light of the conservation objectives of the relevant European Sites, that the proposed development, individually or in combination with other plans and projects, would not be likely to have a significant effect on the Lower River Shannon SAC (002165) and the Stack's to Mullaghareirk Mountains, West Limerick Hills and Mount Eagle SPA (004161)."*

Having reviewed the documents and submissions, I am satisfied that the information on the file allows for a complete examination and identification of all the aspects of the project that could have an effect, alone, or in combination with other plans and projects on European sites.

#### 8.1.2. Need for Stage 1 AA Screening

The project is not directly connected with or necessary to the management of a European Site and therefore is subject to the provisions of Article 6(3). 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 European Site in view of the conservation objectives of those sites.

#### 8.1.3. Brief Description of the Development

The applicant provides a description of the project in Section 2.2 of the Screening Report. The development is also described in detail in the EIAR (Chapter 4) and summarised in Section 3 of this Report. In summary, permission is sought for a windfarm development comprising 10 no. turbines and associated infrastructure (alternative 7 no. turbine layout included) and a grid connection that runs over 16.7 km within the existing road network. The site is in a rural area that is characterised by agriculture, forestry and peat cutting. The windfarm site comprises improved grassland (GA1), cutover bog (PB4), wet grassland (GS4), raised bog (PB1), conifer plantation (WD4), scrub (WS1), broadleaved woodland (WN7), immature woodland (WS2), buildings and artificial surfaces (BL3), treelines (WL2), hedgerows (WL1), spoil and bare ground (ED2), drainage ditches (FW4) and depositing / lowland rivers (FW2). The grid connection includes a total of 32 no. stream and culvert crossings (8 no. crossings of streams).

#### 8.1.4. Submissions and Observations

The submissions received from third parties are summarised in sections 7 of this Report. Submissions received from third parties, the Local Authority and Prescribed Bodies at earlier stages of the appeal are summarised in the original Inspectors

Report and in the Addendum Report. Matters raised that are considered to be relevant in the context of Appropriate Assessment are summarised below:

- Insufficient evidence either in the original or newly submitted application to prove beyond scientific doubt that this development will have no adverse impact on the adjacent Natura 2000 sites and species.
- Impact on Hen Harrier from development and cumulative risks arising from number of windfarms in the area.
- Impact on water quality and water regime will impact River Feale and the Lower River Shannon SAC with the potential for negative impacts on otter, salmon and other protected species.
- Ecological studies are insufficient. Question adequacy of the bird surveys.
- Conservation objective is to restore the declined population of Hen Harriers within the SPA. Cannot be assumed that breeding will not occur in the area in the future. Sufficient areas of good quality habitat are required to be maintained to protect Hen Harrier.
- Grid connection works in vicinity of invasive Japanese Knotweed.
- Concern in relation to impact of trenching works on water quality in River Smearlagh which forms part of the Lower River Shannon SAC and is a source of water for the area.
- Impact on Otter which are present along the grid connection cable route.

#### 8.1.5. European Sites

In terms of the zone of influence, there are approximately 32 European sites within a 50 km radius of the proposed windfarm site, 12 no. SPA's and 20 no. SAC's. The proposed windfarm is not located within a European site. The closest sites are the Lower River Shannon SAC located c. 340 metres north of the windfarm site at the closest point and the Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA located c. 1.4 km east of the windfarm site. The grid connection route traverses the Lower River Shannon SAC at 2 no. locations and runs over a distance of c. 11.9 km within the Stack's to Mullaghareirk Mountains, West Limerick



Hills, and Mount Eagle SPA. Table 3.1 of the applicant's Screening Assessment lists sites within the 'likely zone of impact' of the proposed development. The Screening Report excludes sites beyond 15 km on the basis that there is no potential for hydrological or ecological connectivity. Catchment mapping was referenced to exclude the potential for hydrological connections. In determining the potential zone of impact for SPA's the AA Screening Report relies on guidance set out in the Scottish Natural Heritage (SNH) guidance document 'Assessing Connectivity with SPA's (2016)'<sup>14</sup>. The AA Screening Report lists the following sites as falling within the potential zone of impact of the proposed development:

- Lower River Shannon SAC [002165] located 340 m from windfarm site and 0km from grid connection route.
- Moanveanlagh Bog SAC [0022351] located 8.8 km from windfarm site and 10.5 km from grid connection route.
- Ballyseedy Wood SAC [002112] located 15.5 km from windfarm site and 8.4 km from grid connection route.
- Slieve Mish Mountains SAC [002185] located 18 km from windfarm site and 11.1 km from grid connection route.
- Tralee Bay SAC and Magharees Peninsula, West to Cloghane SAC [002070] located 17.4 km from windfarm site and 12.9 km from grid connection route.
- Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA [004161] located 1.4 km from windfarm site and c. 11.9 km of grid connection route in the SPA.
- Kerry Head SPA [004189] located 11.6 km from windfarm site and 13.6 km from the grid connection route.
- Tralee Bay Complex SPA [004188] located 17.4 km from windfarm site and 12.9 km from grid connection route.

Taking a precautionary approach, I have considered the potential for impacts on SPA sites within a 50 km radius of the windfarm due to the migratory nature of many QI bird species and the commonality of QI species between SPA sites within this

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<sup>14</sup> There is no specific European and Irish Guidance (S3.1 refers)

region. On this basis I would also include the following sites within the potential zone of impact:

- River Shannon and River Fergus SPA [004077] located 15.4 km north of the windfarm site.
- Castlemaine Harbour SPA [004029] located 29 km south west of the windfarm site.
- Magharee Island SPA [004125] located c. 23 km south west of the windfarm site.
- Loop Head SPA [004119] located c. 28 km north west of the windfarm site.
- Illaunonearaun SPA [004114] located c. 28 km north of the windfarm site.
- Dingle Peninsula SPA [004153] located c. 34 km south west of the windfarm site.

#### 8.1.6. Potential Impacts

Taking account of the characteristics of the proposed development in terms of its location and scale of works, the species of conservation interest and conservation objectives for European sites within the zone of influence, I consider that the following impact mechanisms need to be examined:

##### **Construction (estimated duration: 12-18 months)**

- Pollution with the potential to impact on QI species of downstream SAC's, including surface water pollution with subsequent impacts on water quality and habitats in the Lower River Shannon SAC.
- Loss / disturbance of ex-situ feeding or roosting habitats that support QI species of nearby SPA's and SAC's.
- Displacement / disturbance of QI species of nearby SPA's and SAC's due to disturbance associated with construction activities and increased human activity.
- Changes to the local water environment with the potential to impact on QI species of nearby SPA's and SAC's (flow rates, volume, quality) arising from construction works within a peatland environment.

##### **Operational Phase (estimated duration: 25 years)**

- Pollution with the potential to impact on QI species of downstream SAC's, including surface water pollution with subsequent impacts on water quality and habitats in the Lower River Shannon SAC.
- Loss of or disturbance of ex-situ feeding or roosting habitats that support QI species of nearby SPA's and SAC's.
- Displacement / disturbance of QI species of nearby SPA's and SAC's due to disturbance associated with the operation of the windfarm.
- Disruption or interruption of routes used by wintering birds while migrating or making local movements between sites as a result of the presence of the turbines (the 'barrier effect').
- Mortality of QI species of nearby SPA's due to collision risk with proposed turbines.

### **Decommissioning**

- Pollution with the potential to impact on QI species of downstream SAC's, including surface water pollution with subsequent impacts on water quality and habitats in the Lower River Shannon SAC.
- Disturbance & displacement of QI species of nearby SPA's and SAC's due to disturbance associated with decommissioning activities and increased human activity.

In relation to groundwater pathways, most of the bedrock in the area is covered in peat / poor draining soil which provides a protective cover to groundwater. The potential for connectivity to European sites via groundwater is therefore excluded (EIAR Chapter 9 Hydrology and Hydrogeology refers).

#### **8.1.7. Potential Effects on European Sites**

Table 9.1 below sets out an assessment of potential effects on European Sites (SAC's and SPA's). The assessment relies on information contained in the AA Screening Report and NIS submitted to the Board in June 2020. The assessment also relies on relevant information contained in the EIAR submitted to the Board in June 2020 (including Chapter 7 Ornithology and Chapter 9 Hydrology and Hydrogeology) and in the submitted Construction and Environmental Management

Plan that is appended to the EIAR. New bird surveys were undertaken during the period March 2018 – March 2020 (two breeding seasons and two non-breeding seasons). In view of the importance of the area for bird species the applicant adapted a site-specific scope for bird surveys. The survey work undertaken between March 2018 and March 2020 forms the core dataset for the assessment of effects on ornithology.

