

# 1 INTRODUCTION

## 1.1 INTRODUCTION

This Chapter of the Environmental Impact Assessment Report (EIAR) introduces the proposed Inchamore Wind Farm (the Development) and provides details of the Environmental Impact Assessment (EIA), Project Team and the structure of the report. It sets out the broad context and defines the key terms of reference used in the environmental assessment of the Development. The Development is subject to an EIA, under the EIA Directive 2011/92/EU (EIA Directive) as amended by Directive 2014/52/EU.

The EIAR has been prepared by Jennings O'Donovan & Partners Limited, on behalf of Inchamore Wind DAC, to accompany a planning application for the Development. This EIAR takes into account the Project as a whole, including all integral elements that are not part of the Development, and all direct and indirect effects, and cumulative impacts and interactions.

In addition to the identification, description and assessment of the Development, this EIAR identifies, describes and assesses the overall Project (**Table 1.1**). Existing, permitted and known proposed developments and projects are cumulatively assessed in the EIAR. This includes projects and developments that are pending a decision from the planning authority and other known projects which are in the advanced stages of being prepared to be submitted for planning and have the potential for in combination effects, namely the Cummeennabuddoge Wind Farm<sup>1</sup>. Cummeennabuddoge Wind Farm is at the pre-planning/concept stage and is being prepared by the same client as Inchamore Wind Farm.

This EIAR includes the conclusions of the competent and qualified experts as to the significance of any environmental effects, to assist the competent authority to comply with Article 8a of the EIA Directive as amended.

Article 8a of the Directive specifies various requirements in relation to the making of the decision. These mainly relate to reasoned conclusion, conditions, mitigation measures and monitoring. The planning application is also accompanied by a Natura Impact Statement (NIS) as required under Article 6(3) of the EU Habitats Directive (92/43/EEC). This is an assessment of the likely or possible significant effects of the Development on sites designated as Natura 2000 conservation areas, also defined in Irish legislation as "European sites".

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<sup>1</sup> <https://cummeennabuddogewindfarm.ie/>

This chapter is supported by Figures and the following Appendices in Volume IV:

- **Appendix 1.1:** Consultation Responses
- **Appendix 1.2:** Glossary of Common Acronyms
- **Appendix 1.3:** Community Consultation Report

## 1.2 KEY DEFINED TERMS

To provide clarity in the EIAR, the following defined terms will be used throughout.

**Table 1.1: Defined Terms used throughout the EIAR**

Term	Definition
Site	Refers to all land that falls within the Proposed Inchamore Wind Farm Redline Boundary as shown on <b>Figure 1.1</b> .
Redline Boundary	Refers to the proposed development redline planning boundary. It is the boundary line of all works to be completed as part of the Development and is shown on the planning drawings accompanying this EIAR.
Baseline	Refers to the existing lands and their characteristics.
Development	Refers to all elements of works described in the planning application form and public notices for Inchamore Wind Farm, the details of which are set out within <b>Chapter 2: Project Description</b> . These elements include the wind turbines, all site infrastructure and all works required on nodes of the Turbine Delivery Route that are within the Redline Boundary. They do not include the Grid Connection Route from the onsite substation to Ballyvouskill 220 kV substation.
Project	Refers to the Development and all associated infrastructure required for the wind farm to be functional, such as the Turbine Delivery Route and the Grid Connection Route.
Survey Areas	Refers to areas within which surveys are undertaken. These are specifically defined within each technical section/chapter of this EIAR.
Study Areas	Refers to areas which are considered as part of the assessment process. These are specific and defined within each technical section/ chapter of this EIAR.
The Council	Refers to Cork County Council.
Developer	Inchamore Wind Designated Activity Company (DAC)

Term	Definition
EIA Regulations	The European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018) transpose the requirements of the 2014 EIA Directive into the Planning and Development Regulations 2001 (As Amended).
EIA Directive	Refers to the EIA Directive 2011/92/EU.
The 2014 EIA Directive	Refers to EIA Directive 2014/52/EU which amends the EIA Directive.
Scoping	This is the process to identify key environmental issues, and to determine which elements of the Project are likely to cause significant environmental impacts and to identify elements that can be removed from the assessment.
The Onsite Substation and Control Building	Refers to the onsite substation comprising the control building and other associated electrical infrastructure, including the compound in which it is located.
Met Mast	Refers to the proposed Meteorological Mast to be located on site.
Replant Lands	Refers to offsite forestry replanting lands.
Construction Haul Routes	Refers to the proposed routes from local quarries and suppliers to the Site for construction materials.
Turbine Delivery Route	Refers to the proposed turbine delivery route from Ringaskiddy Port to the site entrance on the N22.
Grid Connection Route	Refers to the proposed route of connecting to the national grid.
Wind Farm Internal Cabling	Refers to the electrical cables connecting the turbines to the on-site substation.
Temporary Construction Compound	Refers to the compound to be developed and used by the appointed contractor(s) for the purposes of constructing the wind farm.
Turbine Hardstand	Refers to the hardstand next to the turbine location used by cranes for erection of turbine hub, nacelles and rotor blades.
Turbine Foundation	Refers to turbine concrete base located under ground level and used to support the turbine.
Decommissioning	Refers to the end of the operational life of the wind farm when turbines are dismantled and taken off site for recycling. The turbine

Term	Definition
	foundations, hardstands and the site roads will be left <i>in-situ</i> and allowed to revegetate through natural succession. The underground cabling will be removed while the ducting will remain <i>in-situ</i> . The substation building will be left <i>in-situ</i> .
Reinstatement	Reinstatement means restoring the habitat in the areas of the Site where infrastructure was developed.
Turbine Range	Refers to the range of turbine parameters assessed in this EIAR as per section 1.9.4.