**Table 9.1 Assessment of potential effects on European Sites**

European Site (code)	Qualifying interest (QI) /Special Conservation Interest (SCI) and Conservation Objectives	Potential Effects
<p>Lower River Shannon SAC [002165]</p> <p>340 m from windfarm site; 0km from grid connection route.</p>	<p>Sandbanks which are slightly covered by sea water all the time [1110]; Estuaries [1130]; Mudflats and sandflats not covered by seawater at low tide [1140]; Coastal lagoons [1150]; Large shallow inlets and bays [1160]; Reefs [1170]; Perennial vegetation of stony banks [1220]; Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]; Salicornia and other annuals colonising mud and sand [1310]; Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]; Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]; Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]; <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410]; Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]; <i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]; <i>Petromyzon marinus</i> (Sea Lamprey) [1095]; <i>Lampetra planeri</i> (Brook Lamprey) [1096]; <i>Lampetra fluviatilis</i> (River Lamprey) [1099]; <i>Salmo salar</i> (Salmon) [1106]; <i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]; <i>Lutra lutra</i> (Otter) [1355]</p> <p>Conservations objectives: To restore or maintain the favourable conservation condition of QI's. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No Direct Impacts.</p> <p>No potential for impact on terrestrial and coastal QI's due to nature of the habitats and lack of any pathway for impact. No hydrological connectivity to populations of Freshwater Pearl Mussel [1029] - different sub-catchment. Potential for impact can be excluded.</p> <p>The area is drained by several streams and a network of drainage ditches that drain to the River Feale within the area of the SAC. There is a possibility that surface water discharge/run-off from the site would contain pollutants (e.g., sediment, silt, oils) that could impact on water quality in the downstream SAC during construction, operational and decommissioning phases. Potential to impact downstream Reefs [1170]; Estuaries [1130]; Sandbanks which are slightly covered by sea water all the time [1110]; Large shallow inlets and bays [1160]; Water courses of plain to montane levels with the <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation [3260]; Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]; <i>Tursiops truncatus</i> (Common Bottlenose Dolphin) [1349]; <i>Petromyzon marinus</i> (Sea Lamprey) [1095]; <i>Lampetra planeri</i> (Brook Lamprey) [1096]; <i>Lampetra fluviatilis</i> (River Lamprey) [1099]; <i>Salmo salar</i> (Salmon) [1106]; <i>Lutra lutra</i> (Otter) [1355].</p> <p>The potential for likely significant effects on the above QI's not screened out. Stage II AA required.</p>

<p>Moanveanlagh Bog SAC [0022351]</p> <p>8.8 km from windfarm site; 10.5 km from grid connection route.</p>	<p>Active raised bogs [7110]; Degraded raised bogs still capable of natural regeneration [7120]; Depressions on peat substrates of the Rhynchosporion [7150]</p> <p>Conservation objectives: To restore the favourable conservation condition of Active raised bogs in Moanveanlagh Bog SAC; long-term aim for Degraded raised bogs still capable of natural regeneration [7120] and depressions on peat substrates [7150] are inherently linked to that of Active raised bogs [7110] and thus separate conservation objectives have not been set for these habitats in Moanveanlagh Bog SAC. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No Direct Impacts. No hydrological or ecological connection. Potential for impacts screened out.</p>
<p>Ballyseedy Wood SAC [002112]</p> <p>15.5 km from windfarm site; 8.4 km from grid connection route.</p>	<p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p>Conservation objectives: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No Direct Impacts. No hydrological or ecological connection. Potential for impacts screened out.</p>
<p>Slieve Mish Mountains SAC [002185]</p> <p>18 km from windfarm site; 11.1 km from grid connection route.</p>	<p>Northern Atlantic wet heaths with <i>Erica tetralix</i> [4010]; European dry heaths [4030]; Alpine and Boreal heaths [4060]; Siliceous scree of the montane to snow levels (<i>Androsacetalia alpinae</i> and <i>Galeopsietalia ladani</i>) [8110]; Calcareous rocky slopes with chasmophytic vegetation [8210]; Siliceous rocky slopes with chasmophytic vegetation [8220]; <i>Trichomanes speciosum</i> (Killarney Fern) [1421].</p> <p>Conservation objectives: To maintain or restore the favourable conservation condition of the Annex I habitat(s) and/or the Annex II species for which the SAC has been selected. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No Direct Impacts. No hydrological or ecological connection. Potential for impacts screened out.</p>
<p>Tralee Bay and Magharees Peninsula, West to Cloghane SAC [002070]</p>	<p>Estuaries [1130]; Mudflats and sandflats not covered by seawater at low tide [1140]; Coastal lagoons [1150]; Large shallow inlets and bays [1160]; Reefs [1170]; Annual vegetation of drift lines [1210]; Perennial vegetation of stony banks [1220]; <i>Salicornia</i> and other annuals colonising mud and sand [1310];</p>	<p>No Direct Impacts. No hydrological or ecological connection. Potential for impacts screened out.</p>

<p>17.4 km from windfarm site; 12.9 km from grid connection route.</p>	<p>Atlantic salt meadows (<i>Glaucopuccinellietalia maritimae</i>) [1330]; Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]; Shifting dunes along the shoreline with <i>Ammophila arenaria</i> (white dunes) [2120]; Fixed coastal dunes with herbaceous vegetation (grey dunes) [2130]; Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) [2170]; Humid dune slacks [2190]; <i>Molinia</i> meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410]; Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]; <i>Lutra lutra</i> (Otter) [1355]; <i>Petalophyllum ralfsii</i> (Petalwort) [1395].</p> <p>Conservations objectives: To restore or maintain the favourable conservation condition of QI's. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	
<p>Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA [004161]</p> <p>1.4 km from windfarm site; c. 11.9 km of grid connection route in the SPA.</p>	<p>Hen Harrier (<i>Circus cyaneus</i>) [A082]</p> <p>Conservations objectives: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>Windfarm site within 1.4 km of the SPA. Grid connection route runs through the SPA. Based on core foraging range of Hen Harrier (2 km) and separation distance between windfarm development and SPA the potential for habitat loss, disturbance / displacement, collision mortality and barrier effect cannot be excluded.</p> <p>Potential for likely significant effects on SCI's cannot be screened out. Stage II AA required.</p>
<p>Kerry Head SPA [004189]</p> <p>11.6 km from windfarm site; 13.6 km from the grid connection route.</p>	<p>Fulmar (<i>Fulmarus glacialis</i>) [A009]; Chough (<i>Pyrrhocorax pyrrhocorax</i>) [A346].</p> <p>Conservations objectives: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>Fulmar are a pelagic<sup>15</sup> species which do not forage or commute over land. Chough are generally sedentary species, with foraging ranges of 10 km. Neither species encountered during bird surveys. Potential for impacts on SCI bird species screened out. No hydrological connections so potential for indirect effects due to deterioration of water quality or supporting habitat for SCI species screened out.</p>
<p>Tralee Bay Complex SPA [004188]</p> <p>17.4 km from windfarm site;</p>	<p>Whooper Swan (<i>Cygnus cygnus</i>) [A038]; Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]; Shelduck (<i>Tadorna tadorna</i>) [A048]; Wigeon (<i>Anas penelope</i>) [A050]; Teal (<i>Anas crecca</i>) [A052]; Mallard (<i>Anas platyrhynchos</i>)</p>	<p>Site is outside core foraging range and zone of sensitivity for QI bird species of this SPA. Following desk based study and field surveys undertaken over a 2 year period (augmented by earlier survey work) no important migratory routes were</p>

<sup>15</sup> Of, relating to, or living or occurring in the open sea.

<p>12.9 km from grid connection route.</p>	<p>[A053]; Pintail (<i>Anas acuta</i>) [A054]; Scaup (<i>Aythya marila</i>) [A062]; Oystercatcher (<i>Haematopus ostralegus</i>) [A130]; Ringed Plover (<i>Charadrius hiaticula</i>) [A137]; Golden Plover (<i>Pluvialis apricaria</i>) [A140]; Grey Plover (<i>Pluvialis squatarola</i>) [A141]; Lapwing (<i>Vanellus vanellus</i>) [A142]; Sanderling (<i>Calidris alba</i>) [A144]; Dunlin (<i>Calidris alpina</i>) [A149]; Black-tailed Godwit (<i>Limosa limosa</i>) [A156]; Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]; Curlew (<i>Numenius arquata</i>) [A160]; Redshank (<i>Tringa totanus</i>) [A162]; Turnstone (<i>Arenaria interpres</i>) [A169]; Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]; Common Gull (<i>Larus canus</i>) [A182]; Wetland and Waterbirds [A999].</p> <p>Conservation objectives: To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. In the case of Grey Plover the objective is to maintain / restore the conservation condition. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>identified in the vicinity of the windfarm site. I am satisfied that the surveys undertaken employed the best available techniques and methods and that the findings are up to date (EIAR Chapter 7 refers). No hydrological connections so potential for indirect effects due to deterioration of water quality or supporting habitat for SCI within or outside of SPA excluded. The potential for direct, indirect and cumulative impacts on populations of SCI bird species associated with this SPA is screened out.</p>
<p>River Shannon and River Fergus SPA [004077]</p> <p>15.4 km from the windfarm site.</p>	<p>Cormorant (<i>Phalacrocorax carbo</i>) [A017], Whooper Swan (<i>Cygnus cygnus</i>) [A038], Light-bellied Brent Goose (<i>Branta bernicla hrota</i>) [A046]; Shelduck (<i>Tadorna tadorna</i>) [A048], Wigeon (<i>Anas penelope</i>) [A050]; Teal (<i>Anas crecca</i>) [A052]; Pintail (<i>Anas acuta</i>) [A054]; Shoveler (<i>Anas clypeata</i>) [A056]; Scaup (<i>Aythya marila</i>) [A062]; Ringed Plover (<i>Charadrius hiaticula</i>) [A137]; Golden Plover (<i>Pluvialis apricaria</i>) [A140]; Grey Plover (<i>Pluvialis squatarola</i>) [A141]; Lapwing (<i>Vanellus vanellus</i>) [A142]; Knot (<i>Calidris canutus</i>) [A143]; Dunlin (<i>Calidris alpina</i>) [A149]; Black-tailed Godwit (<i>Limosa limosa</i>) [A156]; Bar-tailed Godwit (<i>Limosa lapponica</i>) [A157]; Curlew (<i>Numenius arquata</i>) [A160]; Redshank (<i>Tringa totanus</i>) [A162]; Greenshank (<i>Tringa nebularia</i>) [A164]; Black-headed Gull (<i>Chroicocephalus ridibundus</i>) [A179]; Wetland and Waterbirds [A999].</p> <p>All QI's bird species are wintering birds with Cormorant breeding within the SPA. Conservation objectives: To maintain the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>Site is outside core foraging range and zone of sensitivity for QI bird species of this SPA. Following desk based study and field surveys undertaken over a 2 year period (augmented by earlier survey work) no important migratory routes were identified in the vicinity of the windfarm site. I am satisfied that the surveys undertaken employed the best available techniques and methods and that the findings are up to date (EIAR Chapter 7 refers). No hydrological connections so potential for indirect effects due to deterioration of water quality or supporting habitat for SCI within or outside of SPA excluded. The potential for direct, indirect and cumulative impacts on populations of SCI bird species associated with this SPA is screened out.</p>