### 1.3 THE APPLICANT

The Applicant seeking planning permission is Inchamore Wind DAC, a joint venture between FuturEnergy Ireland and SSE Renewables.

FuturEnergy Ireland (FEI) is the recently launched joint venture company owned on a 50:50 basis by Coillte and ESB. This new business combines the State's strongest assets and expertise in onshore renewable energy development on behalf of the people of Ireland. We are one of the largest dedicated developers of onshore wind in Ireland and our mission is to maximise the potential of our national resources and accelerate Ireland's transformation to a low carbon energy economy.

The aim of FEI is to help Ireland deliver on its green energy targets, achieving net zero emissions by 2050, as set out in the Government's Climate Action Plan and legislated for under the Climate Action and Low Carbon Development (Amendment) Act 2021. In this regard, FEI is looking to actively drive Ireland's transition to a low carbon economy by developing 1 GW of wind energy projects by 2030.

FEI is dedicated to developing best-in-class, commercially successful wind farms while maximising the support from local communities. Its wind farm projects have the potential to play a fundamental role in a green economy by creating jobs in rural areas and growing a green industrial sector, while also funding local development for host communities through its community benefit funds.

SSE Renewables is a leading developer, owner and operator of renewable energy in Ireland with a vision to make renewable energy the foundation of a zero-carbon world. The renewable electricity generated at wind farms operated by SSE Renewables across Ireland

powers SSE Airtricity, Ireland's largest provider of 100% green energy. The company's onshore portfolio in Ireland comprises 29 windfarms producing nearly 700 MW of renewable generation, including Ireland's largest wind farm the 174 MW Galway Wind Park.

## 1.4 THE SITE

The Site, as defined in **Table 1**, comprises an area of 167 hectares, of which a significant area is commercial forest owned by Coillte and the remaining third-party land is agricultural land of varied productivity and open mountain heath. The Site is located 5.9 km west of Ballyvourney, Co. Cork and shares the county boundary between Cork and Kerry. It is 54 km west of Cork City, and 23 km north-east of Kenmare, Co. Kerry.

The Site elevations range from 460 m AOD in the north-western side of the Site to 350 m AOD towards the eastern side of the Site. A Site Location Map showing the Redline Boundary is appended as **Figure 1.1** and a map which comprises all elements of the Project is outlined as **Figure 1.2**.

The Site is located in a rural setting and housing density in the area is low. There are 39 dwellings within a 2 km radius of the proposed turbines, comprising one off houses and farm holdings (**Figure 1.3**). The nearest settlements are Inchamore which is situated 750 m to the south of the Site Boundary, and the townland of Milleeny is located 1 km to the south-east of the Site Boundary.

The Development is located within the townlands of Inchamore, Mileeny Derryreag and Derreenaling.

A full description of the Development is provided in **Chapter 2: Project Description**.

## 1.5 SUMMARY OF PROJECT DESCRIPTION

Permission is being sought by the Developer for the construction of 5 No. Wind Turbines, a meteorological mast, an on-site substation, Turbine Delivery Route and all ancillary works.

The development will consist of

- A wind farm with an operational lifespan of 35 years (from the date of commissioning of the development).
- The construction of five turbines with an overall ground to blade tip height ranging from 177 m to 185 m inclusive; a rotor diameter ranging from 149 m to 155 m inclusive; and a hub height ranging from 102.5 m to 110.5 m inclusive.

- Construction of permanent turbine hardstands and turbine foundations.
- Construction of one temporary construction compound with associated temporary site offices, parking areas and security fencing.
- Installation of a (35-year life cycle) meteorological mast with a height of 110 m and a 4 m lightning pole on top, such that the overall structure height will be 114 m.
- Development of one on-site borrow pit.
- Construction of new permanent internal site access roads and upgrade of existing internal site access roads to include passing bays and all associated drainage infrastructure.
- Development of a permanent internal site drainage network and sediment control systems.
- Construction of a permanent 38 kV electrical substation including a control building with welfare facilities, all associated electrical plant and equipment, parking, security fencing and gates, all associated underground cabling, wastewater holding tank, and all ancillary structures and works.
- All associated underground electrical and communications cabling connecting the wind turbines to the on-site wind farm substation.
- Ancillary forestry felling to facilitate construction of the Development.
- All associated site development works including berms, landscaping, and soil excavation.
- Upgrade of existing forest access roads to include passing bays and all associated drainage infrastructure.
- Upgrade works on the Turbine Delivery Route to include the following:
  - Works at an entrance to an existing forest road accessed off the N22 to include localised widening of the forest road and creation of a splayed entrance, removal of existing vegetation for visibility splays and removal of street furniture to facilitate construction traffic including the delivery of abnormal loads and turbine component deliveries.

A 10-year planning permission and 35-year operational life for the wind turbines and met mast, from the date of commissioning of the entire wind farm is being sought. This reflects the lifespan of modern-day turbines.

A permanent planning permission is being sought for the substation and all associated electrical plant, equipment cabling security fencing and gates, wastewater holding tank, and all ancillary structures and works as these will become an asset of the national grid under

the management of ESB & EirGrid and will remain in place upon decommissioning of the wind farm.

The Grid Connection consists of one 38 kV substation (to include one control building with welfare facilities, all associated electrical plant and equipment, security fencing and gates, all associated underground cabling, wastewater holding tank, and all ancillary structures and works) and a 38 kV cable to connect to Ballyvouskill 220 kV Substation.

A temporary access road off the N22 in the townland of Cummeenavrick will facilitate the safe turning of vehicles leaving the Site.

Permission is not being sought for a Grid Connection Route or the turning area in Cummeenavrick, however the below is assessed as part of the Project in the EIAR:

- All works associated with the permanent connection of the wind farm to the national electricity grid comprising a 38 kV underground cable in permanent cable ducts from the proposed, permanent, on-site substation, in the townland of Inchamore and onto the townlands of Inchamore, Derreenaling, Derryreag, Cummeenavrick, Glashacormick, Clydaghroe and Cummeennabuddoge to the existing Ballyvouskill 220 kV Substation in the townland of Caherdowney.
- The construction of a temporary access road off the N22 in the townland of Cummeenavrick to facilitate a 180 degrees turning manoeuvre by construction vehicles and reinstatement at the end of the construction period.

## 1.6 ENVIRONMENTAL IMPACT ASSESSMENT

### 1.6.1 Environmental Impact Assessment Requirement and National Legislation

European Union Directive 2011/92/EU (“the EIA Directive”) requires that, before consent is given for certain public and private projects, an assessment of the effects on the environment is undertaken by the relevant competent authority. The EIA Directive has been transposed into Irish legislation, for the purposes of this EIA Development, by the Planning and Development Act 2000, as amended (“the Planning Acts”) and the Planning and Development Regulations 2001, as amended (“the Planning Regulations”).

**Section 171A** of the Planning and Development Act 2000 (as amended) defines an Environmental Impact Assessment (EIA) as ‘a process—

(a) consisting of—

(i) the preparation of an environmental impact assessment report by the applicant in accordance with this Act and regulations made thereunder,

*(ii) the carrying out of consultations in accordance with this Act and regulations made thereunder,*

*(iii) the examination by the planning authority or the Board, as the case may be, of—*

*(I) the information contained in the environmental impact assessment report,*

*(II) any supplementary information provided, where necessary, by the applicant in accordance with section 172(1D) and (1E), and*

*(III) any relevant information received through the consultations carried out pursuant to subparagraph (ii),*

*(iv) the reasoned conclusion by the planning authority or the Board, as the case may be, on the significant effects on the environment of the proposed development, taking into account the results of the examination carried out pursuant to subparagraph (iii) and, where appropriate, its own supplementary examination, and*

*(v) the integration of the reasoned conclusion of the planning authority or the Board, as the case may be, into the decision on the proposed development, and*

*(b) which includes—*

*(i) an examination, analysis and evaluation, carried out by the planning authority or the Board, as the case may be, in accordance with this Part and regulations made thereunder, that identifies, describes and assesses, in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of the proposed development on the following: (I) population and human health; (II) biodiversity, with particular attention to species and habitats protected under the Habitats Directive and the Birds Directive; (III) land, soil, water, air and climate; (IV) material assets, cultural heritage and the landscape; (V) the interaction between the factors mentioned in clauses (I) to (IV), and*

*(ii) as regards the factors mentioned in subparagraph (i)(I) to (V), such examination, analysis and evaluation of the expected direct and indirect significant effects on the environment derived from the vulnerability of the proposed development to risks of major accidents or disasters, or both major accidents and disasters, that are relevant to that development.*

**Section 172(1)(a)(ii)(I)** requires projects of a class specified in Part 2 of Schedule 5 of the Planning Regulations to be subject to an EIA where:

*“(l) such development would exceed any relevant quantity, area or other limit specified in that Part.”*

Part 2 of Schedule 5 of the Planning Regulations includes the following classes of EIA Development:

**Class 3(i)** *“Installations for the harnessing of wind power for energy production (wind farms) with more than 5 turbines or having a total output greater than 5 megawatts.”*

The Development comes within the scope of Class 3(i).

### 1.6.2 Directive 2014/52/EU

The EIA Directive (2011/92/EU) was amended by the 2014 EIA Directive (2014/52/EU).

On 1<sup>st</sup> September 2018, the Minister for Housing, Planning and Local Government published updated guidelines for planning authorities and An Bord Pleanála on carrying out Environmental Impact Assessments. The publication of the Guidelines coincides with the coming into operation on 1<sup>st</sup> September 2018 of the provisions of the European Union (Planning and Development) (EIA) Regulations 2018 (S.I. No. 296 of 2018), which were signed by the Minister on 26<sup>th</sup> July 2018. These Regulations transpose the requirements of Directive 2014/52/EU, amending previous Directive 2011/52/EU, on the assessment of the effects of certain public and private projects on the environment (the EIA Directive) into planning law.

Accordingly, this EIAR complies with the European Union (Planning and Development) (EIA) Regulations 2018 (S.I. No. 296 of 2018). To the extent relevant and necessary, regard has been given to the existing provisions of the Planning and Development Act 2000 (as amended) and the Planning and Development Regulations 2001, (as amended) insofar as they transpose the EIA Directive. Article 5 of the EIA Directive as amended provides where an EIA is required, the developer shall prepare and submit an Environmental Impact Assessment Report (EIAR). The information to be provided by the developer shall include at least:

- (a) a description of the Development comprising information on the site, design, size and other relevant features of the Development*
- (b) a description of the likely significant effects of the Development on the environment*

- (c) *a description of the features of the Development and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment*
- (d) *a description of the reasonable alternatives studied by the developer, which are relevant to the Development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the Development on the environment*
- (e) *a non-technical summary of the information referred to in points (a) to (d) and*
- (f) *any additional information specified in Annex IV relevant to the specific characteristics of a particular Development or type of Development and to the environmental features likely to be affected.*

The EIAR provides information on the receiving environment and assesses the likely significant effects of the Development and proposes mitigation measures to avoid or reduce these effects. The function of the EIAR is to provide information to allow the competent authority to reach a reasoned conclusion on the effects of a development and inform subsequent decisions, such as planning. All elements of the Project (including the grid connection and turbine delivery route) have been assessed as part of this EIAR.