	This SPA overlaps with the Lower River Shannon SAC downstream of the subject site. The site is not therefore hydrologically connected to the SPA.	
Castlemaine Harbour SPA [004029]  29 km from the windfarm site.	Red-throated Diver ( <i>Gavia stellata</i> ) [A001]; Cormorant ( <i>Phalacrocorax carbo</i> ) [A017]; Light-bellied Brent Goose ( <i>Branta bernicla hrota</i> ) [A046]; Wigeon ( <i>Anas penelope</i> ) [A050]; Mallard ( <i>Anas platyrhynchos</i> ) [A053]; Pintail ( <i>Anas acuta</i> ) [A054]; Scaup ( <i>Aythya marila</i> ) [A062]; Common Scoter ( <i>Melanitta nigra</i> ) [A065]; Oystercatcher ( <i>Haematopus ostralegus</i> ) [A130]; Ringed Plover ( <i>Charadrius hiaticula</i> ) [A137]; Sanderling ( <i>Calidris alba</i> ) [A144]; Bar-tailed Godwit ( <i>Limosa lapponica</i> ) [A157]; Redshank ( <i>Tringa totanus</i> ) [A162]; Greenshank ( <i>Tringa nebularia</i> ) [A164]; Turnstone ( <i>Arenaria interpres</i> ) [A169]; Chough ( <i>Pyrhocorax pyrrhocorax</i> ) [A346]; Wetland and Waterbirds [A999].  Save for Chough and the wetland and waterbirds all QI's are wintering bird species. Conservation objectives: To maintain the favourable conservation condition of the bird species and habitat listed as Special Conservation Interests for this SPA. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a> .	Site is outside core foraging range and zone of sensitivity for QI bird species of this SPA. Following desk based study and field surveys undertaken over a 2 year period (augmented by earlier survey work) no important migratory routes were identified in the vicinity of the windfarm site. I am satisfied that the surveys undertaken employed the best available techniques and methods and that the findings are up to date (EIAR Chapter 7 refers). No hydrological connections so potential for indirect effects due to deterioration of water quality or supporting habitat for SCI within or outside of SPA excluded. The potential for direct, indirect and cumulative impacts on populations of SCI bird species associated with this SPA is screened out.
Magharee Island SPA [004125]  23 km from the windfarm site.	Storm Petrel ( <i>Hydrobates pelagicus</i> ) [A014]; Shag ( <i>Phalacrocorax aristotelis</i> ) [A018]; Barnacle Goose ( <i>Branta leucopsis</i> ) [A045]; Common Gull ( <i>Larus canus</i> ) [A182]; Common Tern ( <i>Sterna hirundo</i> ) [A193]; Arctic Tern ( <i>Sterna paradisaea</i> ) [A194]; Little Tern ( <i>Sterna albifrons</i> ) [A195]  Conservation Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	Mainly coastal species. Site is outside core foraging range and zone of sensitivity for QI bird species of this SPA. Following desk based study and field surveys undertaken over a 2 year period (augmented by earlier survey work) no important migratory routes were identified in the vicinity of the windfarm site. I am satisfied that the surveys undertaken employed the best available techniques and methods and that the findings are up to date (EIAR Chapter 7 refers). No hydrological connections so potential for indirect effects due to deterioration of water quality or supporting habitat for SCI within or outside of SPA excluded. The potential for direct, indirect and cumulative impacts on populations of SCI bird species associated with this SPA is screened out.
Loop Head SPA [004119]	Kittiwake ( <i>Rissa tridactyla</i> ) [A188]; Guillemot ( <i>Uria aalge</i> ) [A199]  Conservation Objective: To maintain or restore the favourable conservation	Coastal species. Site is outside core foraging range and zone of sensitivity for QI bird species of this SPA. Following desk based study and field surveys undertaken over a 2 year period



28 km from the windfarm site.	condition of the bird species listed as Special Conservation Interests for this SPA	(augmented by earlier survey work) no important migratory routes were identified in the vicinity of the windfarm site. I am satisfied that the surveys undertaken employed the best available techniques and methods and that the findings are up to date (EIAR Chapter 7 refers). No hydrological connections so potential for indirect effects due to deterioration of water quality or supporting habitat for SCI within or outside of SPA excluded. The potential for direct, indirect and cumulative impacts on populations of SCI bird species associated with this SPA is screened out.
Illaunonearaun SPA [004114] 28 km from the windfarm site.	Barnacle Goose ( <i>Branta leucopsis</i> ) [A045]  Conservation Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	Coastal Species. Site is outside core foraging range and zone of sensitivity for QI bird species of this SPA. Following desk based study and field surveys undertaken over a 2 year period (augmented by earlier survey work) no important migratory routes were identified in the vicinity of the windfarm site. I am satisfied that the surveys undertaken employed the best available techniques and methods and that the findings are up to date (EIAR Chapter 7 refers). No hydrological connections so potential for indirect effects due to deterioration of water quality or supporting habitat for SCI within or outside of SPA excluded. The potential for direct, indirect and cumulative impacts on populations of SCI bird species associated with this SPA is screened out.
Dingle Peninsula SPA [004153] 34 km from the windfarm site	Fulmar ( <i>Fulmarus glacialis</i> ) [A009]; Peregrine ( <i>Falco peregrinus</i> ) [A103]; Chough ( <i>Pyrrhocorax pyrrhocorax</i> ) [A346]  Conservation Objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA	Coastal species. Site is outside core foraging range and zone of sensitivity for QI bird species of this SPA. Following desk based study and field surveys undertaken over a 2 year period (augmented by earlier survey work) no important migratory routes were identified in the vicinity of the windfarm site. I am satisfied that the surveys undertaken employed the best available techniques and methods and that the findings are up to date (EIAR Chapter 7 refers). No hydrological connections so potential for indirect effects due to deterioration of water quality or supporting habitat for SCI within or outside of SPA excluded. The potential for direct, indirect and cumulative impacts on populations of SCI bird species associated with this SPA is screened out.

8.1.8. A number of observers queried the potential for cumulative impacts on bird species arising from the number of windfarm developments in the North Kerry Area. I would note that with the exception of Hen Harrier (and the Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA) the windfarm site is not within the core foraging range or zone of sensitivity for QI bird species of SPA's in the area. The potential for barrier effect or collision risks to commuting birds has been considered. Following desk based study and extensive field surveys undertaken over a 2 year period (augmented by earlier survey work) no important migratory routes were identified in the vicinity of the windfarm site. I am satisfied that the surveys undertaken employed the best available techniques and methods (international best practice), were undertaken over a suitable time period (two years) and are up to date. No important commuting routes have been identified in the vicinity of the site. On this basis, I am satisfied that with the exception of Hen Harrier (Stage II AA required) that the potential for cumulative impacts on bird species associated with SPA's can be excluded in view of best scientific knowledge.

#### 8.1.9. Screening Conclusion

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, it has been concluded that the potential for significant effects on two European Sites namely the Lower River Shannon SAC [002165]; and Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA [004161] in view of the Conservation Objectives of those sites cannot be excluded at the screening stage, and that Stage II Appropriate Assessment is therefore required in respect of these sites.

Having carried out Screening for Appropriate Assessment, it can be objectively concluded on the basis of available scientific data that the proposed development individually or in combination with other plans or projects would not be likely to have a significant effect on the following European sites: Moanveanlagh Bog SAC [0022351], Ballyseedy Wood SAC [002112], Slieve Mish Mountains SAC [002185], Tralee Bay and Magharees Peninsula, West to Cloghane SAC [002070], Kerry Head SPA [004189], Tralee Bay Complex SPA [004188], River Shannon and River Fergus SPA [004077], Castlemaine Harbour SPA [004029], Magharee Island SPA [004125], Loop Head SPA [004119], Illaunonearaun SPA [004114], Dingle Peninsula SPA

[004153] or on any other European site (save for the sites referenced above) in view of the Conservation Objectives of those sites.

The AA Screening conclusion is consistent with the conclusions of the AA Screening Report submitted to the Board in June 2020. Measures intended to reduce or avoid significant effects on European sites have not been considered in the screening process.

## **8.2. Appropriate Assessment – Stage II Appropriate Assessment**

8.2.1. The relevant European sites for Stage 2 AA are the Lower River Shannon SAC [002165], and Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA [004161]. The following is a summary of the detailed scientific assessment of the implications of the project on the qualifying interest features of the European sites. All aspects of the project which could result in significant effects are assessed and mitigation measures that are designed to avoid or reduce any adverse effects are assessed. I have relied on the following guidance:

- DoEHLG (2009). Appropriate Assessment of Plans and Projects in Ireland: Guidance for Planning Authorities. Department of the Environment, Heritage and Local Government, National Parks and Wildlife Service.
- EC (2002) Assessment of plans and projects significantly affecting Natura 2000 sites. Methodological guidance on the provisions of Article 6(3) and 6(4) of the Habitats Directive 92/43/EC
- EC (2018) Managing Natura 2000 sites. The provisions of Article 6 of the Habitats Directive 92/43/EEC

This Stage 2 assessment will consider whether or not the project would adversely affect the integrity of the European sites carried forward for Stage II AA, either individually or in combination with other plans and projects in view of the conservation objectives for both sites.

### **8.2.2. Lower River Shannon SAC [002165]**

There will be no direct impacts on the SAC as the windfarm development site is located entirely outside of the SAC (340m separation from the designated area). The proposed grid connection crosses the SAC at two locations (watercourse

crossings 3 and 6). Works at the crossing points are confined to the existing public road corridor and will not result in any direct impacts on terrestrial or aquatic habitats or species (QI's) that are associated with the Lower River Shannon SAC.

<b>Lower River Shannon SAC [002165]</b> 340 m from windfarm site; 0km from grid connection route.	
<b>Qualifying interest (QI) /Special Conservation Interest (SCI) and Conservation Objectives</b>	<b>Potential Effects</b>
<p>Sandbanks which are slightly covered by sea water all the time [1110]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect.</p> <p>No potential for indirect effects due to the nature of the habitats and the lack of any pathway for impact.</p>
<p>Estuaries [1130]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect. Potential for indirect effects on QI.</p> <p>There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning phases in the absence of specific mitigation measures aimed at protecting water quality.</p>
<p>Mudflats and sandflats not covered by seawater at low tide [1140]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect.</p> <p>No potential for indirect effects due to the nature of the habitats and the lack of any pathway for impact.</p>
<p>Coastal lagoons [1150]</p>	<p>No direct effect.</p> <p>No potential for indirect effects due to the nature of the habitats and the lack of any pathway for impact.</p>

<p>Large shallow inlets and bays [1160]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect. Potential for indirect effects on QI.</p> <p>There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning phases in the absence of specific mitigation measures aimed at protection water quality.</p>
<p>Reefs [1170]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect. Potential for indirect effects on QI.</p> <p>There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning phases in the absence of specific mitigation measures aimed at protection water quality.</p>
<p>Perennial vegetation of stony banks [1220]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect.</p> <p>No potential for indirect effects due to the nature of the habitats and the lack of any pathway for impact.</p>
<p>Vegetated sea cliffs of the Atlantic and Baltic coasts [1230]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect.</p> <p>No potential for indirect effects due to the nature of the habitats and the lack of any pathway for impact.</p>
<p>Salicornia and other annuals colonising mud and sand [1310]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect.</p> <p>No potential for indirect effects due to the nature of the habitats and the lack of any pathway for impact.</p>
<p>Atlantic salt meadows (<i>Glauco-Puccinellietalia maritima</i>) [1330]</p>	<p>No direct effect.</p>

<p>Conservation objective: To restore the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No potential for indirect effects due to the nature of the habitats and the lack of any pathway for impact.</p>
<p>Mediterranean salt meadows (<i>Juncetalia maritimi</i>) [1410]</p> <p>Conservation objective: To restore the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect.</p> <p>No potential for indirect effects due to the nature of the habitats and the lack of any pathway for impact.</p>
<p>Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation [3260]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect. Potential for indirect effects on QI.</p> <p>There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning phases in the absence of specific mitigation measures aimed at protection water quality.</p>
<p>Molinia meadows on calcareous, peaty or clayey-silt-laden soils (<i>Molinion caeruleae</i>) [6410]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No. No potential for impact due to the nature of the habitats and the lack of any pathway for impact.</p>
<p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i>, <i>Alnion incanae</i>, <i>Salicion albae</i>) [91E0]</p> <p>Conservation objective: To restore the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect. Potential for indirect effects on QI.</p> <p>There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning phases in the absence of specific mitigation measures aimed at protection water quality.</p>
<p><i>Margaritifera margaritifera</i> (Freshwater Pearl Mussel) [1029]</p>	<p>No. Population of Freshwater Pearl Mussel for which the SAC is designed occurs in the Cloon River in</p>

<p>Conservation objective: To restore the favourable conservation condition of QI. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>County Clare in a different hydrological sub-catchment. There is no hydrological connectivity.</p>
<p>Petromyzon marinus (Sea Lamprey) [1095]</p> <p>Conservation objective: To restore the favourable conservation condition of QI's. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect. All upstream culvert crossings have been designed in consultation with IFI. There will be no net loss of fisheries habitat and no potential for the development to result in any barrier to the movement of aquatic species.</p> <p>Potential for indirect effects on QI. There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning phases in the absence of specific mitigation measures aimed at protection water quality.</p>
<p>Lampetra planeri (Brook Lamprey) [1096]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect. All upstream culvert crossings have been designed in consultation with IFI. There will be no net loss of fisheries habitat and no potential for the development to result in any barrier to the movement of aquatic species.</p> <p>Potential for indirect effects on QI. There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning phases in the absence of specific mitigation measures aimed at protection water quality.</p>
<p>Lampetra fluviatilis (River Lamprey) [1099]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p>	<p>No direct effect. All upstream culvert crossings have been designed in consultation with IFI. There will be no net loss of fisheries habitat and no potential for</p>

<p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>the development to result in any barrier to the movement of aquatic species.</p> <p>Potential for indirect effects on QI. There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning phases in the absence of specific mitigation measures aimed at protection water quality.</p>
<p>Salmo salar (Atlantic Salmon (only in fresh water) [1106]</p> <p>Conservation objective: To restore the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect. All upstream culvert crossings have been designed in consultation with IFI. There will be no net loss of fisheries habitat and no potential for the development to result in any barrier to the movement of aquatic species.</p> <p>Potential for indirect effects on QI. There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning phases in the absence of specific mitigation measures aimed at protection water quality.</p>
<p>Tursiops truncatus (Common Bottlenose Dolphin) [1349]</p> <p>Conservation objective: To maintain the favourable conservation condition of QI's.</p> <p>Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect. All upstream culvert crossings have been designed in consultation with IFI. There will be no net loss of fisheries habitat and no potential for the development to result in any barrier to the movement of aquatic species.</p> <p>Potential for indirect effects on QI. There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning</p>



	phases in the absence of specific mitigation measures aimed at protection water quality.
<p>Lutra lutra (Otter) [1355]</p> <p>Conservation objective: To restore the favourable conservation condition of QI's. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>Potential for direct and indirect impact on otter a QI of the SAC. Otter were not encountered during target surveys. No evidence of breeding, resting or foraging within the site. However, potential supporting habitat exists in the area and a number of third parties refer to sightings of Otter within the site. The potential for direct impact on Otter associated with the SAC and disturbance / displacement impacts cannot be excluded.</p> <p>Potential for indirect effects on QI. There is hydrological connectivity between the proposed development and SAC where both occur in same sub-catchment. Potential for indirect effects on water quality impacting the downstream SAC* due to surface water discharge and run-off during the construction, operational and decommissioning phases in the absence of specific mitigation measures aimed at protection water quality.</p>

\*Site in the River Feal surface water catchment which is a tributary of the Cashen River. The Cashen River flows into the Atlantic Ocean c. 5km downstream of the development. Both the River Feal and Cashen River are within the designated area of the Lower River Shannon SAC.

### Evaluation of Effects and Mitigation Measures

Section 5.2 of the NIS and the Construction Management Plan in Appendix 3 details mitigations measures to be employed aimed at avoiding impacts on the Lower River Shannon SAC.

### **Direct Impacts**

The windfarm site is located 340 m from the SAC boundary and with the exception of the potential for ex-situ impact on Otter the development will not impact directly on any QI habitat or species for which the SAC is designated. The grid connection traverses the SAC at two locations (watercourse crossings 3 and 6). The works at crossing points are confined to the existing public road corridor and will not result in any direct impacts. The project will not result in loss of any aquatic habitat or

mortality of QI fish species. Culvert crossings within the windfarm site have been designed following consultation with IFI. There will be no net loss of fisheries habitat and there is no potential for the proposed development to result in any barrier to the movement of aquatic species.

There is the potential for direct and indirect impact on Otter a listed QI species which is known to occur in the area. There was no evidence of Otter within the site or along the grid connection route during dedicated surveys in 2014, 2015, 2019 and 2020. Potential supporting habitat for this species exists within the site and the possibility of otter presence within the development area cannot be excluded. Submissions received from third parties state that Otter has been observed within the windfarm site. There is, therefore, potential for disturbance to the Otter population of the area during the construction and decommissioning phases. The Otter population is likely to be associated with the SAC given its proximity.