#### **1.6.2.1 EIA Definition**

Article 1(2)(g) of the EIA Directive as amended defines EIA as a process consisting of:

- “(i) the preparation of an environmental impact assessment report by the developer, as referred to in Article 5(1) and (2);*
- (ii) the carrying out of consultations as referred to in Article 6 and, where relevant, Article 7;*
- (iii) the examination by the competent authority of the information presented in the environmental impact assessment report and any supplementary information provided, where necessary, by the developer in accordance with Article 5(3), and any relevant information received through the consultations under Articles 6 and 7;*
- (iv) the reasoned conclusion by the competent authority on the significant effects of the project on the environment, taking into account the results of the examination referred to in point (iii) and, where appropriate, its own supplementary examination; and*
- (v) the integration of the competent authority's reasoned conclusion into any of the decisions referred to in Article 8a”.*

### 1.6.2.2 Factors of the Environment

The EIA Directive as amended requires the EIA to identify, describe and assess, in an appropriate manner and in light of each individual case, the direct and indirect significant effects of a project on the following factors:

- (a) population and human health;
- (b) biodiversity, with particular attention to species and habitats protected under the Habitats and Birds Directives;
- (c) land, soil, water, air and climate;
- (d) material assets, cultural heritage and the landscape, and
- (e) the interaction between the factors referred to in points (a) to (d).

The effects referred to above shall include the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned.

The implementations of the EIA Directive as amended in the EIAR can be seen in **Table 1.2**.

**Table 1.2: Outline of respective chapters relating to the requirements of the EIA Directive as amended**

The EIA Directive	Chapter	Title
<i>(a) population and human health</i>	4	Population and Human Health
<i>(b) biodiversity, with particular attention to species and habitats protected under the Habitats and Birds Directives</i>	5	Terrestrial Ecology
	6	Aquatic Ecology
	7	Ornithology
<i>(c) land, soil, water, air and climate</i>	2	Project Description (land)
	5	Terrestrial Ecology (land)
	6	Aquatic Ecology (land)
	7	Ornithology (land)
	8	Soils and Geology (land)
	9	Hydrology and Hydrogeology
	10	Air and Climate
	13	Material Assets & Other Issues (land)
<i>(d) material assets, cultural heritage and the landscape</i>	13	Material Assets & Other Issues
	14	Cultural Heritage
	12	Landscape and Visual Amenity
<i>(e) the interaction between the factors referred to in points (a) to (d)</i>	16	Major Accidents and Natural Disasters

The EIA Directive	Chapter	Title
	17	Interactions of the Foregoing

### 1.6.2.3 Major Accidents and Disasters

The EIA Directive as amended requires the EIAR to consider the expected effects deriving from the vulnerability of the project to risks of major accidents and/or disasters that are relevant to the project concerned. This is discussed in further detail in **Chapter 16: Major Accidents and Natural Disasters**.

A wind farm is not a recognised source of chemical pollution. Should a major accident or natural disaster occur, the potential sources of pollution onsite during both the construction and operational phases are limited. Sources of chemical pollution with the potential to cause significant environmental pollution and associated negative effects on health include bulk storage of hydrocarbons or chemicals and storage of wastes. Spills and leaks can occur if they are not mitigated against which may cause negative effects to human health, if contamination of food or water occurs. The occurrence of such spills and leaks is unlikely as bunding and safe storage practices will be complied with. The Site is not regulated under the Control of Major Accident Hazards Involving Dangerous Substances Regulations i.e., SEVESO sites and so there is no potential effect from this source. All SEVESO sites are located approximately 50 km or more from the Development.

There is limited potential for natural disasters to occur at the Site. Ireland is a geologically stable country with a mild temperate climate. The potential natural disasters that may occur are therefore limited to peat-slide, flooding and fire.

- The Peat Stability Assessment Risk Ranking ranged from 'Very Low to Low with the exception of Moderate or High-risk point locations associated with deeper peat and/or steeper inclines and/or close proximity to sensitive receptors'. The risk of peat-slide is further addressed in **Chapter 8: Soils and Geology**.
- There are no recorded localised flood events within the vicinity of the Site. The risk of flooding is addressed in **Appendix 9.1: Flood Risk Assessment**.
- A 2020 article in Wind Power Engineering Magazine estimated that 1 in 2,000 wind turbines catch fire each year. Overall, the data shows that wind turbine fires are relatively rare. It is therefore considered that the risk of significant fire occurring, affecting the wind farm and causing the wind farm to have significant environmental effects is limited. This is discussed in **Chapter 16: Major Accidents and Natural Disasters**.

- As described earlier, there are no significant sources of pollution in the wind farm with the potential to cause environmental or health effects. Also, the spacing of the turbines and distance of turbines from any properties limits the potential for impacts on human health. This is further discussed in **Chapter 16: Major Accidents and Natural Disasters**.

Article 5(1)(d) of the EIA Directive as amended requires that the EIAR include a description of the reasonable alternatives studied by the developer, which are relevant to the Development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the Development on the environment.

In addition, Annex IV, paragraph 2 provides that the EIAR include “*A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.*”.

This is addressed in **Chapter 3: Alternatives Considered** of this EIAR.

#### **1.6.2.4 National Guidance**

The following documents have been referred to in the preparation of this EIAR:

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports, EPA, May 2022;
- Department of Housing, Planning and Local Government ‘Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment’ (August 2018).

In addition to the applicable EIA legislation and guidance, all EU Directives and national legislation relating to the specialist areas have also been considered as part of the process and are addressed in the relevant assessment chapters. Subject-specific best practice guidance used for each appraisal presented in the EIAR is detailed in the relevant assessment chapter of this EIAR.

#### **1.6.2.5 European Guidance**

- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report, European Commission, 2017
- Environmental Assessments of Plans, Programmes and Projects – Rulings of the Court of Justice of the European Union (European Union 2017a)

- Environmental Impact Assessment of Projects – Guidance on Scoping (Directive 2011/92/EU as amended by 2014/52/EU) (European Union 2017b)
- Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (European Commission 1999)

### **1.6.2.6 Competent Experts and Quality of the EIAR**

Article 5(3) of the 2014 EIA Directive states that, in order to ensure the completeness and quality of the EIAR, the Applicant shall ensure (a) the EIAR is prepared by competent experts; (b) the competent authority shall ensure that it has, or has access to, sufficient expertise to examine the EIAR, and (c) where necessary, the competent authority shall seek from the Applicant any supplementary information, in accordance with Annex IV (the information to be contained in the EIAR), which is directly relevant to reaching the reasoned conclusion on the significant effects of the Development on the environment.

Article 94(e) of the Planning and Development Regulations 2001 (as amended) requires the following information to be provided in an EIAR:

*“(e) a list of the experts who contributed to the preparation of the report, identifying for each such expert—*

*(i) the part or parts of the report which he or she is responsible for or to which he or she contributed,*

*(ii) his or her competence and experience, including relevant qualifications, if any, in relation to such parts, and*

*(iii) such additional information in relation to his or her expertise that the person or persons preparing the EIAR consider demonstrates the expert’s competence in the preparation of the report and ensures its completeness and quality.”*

The experts involved in the preparation of this EIAR are competent, having regard to the task he or she performed, taking account of the scope of the study for which he or she undertook the work, the person/s possess sufficient training, experience and knowledge appropriate to the nature of the work.

This EIAR has been prepared by Jennings O'Donovan & Partners Limited (JOD), Consulting Engineers, Finisklin Business Park, Sligo, F91 2HH9, on behalf of the Developer. JOD are one of the longest established and most reputable multi-disciplinary engineering consultancies in Ireland. Established in 1950, it has grown to be the largest engineering consultancy in the north-west of Ireland. JOD have been an established presence in the Renewable Energy Wind Farm Sector since 1998. To date, the company has been working on a portfolio of projects extending to over 2,040 MW of power in Ireland

and Northern Ireland and is a recognised market leader in the area of Wind Energy development. This portfolio will equate, when completed, to an investment of €3 billion in the Wind Energy Sector. Additionally, JOD has attained certificates in line with industry standards as follows:

- ISO 9001:2015 – Quality Management System
- ISO 14001:2015 – Environmental Management System
- ISO 45001:2018 – Occupational Health and Safety Management System

Possession of these certificates is, in itself, evidence that JOD, have developed, maintained and implemented systems in quality, safety and environmental related matters and are therefore competent experts.

This project has been completed in line with JOD's Integrated Management System which is based on the current versions of ISO 9001 (Quality Management System), ISO 14001 (Environment Management System) and ISO 45001 (Safety Management System). JOD are fully certified and accredited to ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 for the provision of project management, environmental, civil and structural consulting engineering services.

JOD have developed a Quality Policy Statement, an Environmental Policy Statement and a Safety Health and Welfare Policy Statement. It is a stated objective in our Quality Policy Statement that:

*"...Jennings O'Donovan and Partners Limited is committed to complying with the requirements of the quality management system and to continually improve its effectiveness..."*

JOD staff are degree qualified in their respective specialist fields and have developed their competence through both experience on the job and through training. Each team member has developed the following:

- Sufficient knowledge of the specific tasks to be undertaken and the risks which may arise, and
- Sufficient experience and ability to carry out their duties in relation to the project and to take appropriate actions required under the EIA Directive

Specialist consultancies have been employed to complete some of the EIAR Chapters. Each Chapter of the EIAR includes a Statement of Authority regarding the section of the

EIAR for which the author is responsible, the competency of the author and relevant qualifications. Please see section 1.9 for more information.

#### **1.6.2.7 Information to be Included in a Decision to Grant**

Article 8a (1) of the EIA Directive as amended states:

*“The decision to grant development consent shall incorporate at least the following information:*

*(a) the reasoned conclusion referred to in Article 1(2)(g)(iv);*

*(b) any environmental conditions attached to the decision, a description of any features of the project and/or measures envisaged to avoid, prevent or reduce and, if possible, offset significant adverse effects on the environment as well as, where appropriate, monitoring measures”.*

To assist the Council with this requirement, the EIAR includes a summary at the end of each chapter of all proposed mitigation and monitoring measures outlined within the technical assessments. A summary document has also been appended to **Chapter 17: Interactions of the Foregoing (Appendix 17.1: Schedule of Mitigation Measures)**.