The NIS states that Otter are crepuscular in nature and are unlikely to be adversely impacted by disturbance. Best practice disturbance limitation measures are proposed summarised as follows:

- Pre-construction Otter survey by a qualified ecologist to assess any changes to the baseline conditions observed during recent surveys and to ensure that Otter has not taken up residence within or close to proposed works areas. Should Otter holts be encountered during the pre-construction surveys, the exclusion procedures outlined in the TII/NRA Guidance for the Treatment of Otters Prior to the Construction of National Road Schemes, 2006 will be implemented. The TII/NRA guidance is accepted industry best practice.
- Disturbance limitation measures will be implemented in accordance with BS WS5228:1997 "Noise and Vibration Control on Construction and Open Sites" Part 1 to minimise noise emissions. Works will be completed during daylight hours. No artificial lighting will be used to illuminate any works area in proximity to watercourses. Measures will be implemented to minimise noise from plant.
- Decommissioning phase impacts would be similar but to a lesser extent as much of the ground level infrastructure is to remain in place.

I am satisfied measures set out would reduce or avoid any significant effects on Otter.

### **Water Quality**

The other potential for impact is through impact on water quality within the downstream SAC. Taking a precautionary approach, the proposed works have the potential to cause deterioration in water quality during the construction, operational and decommissioning phases of the development due to the potential for release of pollutants (inc. suspended solids and hydrocarbons) in the absence of mitigation. Any resulting impact on water quality in the downstream SAC could affect downstream QI species. Section 5.2 of the NIS and the CEMP detail design, construction, operational and decommissioning phase mitigation measures relevant to the protection of surface waters to minimise impacts on the receiving environment and on the downstream QI receptors (as listed in column 1). The mitigation measures set out are summarised as follows:

#### Design:

- Sensitive hydrological features to be avoided where possible by application of suitable buffer zones (i.e. 50m to main watercourses and 20m to main drains).
- Hard standing areas kept to minimum required.
- Substation and grid connection route to be located within development boundary.

#### Construction:

- Minimise waters arising on site, adequately contain / treat any water that may arise and ensure hydrological function of the watercourses on the site and in wider catchment are not affected by proposed works.
- Sensitive aquatic areas are to be avoided by application of suitable buffer zones, except where upgrade of existing watercourse crossings and new crossings and upgrades to existing site tracks are proposed. Construction and Environment Management Plan and EIAR Chapter 9 Hydrology and Hydrogeology set out in full the mitigation measures to be implemented to protect water quality.

- CEMP sets out measures to avoid impacts as a result of pollution. This includes care in the use and storage of hydrocarbons; control measures for the use of cement based products to avoid release of cement leachate from the site; ecological supervision and guidance.

#### Operational Phase:

- Use of an operational phase drainage system that includes inceptors, collector drains, settlement ponds, swales / roadside drains.
- Electricity sub-station to be bunded to prevent leakage of oils stored to ground or surface water. The bounded area will be fitted with a storm drainage system and an appropriate oil interceptor.
- Construction and Environment Management Plan and EIAR Chapter 9 Hydrology and Hydrogeology set out in full the mitigation measures to be implemented to protect water quality.

#### Decommissioning Phase:

- Impacts similar to construction phase but the potential for impact will be significant less. Intended that much of the infrastructure would remain in situ.

The proposed development is designed to avoid impact on watercourses and on water quality. There will be no reduction in terrestrial habitat or marine / freshwater habitat. There will be no impact on fish biomass or creation of barriers to connectivity for fish species. The potential for impact on other QIs have been scoped out.

I am able to ascertain with confidence that, subject to the implementation of the measures intended to reduce or avoid significant effects on the SAC that the project would not adversely affect the integrity of the Lower River Shannon SAC in view of the Conservation Objectives of this site. This conclusion has been based on a complete assessment of all implications of the project.

#### Cumulative and In-Combination Effects

I do not consider that there are any specific in-combination effects that arise from other plans or projects. Given the management measures proposed I consider that

any potential impacts arising from the proposed development would be negligible and that the potential for in-combination effects on water quality in the River Feal catchment can be discounted. Furthermore, other projects within the area which can influence water quality via rivers and other surface water features are also subject to AA. In this way in-combination impacts of plans or projects are avoided.

8.2.3. **Stack’s to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA [004161]**

<b>Stack’s to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA [004161]</b> 1.4 km from windfarm site; c. 11.9 km of grid connection route in the SPA.	
<b>Qualifying interest (QI) /Special Conservation Interest (SCI) and Conservation Objectives</b>	<b>Potential Effects</b>
<p>Hen Harrier (<i>Circus cyaneus</i>) [A082]</p> <p>Conservation objective: To maintain or restore the favourable conservation condition of the bird species listed as Special Conservation Interests for this SPA. Refer to conservation objectives available at <a href="http://www.npws.ie">www.npws.ie</a>.</p>	<p>No direct effect. Site is within core foraging range for Hen Harrier and as such there is potential for ex-situ habitat loss, displacement and collision mortality.</p>

Evaluation of Effects and Mitigation Measures

The windfarm site is located 1.4 km from the designated area of the SPA; 11.1 km of the proposed grid connection runs within the designated area of the SPA within the existing road network. There is potential for direct effects on Hen Harrier due to potential collision mortality and for indirect impacts due to potential habitat loss and disturbance / displacement.

**Collision Risk**

Hen Harrier were recorded flying at potential collision risk height on two occasions during the 2 years of VP surveys. There is, therefore, potential for direct impact as a result of collision mortality during the operational phase of the windfarm development. A ‘random’ collision risk analysis undertaken using industry software calculates a collision risk ratio of 0.0007 collisions per year or one bird every 1,429 years. I am satisfied that the predicted collision risk is negligible in the context of the county, national and international population. The potential for likely significant

effects on the conservation objectives of this SPA as a result of collisions risk is therefore excluded.

### **Habitat Loss**

The site is within the potential foraging distance of the SPA. However, Hen Harrier are not found to be dependent on the habitats within the windfarm site for breeding or wintering and there is an abundance of similar habitat in the wider area.

McGuinness et al (2015)<sup>16</sup> notes that areas containing higher proportions of improved grassland are avoided. The grid connection route is partially located within the SPA. It is confined to the existing public road corridor and will not result in the loss of any potential supporting habitat for Hen Harrier. On this basis, it is concluded that there will be no impact on supporting habitat with the SPA or on ex-situ supporting habitat.

### **Disturbance / Displacement**

A low level of hen harrier activity was recorded within / in the vicinity of the site. No hen harrier breeding or roosting sites were recorded within the study area between March 2016 and March 2018. McGuinness et al (2015)<sup>17</sup> references a zone of sensitivity for Hen Harrier of 2 km. No territorial and / or breeding behaviours indicative of breeding were recorded at or within 2 km survey buffer of the development site boundary and the development site does not form part of the core foraging range or territory for any known Hen Harrier breeding pair. Based on the core dataset contained in the EIAR (Chapter 7 Ornithology) there is no potential for adverse impact as a result of disturbance / displacement given that Hen Harrier were not dependent on the habitats within the wind farm site for roosting, foraging or breeding.

Approximately 11.9 km of the grid connection route is located within the SPA. The works are confined to the public road corridor and will not result in the loss of any

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<sup>16</sup> Bird Sensitivity Mapping for Wind Energy Developments and Associated Infrastructure in the ROI.

<sup>17</sup> Bird Sensitivity Mapping for Wind Energy Developments and Associated Infrastructure in the ROI.

potential supporting habitat for Hen Harrier. The works will be undertaken in short sequential stages and as such, no potential for adverse disturbance related impact are envisaged. Mitigation measures in relation to the timing of works and disturbance limitation are described in the NIS. In summary, works will be undertaken outside of the bird breeding season and will adhere to disturbance limitation measures to control noise, vibration and artificial lighting.

### Cumulative and In-Combination Effects

A number of third party submission have raised concerns in relation to the potential for cumulative impacts on Hen Harrier in combination with other wind farm developments in the area particularly in the area of collision risk. I do not consider that there are any specific in-combination effects that arise from other plans or projects. The collision risk associated with the proposed windfarm development has been modelled in the EIAR and is found to be negligible for Hen Harrier. On this basis the potential for likely significant cumulative effects in combination with other windfarms developments in the area can be discounted based on objective information and scientific data. The NIS considered the combined impacts of other plans and projects. Given the management measures proposed I consider that any potential impacts arising from the proposed development would be negligible and that the potential for in-combination effects can be discounted. Furthermore, other projects within the area which can influence water quality and QI bird and mammal species are also subject to AA. In this way in-combination impacts of plans or projects are avoided.

### **8.3. AA Conclusion**

The proposed development has been considered in light of the assessment requirements of Sections 177U and 177V of the Planning and Development Act 2000 as amended. Having carried out screening for Appropriate Assessment of the project, it was concluded that the likelihood of significant effect on the following sites could not be excluded:

- Lower River Shannon SAC [002165]

- Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA [004161]

Consequently, an Appropriate Assessment was required of the implications of the project (alone or in combination with other projects) on the qualifying features of those sites in light of their conservation objectives. Following an Appropriate Assessment, it has been ascertained that the proposed development, individually or in combination with other plans or projects would not adversely affect the integrity of the 2 no. European sites listed above, or any other European site, in view of the site's Conservation Objectives. This conclusion is based on a complete assessment of all aspects of the proposed project and there is no reasonable scientific doubt as to the absence of adverse effects.

## **9.0 Planning Assessment - issues not considered under EIA or AA**

9.1. Environmental issues relevant to this planning assessment have been addressed in the EIA and AA sections of this report. This Section of the report should, where appropriate, be read in conjunction with the relevant parts of the EIA and AA assessments and in conjunction with the Planning Assessment set out in the initial Inspectors Report and Addendum Report. I would draw the Boards attention to the fact that the Kerry County Development Plan 2015 – 2021 remains the extant development plan for the area.