## **1.7 NEED FOR THE DEVELOPMENT**

The proposed Inchamore Wind Farm will contribute renewable energy in order to assist in the transition of Ireland's energy sector to a low carbon economy. The Project has an estimated Maximum Export Capacity (MEC) of between 28 MW and 33 MW. The exact MEC will be dependent on the output power of the models available at procurement stage. The Project will play a significant role in providing renewable electricity in the Ireland, accounting for approximately 0.75% of the current installed wind energy capacity (Wind Energy Ireland, 2021). At a strategic level, the need for the Project is supported by International, European, and National environmental and energy commitments and policies.

Under the 2009 Renewable Energy Directive, Ireland committed to produce at least 16% of all energy consumed by 2020 from renewable sources. This was to consist of 40% from renewable electricity, 12% from renewable heat and 10% from the renewable transport sector.

The Irish Government published the Climate Action Plan in June 2019 (DoCCA, 2019) which sets out actions to ensure Ireland's 2030 renewable energy targets can be achieved. This is in the context of substantial and continuing failure by Ireland in meeting climate targets to date. These targets have recently been updated in the Climate Action Plan 2023

which has increased the target of renewable energy from 70% as included in the 2019 CAP to 80% by 2030. This target is to be achieved partly by the delivery of 8 GW of onshore wind energy.

### **REPower EU Energy Plan 2022**

The European Commission presented the REPowerEU plan on 18 May 2022<sup>2</sup>. The plan is a key pillar in the EU's response to the disruption which has been caused to energy markets and aims to tackle the climate crisis by transforming Europe's energy system. The plan also forms part of the EU's wider response to Russia's invasion of Ukraine, including several sanctions packages.

Within the overarching goals of strengthening Europe's climate ambitions, security and economic growth, the REPowerEU plan responds to the current energy situation in four ways:

- energy savings;
- the diversification of energy imports;
- the acceleration of Europe's clean energy transition, and
- smart investment.

The European Commission has laid down a framework to accelerate the deployment of renewable energy (Council Regulation (EU) 2022/2577 of 22 December 2022). Member States should establish "go-to" areas for renewable energy development. These areas would have lower environmental risks and therefore allow shortened and simplified permitting processes.

This renewable energy Project will aid in the diversification of energy production in Ireland and together with other renewable energy projects and developments, will decrease our reliance on imported fossil fuels by becoming energy self-efficient.

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<sup>2</sup> REPowerEU: A plan to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition; European Commission – Press Release. Available online: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_22\\_3131](https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3131) [Accessed 22/07/2022]

### **The Climate Action Plan 2023**

The Climate Action Plan 2023 aims to evaluate in detail the changes that are required in order *“to halve our emissions by 2030 and reach net zero no later than 2050, as we committed to in the Programme for Government”*.

In relation to electricity generation there is a commitment to increase the reliance on renewables to 80%, which includes increasing the target of offshore wind energy by up to 7 GW<sup>3</sup>. The target for onshore wind energy is 9 GW, by 2030.

The European Commission announcement<sup>4</sup> in March 2022 addresses energy security issues emerging from Russia's invasion of Ukraine. The EU intends on significantly accelerating its transition to clean energy and thereby increasing Europe's energy independence.

*“Phasing out our dependence on fossil fuels from Russia can be done well before 2030. To do so, the Commission proposes a REPowerEU plan that will increase the resilience of the EU-wide energy system based on....*

*...Reducing faster our dependence on fossil fuels at the level of homes, buildings and the industry, and at the level of the power system by boosting energy efficiency gains, increasing the share of renewable and addressing infrastructure bottlenecks”*

The contribution of the Development to the de-carbonisation of the Irish electricity network will contribute positively to an issue of strategic social importance. This is illustrated by the text of the Irish government's Climate Action Plan 2023 which sets an ambitious 80% target for electricity production from renewable sources by 2030 and highlights the need to remove barriers to the development of renewables, including onshore wind, such as streamlining regulation and encouraging reinforcement of the grid to facilitate greater renewables penetration. The significance of the Climate Action Plan is underlined by the Irish government's declaration of a climate emergency in 2019.

Ireland is facing significant challenges in efforts to meet these targets, alongside its commitment to transition to a low carbon economy by 2050. Ireland did not meet its 2020

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<sup>3</sup>SSE RENEWABLES HAILS IRELAND'S INCREASED 7GW OFFSHORE WIND AMBITION BY 2030, 29 Jul 2022 [Accessed Online 08/02/2023] <https://www.sserenewables.com/news-and-views/2022/07/sse-renewables-hails-ireland-s-increased-7gw-offshore-wind-ambition-by-2030/>

<sup>4</sup> Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions [08/03/2022]. REPowerEU: Joint European Action for more affordable, secure and sustainable energy

target for renewable energy and is falling behind in the longer-term movement away from fossil fuels.

### **The Renewable Energy Directive (recast) 2018/2001/EU**

The Renewable Energy Directive (recast) 2018/2001/EU entered into force in December 2018. It entered into force, as part of the Clean energy for all Europeans package, aimed at keeping the EU a global leader in renewables and, more broadly, helping the EU to meet its emissions reduction commitments under the Paris Agreement. It was transposed into Irish law in September 2020 by the Renewable Energy Regulations 2020. The regulations set the parameters for the establishment of future renewable electricity support schemes, and build on the existing regime, which was created by the European Union (Renewable Energy) Regulations 2014 (as amended) (the “2014 Regulations”). The ambition of increased electricity from renewable sources will be significantly ramped up. The recast directive moves the legal framework to 2030 and sets a new binding renewable energy target for the EU for 2030 of at least 32%, with a clause for a possible upwards revision by 2023, and comprises measures for the different sectors to make it happen. Failure to meet renewable energy targets is subject to fines from the EU.