### **9.2. Compliance with Planning Policy**

In terms of tackling climate change, reducing dependency on fossil fuels in energy production and achieving reduced greenhouse gas emissions, there is clear policy support at international, national, regional and local level for renewable energy development, as documented in the EIAR and earlier sections of this report.

Whilst significant progress has been made, Ireland did not meet its 2020 renewable energy targets. The overall share of renewables stood at 12% which was below the



country's EU binding target of 16%. The share of renewable electricity (RES-E) was c. 36.5 % and Ireland has a national target of 40%.<sup>18</sup>

Ireland is also set to fall short of its carbon emission reduction targets for 2030 (EPA, June 2019). The country, therefore, faces significant challenges in meeting the stringent targets set by the Government including a renewable electricity target of 70% by 2030 and more ambitious targets for greenhouse gas emission reductions.

Government policies identify the development of renewable energy as a primary contributor in implementing Ireland's climate change strategy and national energy policy. The crucial role of wind energy in electricity production is recognised at national level in the various plans and strategies published by Government including the 'National Renewable Energy Action Plan', 'Ireland's Transition to a Low Carbon Future', 'Strategy for Renewable Energy 2012-2020', 'Climate Action Plan' and the 'National Planning Framework'. The transition to a low carbon and climate resilient society is listed as one of 10 no. national strategic outcomes of the NPF.

It is acknowledged that wind energy has been the largest driver of growth in renewable electricity in the country and will continue to be the main contributor going forward. Significant increases in installed capacity will be required to meet mandatory targets. The proposed wind farm, with a projected output of 30 MW (10 no. turbine layout), will deliver an additional renewable energy source. It will drive continued progress towards a low carbon economy, reduce dependence on fossil fuels, and the decarbonisation of the electricity sector, in line with European/national climate change strategies and energy policies.

At a local level, an increase in the amount of renewable energy is supported both a regional and county level through the Regional Spatial and Economic Strategy for the Southern Assembly area and the Kerry County Development Plan 2015-2021. Objective EP-11 of the Kerry County Development Plan is to "Implement the Renewable Energy Strategy for County Kerry". Regional and local planning policy emphasises the importance of energy to economic activity, the necessity to reduce dependence on fossil fuels in energy production and to increase the quantity of energy from renewables, including wind.

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<sup>18</sup> SEAI Energy in Ireland 2020 Report

The Renewable Energy Strategy 2012 which has been incorporated as part of the County Development Plan divides lands in County Kerry into three Wind Development Zones, namely Strategic Site Search Areas zones, Open to Consideration zones and Unsuitable zones. The site falls into an area where windfarms are 'Open to Consideration'. The strategy states that "site searches within these areas will identify sites with wind energy capacity and the environmental and infrastructural capacity to support wind development. They differ from Strategic Areas in that there are fewer suitable sites". It is noted that the capacity of these areas has limits and that the cumulative impact of in these areas will be monitored.

Objective EP-12 of the CDP is relevant to the subject application given the sites location within the Listowel MD area. EP-12 is *"Not to permit the development of windfarms in areas designated "open to consideration" in the Tralee and Listowel Municipal Districts until 80% of the turbines with permissions in those areas, on the date of adoption of the Plan, have either been erected or the relevant permission has expired or a combination of both and the cumulative affect of all permitted turbines in the vicinity of the proposal has been fully assessed and monitored"*.

The proposed development would contravene materially this provision of the Kerry County Development Plan 2015-2021. Refusal was recommended in the previous Inspectors Reports for reasons including the material contravention of this objective. In not accepting the Inspectors recommendation the Board determined that Objective EP-12 conflicted with other policies in the Wind Energy Strategy for the County and in the County Development Plan that are supportive of the deployment of greater levels of wind farms. The Board considered that the policy was impractical in terms of implementation and would create an unacceptable level of uncertainty in relation to when any future developments might be permitted. Furthermore, the Board considered that the policy would run contrary to national policy and guidance in relation to increasing renewable energy penetration. For these reasons the Board considered that it would not be reasonable or appropriate to refuse planning

permission on the basis of Policy EP-12. I concur with the views set out in the previous Board order. Having regard to the provisions of Section 37 (2) (b) of the Planning and Development Act (as amended), and based on the assessment in relation to EIA, AA and the Planning Assessment, I consider that a grant of permission, that may be considered to material contravene the Development Plan, would be justified in this instance under sub sections (ii) and (iii) of the Act on the basis of the following reasons and considerations:

- (a) Having regard to the conflicting policies contained within the development plan for the area in relation to wind energy developments. Objective EP-12 conflicts with other policies in the Wind Energy Strategy for the County and in the County Development Plan that are supportive of the deployment of greater levels of wind farms including Objective EP-11 which is to “Implement the Renewable Energy Strategy for County Kerry”. The Renewable Energy Strategy identifies this area as an area where wind farm development is ‘open for consideration’. It is considered that Objective EP-12 is impractical in terms of implementation and would create an unacceptable level of uncertainty in relation to when any future developments might be permitted.
- (b) Permission for the proposed development should be granted having regard to the National Planning Framework (NPF), the Regional Spatial and Economic Strategy (RSES) for the South Regional Assembly Area and guidelines under Section 28. The National Planning Framework contains 10 no. National Strategic Outcome including NSO 8 which seeks a transition to a low carbon and climate resilient society. The RSES contains supporting Regional Policy Objectives including RPO 99 to support the sustainable development of renewable wind energy and ROP 87 to reduce greenhouse gas emissions. The Section 28 Wind Energy Development 2006 state that the development of renewable energy sources, together with measures aimed at a reduction and more efficient use of energy, are priorities, nationally and at European level, on both environmental and energy policy grounds. The guidelines are also intended to ensure a consistency of approach throughout the country in the

identification of suitable locations for wind energy development and the treatment of planning applications for wind energy developments.

For these reasons I consider that it would not be reasonable or appropriate to refuse planning permission on the basis of Policy EP-12.

### 9.3. **Procedural Matters**

#### Compliance with Articles 22 and 23 of the Planning and Development Regulations 2001 (as amended).

Article 22(4)(a) of the 2001 Regulations requires a planning application made under Section 34 of the Planning and Development Act 2000 (as amended) to include such plans and other particulars, as are necessary to describe the works to which the application relates. The planning application included a booklet of drawings including site layout plans, typical turbine drawings, typical met mast drawings and plans, elevations and sections drawings for proposed structures. These drawings were superseded by a new booklet of drawings submitted to the Board in June 2020. The layout plan details turbine coordinates and levels (OD). The EIAR in Chapter 4 sets out extensive written detail in relation to each aspect of the development and in relation to the circumstances in which various road design or culvert design options are to be used. I note the reference in third party submissions to the indicative nature of some drawings with the indication that details will be determined based on site conditions or in consultation with third parties. In this regard I would note that standard condition no. 1 requires the development to be completed in accordance with the submitted plans and particulars and with conditions attached. In the event of a deviation or deviations from the permitted plans and particulars it is a matter for the PA and ultimately for the courts to determine whether the deviation (s) is such that the development as constructed falls outside of the terms of the permission granted.

I am satisfied that the plans and particulars submitted with the application and as amended by further information comply with the legislative requirements detailed in Articles 22 and 23 of the Regulations. While some drawings are at a smaller scale than those specified in the regulations Articles 22 and 23 offer a level of discretion in this regard and I am satisfied that the scales used are acceptable.

Permission is sought for the erection of turbines with a tip height of 'not more than' 156.5m. The applicants seek flexibility within the permitted 'envelope', such that any combination of hub heights and rotor diameters might be implemented within the upper tip height. The turbine presented is a typical three bladed, horizontal axis type turbine. The turbine detailed on the submitted plans and particulars (as updated in June 2020) is a typical 3 blade turbine with a tip height of 156.5m, hub height of c. 98m, and blade length of c. 45m. This is the turbine detailed on the submitted plans and particulars and it is reasonable to assume that this is the turbine for which permission is sought. The request to allow flexibility in relation to hub height and blade length is a separate matter. It is open to the Board to accept or exclude this flexibility way of condition in the event of a grant of permission. The EIA and AA assessments are based on turbines with varying hub heights and blade lengths. Assessment of impact from shadow flicker (EIAR); noise impact (EIAR); and collision risk for bird's (EIAR and AA) are modelled based on a standard 3 blade turbine with tip height of 156.5m, hub height of 88.5m and rotor diameter of 136m. Visual impact (EIAR) is assessed based on a turbine with tip height of 156.5m, hub height of 98m and rotor diameter of 117m. The implications of this for EIA and AA are addressed under the relevant headings. I recommend in the EIA sections and in the context of recent case law that a condition is included in the event of a grant of permission that restricts the turbine dimensions to those used in the assessment of shadow flicker, noise and collision risk.

#### Response to Section 132 Notice

The applicant responded to the Section 132 notice issued by An Bord Pleanála in 2019 within the prescribed timeframe. The applicant availed of the extended time period afforded under Section 251A of the Planning and Development Act 2000 (as amended) which provided a blanket extension to time periods under all sections of the Act. I am satisfied that the applicant in response to the significant nature of the information submitted to the Board under Section 132 issued a public notice and that the information was recirculated in accordance with legislative requirements.

#### Material Change to the Development - 7 no. Turbine Layout

A number of third parties have expressed concern in relation to the inclusion of a separate 7 turbine layout referring to a material change to the application. I am

satisfied that the applicant has sought permission for the 10 turbine layout. The applicant presents an alternative 7 turbines layout and assesses this within the EIAR on the basis that this would comply with the setback distances detailed in the published Draft Wind Energy Guidelines (2019) and that these guidelines may come into effect prior to the Board making its decision. This is not a new or alternative application in my view but provided a level of flexibility for the Board in the event that the Board considers it necessary to omit the turbines that are most proximate to neighbouring properties.

## 10.0 Recommendation

I recommend that planning permission be granted subject to the conditions set out below.

### **Matters Considered**

In making its decision, the Board had regard to those matters to which, by virtue of the Planning and Development Acts and Regulations made thereunder, it was required to have regard. Such matters included any submissions and observations received by it in accordance with statutory provisions.

### **Reasons and Considerations**

The Board had regard to:

- (a) National policy with regard to the development of alternative and indigenous energy sources and the minimisation of emissions from greenhouses gases,
- (b) the provisions of the Wind Energy Development Guidelines – Guidelines for Planning Authorities issued by the Department of the Environment, Heritage and Local Government in June 2006,
- (c) the policies of the planning authority as set out in the Kerry County Development Plan 2015-2021, including the Wind Energy Strategy for County Kerry, 2012,
- (d) the location of the wind farm site in an area which is identified in the development plan as an area 'Open for Consideration' where it is the policy of the planning authority to facilitate the development of appropriate wind energy proposals,

- (e) the character of the landscape in the area and the absence of any ecological designation on or in the immediate environs of the wind farm site,
- (f) the characteristics of the site and of the general vicinity,
- (g) the pattern of existing and permitted development in the area, including other windfarms,
- (h) the distance to dwellings and other sensitive receptors from the proposed development,
- (i) the Environmental Impact Statement submitted with the application, the Environmental Impact Statement Addendum submitted on 27<sup>th</sup> October 2015 and the updated Environmental Impact Assessment Report submitted on 20<sup>th</sup> June 2020,
- (j) the Natura Impact Statement submitted with the application and the updated Natura Impact Statement submitted to the PA on 10<sup>th</sup> August 2014 and the Natura Impact Statement submitted on 20<sup>th</sup> June 2020,
- (k) the appeals and observation made in connection with the planning application, and
- (l) the report of the Inspector.

The Board considered the Screening Report for Appropriate Assessment, the Natura Impact Assessment and all the other relevant submissions and carried out both an appropriate assessment screening exercise and an appropriate assessment in relation to the potential effects of the proposed development on designated European Sites.

### **Appropriate Assessment**

The Board considered the Natura impact statement and all other relevant submissions and carried out an appropriate assessment of the implications of the proposed development for European Sites, namely the Lower River Shannon Special Area of Conservation (site code number 002165), and Stack's to Mullaghareirk Mountains, West Limerick Hills, and Mount Eagle SPA [004161] view of the sites' Conservation Objectives. The Board considered that the information before it was adequate to allow the carrying out of an appropriate assessment. In completing the Appropriate Assessment, the Board considered, in particular, the following:

- (i) the likely direct and indirect impacts arising from the proposed development both individually or in combination with other plans or projects,
- (ii) the mitigation measures which are included as part of the current proposal, and
- (iii) the conservation objectives for the European Sites.

In completing the Appropriate Assessment, the Board accepted and adopted the Appropriate Assessment carried out in the Inspector's report in respect of the potential effects of the proposed development on the aforementioned European Sites, having regard to the sites' Conservation Objectives.

In overall conclusion, the Board was satisfied that the proposed development, by itself or in combination with other plans or projects, would not adversely affect the integrity of the European Sites, in view of the sites' Conservation Objectives.

### **Environmental Impact Assessment**

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

- The nature, scale and extent of the proposed development;
- The Environmental Impact Assessment Report (EIAR) and associated documentation submitted in support of the planning application;
- The submissions from the planning authority, the appellants, the observer and the prescribed bodies in the course of the application; and
- The Inspector's report.

The Board considered that the Environmental Impact Statement and Addendum and the updated Environmental Impact Assessment Report, supported by the documentation submitted by the applicant, adequately considers alternatives to the proposed development and also adequately identifies and describes the direct, indirect, secondary and cumulative effects of the proposed development on the environment.

The Board agreed with the examination, set out in the Inspector's report, of the information contained in the Environmental Impact Assessment Report and associated documentation submitted by the applicant and submissions made in the course of the planning application.



The Board considered and agreed with the Inspector's reasoned conclusions, that the main significant direct and indirect effects of the proposed development on the environment are, and would be mitigated, as follows:

- **Shadow Flicker:** Potential for significant adverse impacts on population and human health arising from shadow flicker at residences and other sensitive receptors (schools). The potential impacts will be controlled to an acceptable level by control measures that will curtail wind turbine operations in environmental conditions that give rise to shadow flicker.
- **Landscape and Visual:** Potential for significant adverse impacts on population and human health due to visual impacts arising from the proximity of the windfarm development to residential and community receptors (coupled with the elevated position of the receptors and limited vegetative screening). The potential impacts will be mitigated to an acceptable level by the omission of the most proximate turbines (6, 8 and 9) and infrastructure associated with these turbines.
- **Biodiversity:** Potential for significant direct and indirect adverse impacts on biodiversity (flora and fauna) due to loss of habitat and direct interface with or displacement / disturbance of species. The potential impacts will be mitigated through design and mitigation measures detailed in the EIAR and in the appended Construction and Environmental Management Plan, pre-construction mammal surveys and implementation of the invasive species management plans.
- **Lands, Soil and Geology:** Potential for significant direct and indirect impacts on lands, soil and geology, as a result of the increased risk of peat slide and failure. The potential impacts will be mitigated by measures to address peat stability detailed in the EIAR and appended Peat Stability Report.
- **Hydrology and Hydrogeology:** Potential for significant direct and indirect impacts on hydrology and hydrogeology arising from the potential indirect effects caused by increased run-off, such as soil erosion and sediment release into the receiving watercourses during construction and operational phases. The potential impacts would be suitably mitigated by project design features, and the measures outlined in the EIAR and the appended

Construction and Environmental Management Plan, which includes watercourse crossing methodologies and site drainage management plan.

- Climate and Air Quality: Potential for significant long term positive impact on climate and air from provision of a clean energy source that will replace current energy supplied from fossil fuel sources.

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

### **Proper Planning and Sustainable Development**

The Board considered that the proposed development is broadly compliant with the current Kerry County Development Plan 2015-2021 and would therefore be in accordance with the proper planning and sustainable development of the area. The Board considers that a grant of permission for the proposed development would materially contravene the Plan with respect to Objective EP-12.

The Board considers that, having regard to the provisions of section 37(2)(b)(i) and (iii) of the Planning and Development Act 2000, as amended, a grant of permission in material contravention of the development plan would be justified under sub sections (ii) and (iii) of the Act on the basis of the following reasons and considerations:

- (a) Having regard to the conflicting policies contained within the development plan for the area in relation to wind energy developments. Objective EP-12 conflicts with other policies in the Wind Energy Strategy for the County and in the County Development Plan that are supportive of the deployment of greater levels of wind farms including Objective EP-11 which is to “Implement the Renewable Energy Strategy for County Kerry”. The Renewable Energy Strategy identifies this area as an area where wind farm development is ‘open for consideration’. It is considered that Objective EP-12 is impractical in terms

of implementation and would create an unacceptable level of uncertainty in relation to when any future developments might be permitted.

- (b) Permission for the proposed development should be granted having regard to the National Planning Framework (NPF), the Regional Spatial and Economic Strategy (RSES) for the South Regional Assembly Area and guidelines under Section 28. The National Planning Framework contains 10 no. National Strategic Outcome including NSO 8 which seeks a transition to a low carbon and climate resilient society. The RSES contains supporting Regional Policy Objectives including RPO 99 to support the sustainable development of renewable wind energy and ROP 87 to reduce greenhouse gas emissions. The Section 28 Wind Energy Development 2006 state that the development of renewable energy sources, together with measures aimed at a reduction and more efficient use of energy, are priorities, nationally and at European level, on both environmental and energy policy grounds. The guidelines are also intended to ensure a consistency of approach throughout the country in the identification of suitable locations for wind energy development and the treatment of planning applications for wind energy developments.

Furthermore, the Board considered that, subject to compliance with the conditions set out below, the proposed development would be in accordance with European energy policy, the National Planning Framework and the Kerry County Development Plan 2015–2021. The proposed development would:

- make a positive contribution to Ireland's national strategic policy on renewable energy and its move to a low energy carbon future,
- have an acceptable impact on the landscape,
- would not seriously injure the residential or visual amenities of the area,
- would not adversely affect the archaeological or natural heritage, and
- be acceptable in terms of traffic safety and convenience.

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

## 11.0 Conditions

1. The proposed development shall be carried out and completed in accordance with the plans and particulars lodged with the application, and the further plans and particulars received by the Planning Authority on the 25<sup>th</sup> Day of July 2014 and the future plans and particulars received by An Bord Pleanála on the 27<sup>th</sup> day of October 2015 and 16<sup>th</sup> day of June 2020 except as may otherwise be required in order to comply with the following conditions. Where such conditions require details to be agreed with the planning authority, the developer shall agree such details in writing with the planning authority prior to commencement of development and the proposed development shall be carried out and completed in accordance with agreed particulars.