Wind Energy Ireland (WEI), Ireland’s largest renewable energy organisation, in its annual report for 2020 noted that Ireland’s wind energy share of electricity demand in 2020 rose to 36.3% compared to 32.5% in 2019. Wind Energy Ireland in its February 2022 Wind Energy report showed that wind energy provided 53 per cent of Ireland’s electricity that month. This is the highest share of demand ever achieved by wind in Ireland.

The total installed capacity of the Republic of Ireland’s wind farms is now 4,255 MW (the latest publication of the Annual Report, 2020)<sup>5</sup>; this is approximately enough to power 2.2 million Irish homes annually.

The Project is critical to helping Ireland address these challenges as well as addressing the country’s over-dependence on unsustainable imported fossil fuels. The need for the Development is driven by the following factors:

- A requirement to diversify Ireland’s energy sources, to achieve national renewable energy targets;
- Reduce Ireland’s dependency on fossil fuels resulting in lower carbon dioxide (CO<sub>2</sub>) emissions;
- Avoid significant fines from the EU (the EU Renewables Directive);

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<sup>5</sup> <https://windenergyireland.com/latest-news/5364-annual-report-confirms-wind-energy-leads-fight-against-climate-change> [Accessed on the 07/12/2021]

- A legal commitment under the Kyoto protocol from Ireland to limit greenhouse gas emissions;
- Aid in the acceleration of actions towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change (COP26 and COP27);
- A requirement to increase Ireland's national energy security as set out in the Energy White Paper (Ireland's Transition to a Low Carbon Energy Future, 2015-2030<sup>6</sup>);
- Provision of cost-effective power production for Ireland which would deliver local benefits, and
- Increase energy price stability in Ireland by reducing an over-reliance on imported gas and exposure to international market price and supply fluctuations.

The Development will also offer opportunities such as:

- The provision of clean energy whilst minimising environmental impacts, and
- Contributing to renewable energy targets which will continue to drive down the overall cost of energy with benefits to the Irish consumer.

The Development will create additional jobs and will encourage continued investment in the renewable industry in Ireland.

### 1.7.1 Public Consultation

The project at an early stage appointed a local Community Liaison Officer (CLO) in July 2020. The role of a CLO is to introduce and communication key project information, timelines, updates, activities, benefits and proposals through direct and indirect community engagement, meetings, and events with the projects near neighbours and the wider community throughout the project lifecycle.

Initially the CLO's direct engagement focused on calling to houses within 2 km of the project area. These visits were used to provide Project updates as follows:

- Newsletter 1 in July/August 2020;
- Newsletter 2 in March 2021;
- Newsletter 3 in September 2021;
- Project update letter in November 2021;
- An Introduction letter to FuturEnergy Ireland from the CEO in December 2021;
- A further project update letter in March/April 2022, and

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<sup>6</sup> Ireland's Transition to a Low Carbon Energy Future, 2015-2030, Department of the Environment, Climate and Communications, 2020. <https://www.gov.ie/en/publication/550df-the-white-paper-irelands-transition-to-a-low-carbon-energy-future-2015-2030/>

- A project update letter in November 2022.

During May 2022 FuturEnergy Ireland sponsored and arranged an Educational Program around “Climate Change” for 5 local National schools around the Project area which was well received.

In March 2023 a Media release was sent to local and regional journalists in the Southern Star, The Corkman, Irish Examiner, Radio Na Gealtachta and 96Fm launching the Inse Mhór Wind Farm’s detailed project brochure and Virtual Tour Exhibition.

The detailed 36-page project brochure and invite letter to the projects virtual tour exhibition was also distributed at this time to the Project’s near neighbours and wider community out to 5 km, and also to local interest groups and elected representatives.

In April 2023, advertisements were placed in the Southern Star, the Corkman, and the Kerryman newspapers displaying the details of the location, dates, and times of the two-day local on-site community engagement clinic to be held by the Project in Coolea village on 20th and 21st April.

Early in the engagement process, the CLO contacted and kept local interest groups from the wider community and local elected representatives up to date and informed of Project progress. This engagement commitment has continued throughout the whole engagement process and will continue to do so into the future.

The CLO was on hand to discuss any queries, comments or concerns that residents may have had during the project’s engagement lifecycle and as required were replied to by the project team. Some requests for information were logged so that when the information become available it would be provided.

The CLOs work also included Saturdays and some midweek evenings in an effort to reach out to all.

At all stages of the Project’s engagement cycle from 2020 to 2023, the Project communications material included contact numbers, project email addresses, postal addresses, and details of the dedicated Project website [www.inchamorewindfarm.ie](http://www.inchamorewindfarm.ie) (when launched in early 2021). From this time onward all project updates and newsletters were continuously uploaded to the dedicated project website.

To acknowledge the region's Gaeltacht culture and heritage, the majority of our communications were provided in both Irish and English.

#### **1.7.1.1 Public Information Days (PIDs)**

The public information days were held on April 20th and 21st 2023 at Arus Éamon Mac Suibhne, Cúil Aodh, Co Chorcaí. P12 HY57 (a venue close to the site and easily accessible to local residents). Which took place between the hours of 12:00 and 20:00 on the Thursday and between 12:00 and 18:00 on the Friday, to give as many of the community members as possible the chance to attend, to view the proposals and ask questions of the Project team.