**Reason:** In the interests of clarity.

- 3 The permission hereby granted relates to the 7 turbine layout submitted to An Bord Pleanála on the 16<sup>th</sup> day of June 2020. Turbines no. 6, no. 8 and no. 9 and all associated infrastructure shall be omitted in full from the development. Prior to the commencement of development, the developer shall submit a revised site layout plan to the planning authority for the written agreement that is based on the 7 no. turbine layout submitted to An Bord Pleanála.

**Reason:** In the interest of visual amenities and to protect the character of the area.

2. The turbines shall be 156.5m in height with a hub height of 88.5m and a blade diameter of 135m in accordance with the turbine height option assessed within the Environmental Impact Assessment Report and / or the Natura Impact Statement and application documents in respect of noise, shadow flicker and bird collision risk.

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

3. The mitigation measures and monitoring commitments identified in the Environmental Impact Assessment Report received by An Bord Pleanála on

the 16<sup>th</sup> day of June 2020, and in other plans and particulars submitted with the application shall be implemented in full.

**Reason:** In the interests of clarity and the protection of the environment during the construction and operational phases of the proposed development.

- 4 The mitigation measures detailed in the Natura Impact Statement received by An Bord Pleanála on the 16<sup>th</sup> day of June 2020 shall be implemented in full.

**Reason:** In the interest of clarity and to ensure the protection of European sites.

- 5 The developer shall ensure that all peat related mitigation measures set out in the Peat Stability Assessment Appended to the EIAR received by the Board on the 16<sup>th</sup> day of June 2020 are implemented in full and monitored throughout the lifecycle of the construction works and monitored throughout the operational phase.

**Reason:** In the interests of protection of the environment.

- 6 The appropriate period of this permission during which the authorised development may be carried out shall be ten years from the date of this order.

**Reason:** The Board considered that ten years was reasonable given the nature and complexity of the development proposed.

- 7 This authorised windfarm shall operate for no more than 30 years from the date on which electricity is first exported from it or from the date of the expiry of the appropriate period, whichever is the sooner.

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

- 8 Prior to any development taking place on the site the developer shall submit for the written agreement of the planning authority, the final detail and specification of the proposed grid connection route.

**Reason:** In the interests of clarity and proper planning and development.

- 9 Decommissioning and construction works shall be limited to between 0800 and 18.00 hours Monday to Saturday and shall not be permitted on Sundays or public holidays.

**Reason:** To protect the amenities of nearby residential properties

- 10 The operation of the proposed development, by itself or in combination with other permitted wind energy development, shall not result in noise levels when measured externally at nearby noise sensitive locations, which exceed:

(a) Between the hours of 0700 and 2300:

i the greater of 5 dB(A)  $L_{90,10\text{mins}}$  above background noise levels, or 45 dB(A)  $L_{90,10\text{mins}}$ , at standardised 10-meter height above ground level wind speed of 7m/s or greater.

ii 40 dB(A)  $L_{90,10\text{ mins}}$  at all other standardised 10-meter height above ground level wind speeds.

(b) 43 dB(A)  $L_{90,10\text{ mins}}$ , at all other times.

Prior to commencement of development, the developer shall submit to and agree in writing with the planning authority a noise compliance monitoring programme for the subject development, including any mitigation measures such as the de-rating of particular turbines. The results of the initial noise compliance monitoring shall be submitted to and agreed in writing with the planning authority within 6 months of the commissioning of the wind farm.

**Reason:** In the interests of residential amenity.

- 11 The developer shall comply with the with the following shadow flicker requirements:

(a) Cumulative shadow flicker arising from the proposed development shall not exceed 30 minutes in any day or 30 hours in any year at any dwelling.

(b) The proposed turbines shall be fitted with appropriate equipment and software to control shadow flicker at dwellings.

(c) Prior to commencement of development, a wind farm shadow flicker monitoring programme shall be prepared by a consultant with experience of similar monitoring work, in accordance with details to be submitted to the planning authority for written agreement. Details of the monitoring

programme shall include the proposed monitoring equipment methodology to be used, and the reporting schedule.

**Reason:** In the interests of residential amenity.

11. The developer shall comply with the following design requirements:

- (a) The wind turbines, including masts and blades, and the wind monitoring masts shall be finished externally in a light-grey colour.
- (b) Cables within the proposed development site shall be placed underground.
- (c) The wind turbines shall be geared to ensure that the blades rotate in the same direction.
- (d) No advertising material shall be placed on or otherwise affixed to any structure on the site without a prior grant of permission.

**Reason:** In the interests of visual amenity.

12 Details of the materials, colours and textures of all the external finishes of the proposed substation building and enclosing fencing shall be submitted to and agreed in writing with the planning authority, prior to commencement of the development.

**Reason:** In the interests of the visual amenities of the area.

13 Prior to commencement of any works on site details of a post construction monitoring and reporting programme for bats shall be submitted to and agreed in writing with the planning authority. Monitoring shall be undertaken by a suitably qualified and experienced bat specialist and identify any measures required to mitigate any identified effects. The surveys shall be completed annually for a period of three years following commissioning of the wind farm and copies of the report submitted to the planning authority.

**Reason:** To ensure the appropriate monitoring of the use of the site by bat species.

14 In the event that the proposed development causes interference with telecommunications signals, effective measures shall be introduced to minimise interference with telecommunications signals in the area. Details of

these measures, which shall be at the developer's expense, shall be submitted to, and agreed in writing, with the planning authority prior to commissioning of the turbines and following consultation with the relevant authorities.

**Reason:** In the interests of the protection of telecommunications signals and of residential amenity.

15 Details of aeronautical requirements shall be submitted to, and agreed in writing with the planning authority prior to commencement of the development. Prior to the commissioning of the turbines, the developer shall inform the planning authority and the Irish Aviation Authority of the as-constructed tip heights and co-ordinates of the turbines in WGS-84 format and the wind monitoring masts.

**Reason:** In the interests of air traffic safety.

16 The construction of the proposed development shall be carried out in accordance with a finalised Construction and Environmental Management Plan which shall set out a construction method statement and timetable for all works and measures that are integral to the proposed development. The Plan shall be submitted and agreed in writing with the planning authority prior to the commencement of development.

**Reason:** In the interest of environmental protection and orderly development.

17 Prior to any development taking place on the site, the developer shall submit the following to the planning authority for written agreement:

(a) Road Safety Audit(s) relating to junction works proposed on the national road network,

(b) Technical Acceptance for crossings of national roads,

in accordance with the detailed requirements of Transport Infrastructure Ireland.

**Reason:** In the interests of traffic safety.



- 18 (a) Prior to commencement of the development, a traffic management plan for the construction phase shall be submitted to, and agreed in writing with, the planning authority. The traffic plan shall incorporate the following:
- (i) Details of the road network/haulage routes and the vehicle types to be used to transport materials to and from the site and a schedule of control measures for exceptionally wide and heavy delivery loads.
  - (ii) A condition survey of the roads and bridges along the haul routes shall be carried out at the developer's expense by a suitably qualified person both before and after the construction of the proposed development. This survey shall include a schedule of required works to enable the haul routes to cater for construction related traffic. The extent and scope of the survey and the schedule of works shall be agreed within the planning authority/authorities/ Transport Infrastructure Ireland prior to commencement of development.
  - (iii) Arrangements whereby the rectification of any construction damage which arises shall be completed to the satisfaction of the planning authority.
  - (iv) Detailed arrangements for the protection of bridges to be crossed.
  - (v) Detailed arrangements for temporary traffic arrangements/control on roads and protocols to keep residents informed of upcoming traffic related matters, temporary lane/road closures and delivery of turbines.
  - (vi) A phasing programme indicating the timescale within which it is intended to use each public route to facilitate construction of the proposed development. In the event that the proposed development is being developed concurrently with any other windfarm in the area, the developer shall consult with and arrange suitable traffic phasing arrangements with the planning authority,
  - (vii) Within three months of the cessation of the use of each public road and haul route to transport material to and from the site, a road survey and scheme of works detailing works to repair any damage to these routes shall be submitted to, and agreed in writing with the planning authority.
- (b) All works arising from the aforementioned arrangements shall be completed at the developer's expense within 12 months of the cessation of each road's use as a haul route for the proposed development.

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

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

**Reason:** To ensure satisfactory reinstatement of the site upon cessation of the project.

20. The developer shall facilitate the archaeological appraisal of the site and shall provide for the preservation, recording and protection of archaeological materials or features which may exist within the site. In this regard, the developer shall:

- (i) notify the relevant planning authority in writing at least four weeks prior to the commencement of any site operation (including hydrological and geotechnical investigations) relating to the proposed development, and
- (ii) employ a suitably-qualified archaeologist prior to commencement of development. The archaeologist shall assess the site and monitor all site development works. The assessment shall address the following issues:
  - the nature and location of archaeological material on the site, and
  - the impact of the proposed development on such archaeological material.

A report, containing the results of the assessment, shall be submitted to the planning authority and, arising from this assessment, the developer shall agree in writing with the planning authority details regarding any further archaeological requirements (including, if necessary, archaeological excavation) prior to commencement of construction works.

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

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

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

**Reason:** To ensure the satisfactory reinstatement of the delivery routes.

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

**Reason:** It is a requirement of the Planning and Development Act, 2000, as amended, that a condition requiring a contribution in accordance with the Development Contribution Scheme made under Section 48 of the Act be applied to the permission.

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Karen Kenny  
Senior Planning Inspector

20<sup>th</sup> October 2021