A Pre-Application Community Consultation (PACC) Report has been submitted to Cork County Council and Kerry County Council as a standalone document as part of this planning application. The PACC Report summarises the engagement and consultation that has taken place with the local community over the project lifecycle to date. Starting from the introduction of the project through to the Project's submission into planning, the PACC report includes reports of the public information day, how we intend to continually engage with the local community into the future and how comments received have been addressed and incorporated by the Project.

### **1.8 EIAR STRUCTURE**

This EIAR uses the grouped structure method to describe the existing environment, the potential impacts of the Development thereon and the proposed mitigation measures. Background information relating to the Development, scoping and consultation undertaken and a description of the Development are presented in separate sections of this EIAR. Please note that the Irish Transverse Mercator coordinate system is used in the EIAR document.

The layout of this EIAR is arranged in four volumes, I-IV.

**Volume I:** This volume includes the opening **Non-Technical Summary (NTS)**. It is a condensed and easily comprehensible version of the EIAR document. The NTS is presented in a similar format to the main EIAR document and comprises descriptions of the Development, the receiving environment, impacts, mitigation measures and interactions presented in a grouped format. It is a standalone document.

**Volume II:** This volume contains the **Environmental Impact Assessment Report (EIAR)**. The EIAR is presented using the grouped structure method and describes the existing environment, the potential impacts of the Development thereon and the proposed mitigation measures. Background information relating to the Development, scoping and consultation undertaken and a description of the Development are presented in separate Chapters. The grouped format chapters describe the impacts of the Development in terms of human beings, biodiversity, soils and geology, hydrology and hydrogeology, air and climate, noise, landscape and visual, cultural heritage and material assets such as traffic and transportation together with the interaction of the foregoing.

The chapters in this **Volume II: EIAR** are as follows:

- Chapter 1: Introduction
- Chapter 2: Project Description
- Chapter 3: Alternatives Considered
- Chapter 4: Population and Human Health
- Chapter 5: Terrestrial Ecology
- Chapter 6: Aquatic Ecology
- Chapter 7: Ornithology
- Chapter 8: Soils and Geology
- Chapter 9: Hydrology and Hydrogeology
- Chapter 10: Air and Climate
- Chapter 11: Noise
- Chapter 12: Landscape and Visual Amenity
- Chapter 13: Material Assets and Other Issues
- Chapter 14: Cultural Heritage
- Chapter 15: Traffic and Transportation
- Chapter 16: Major Accidents and Natural Disasters
- Chapter 17: Interactions of the Foregoing

### **Volume III: EIAR Figures**

The Figures referred to in each chapter of the EIAR are compiled separately in Volume III. Figures are numbered sequentially for each chapter in which they are principally referred.

**Volume IV: Appendices**

The Appendices referred to in each chapter of the EIAR are compiled separately in Volume IV. They are also numbered sequentially for each chapter in which they are principally referred.

**1.9 EIAR PREPARATION**

**1.9.1 Project Team**

JOD had overall responsibility for the coordination of the EIAR with input from other independent specialist consultants where necessary. The competency of JOD has been outlined in **Section 1.6.2.6. Table 1.3** provides details of the contributors of each aspect of the EIAR. Further details on the qualifications of each lead author can be found in **Section 1.9.2** and in the Statement of Authority in each individual technical assessment chapter.

**Table 1.3: EIAR Preparation Details**

Consultants	Principal Staff Involved in the Project	EIAR Input
Jennings O'Donovan & Partners Limited	David Kiely (DK) Sean Molloy (SM) Sarah Moore (SME) Breena Coyle (BC) Anthony McCoubrey (AMcC) John Doogan (JD) Shirley Bradley (SB)	Project Management, Scoping and Consultation, EIAR Sections <ul style="list-style-type: none"> <li>• 1: Introduction (SME &amp; SB)</li> <li>• 2: Project Description (SME, SB &amp; SM)</li> <li>• 3: Alternatives Considered (SME &amp; SB)</li> <li>• 4: Population &amp; Human Health (SME &amp; SB)</li> <li>• 10: Air &amp; Climate (SME &amp; SB)</li> <li>• 13: Material Assets (SME &amp; SB)</li> <li>• 15: Traffic &amp; Transportation (DK, JD &amp; AMcC)</li> <li>• 16 Major Accidents and Natural Disasters (SME &amp; SB)</li> </ul>

Consultants	Principal Staff Involved in the Project	EIAR Input
		<ul style="list-style-type: none"> <li>17 Interactions of the Foregoing (SME &amp; SB)</li> </ul>
Biosphere Environmental Services	<p>Brian Madden</p> <p>With expert contributions from John Conaghan (Habitat surveys) Tina Aughney (Bat surveys) and Patrick Crushell (Kerry Slug Surveys)</p> <p>Karen Banks, Jonathon Dunn &amp; Sinead Clifford (Fehily Timoney - Bird &amp; Bat surveys)</p>	Scoping responses and Consultation, EIAR Chapters 5: Terrestrial Ecology & Chapter 7: Ornithology
EirEco Environmental Consultants	Paul Murphy	Scoping responses and Consultation, EIAR Sections 6: Aquatic Ecology
Minerex	<p>Cecil Shine (Chapter Review)</p> <p>Sven Klinkenbergh (Chapter preparation)</p> <p>Chris Fennel (Chapter preparation)</p> <p>Lissa Colleen McClung (Chapter preparation)</p>	Scoping responses and Consultation, EIAR Sections 8: Soils & Geology 9: Hydrology & Hydrogeology
Brendan O'Reilly, Noise & Vibration Consultants Limited	Brendan O'Reilly	Scoping responses and Consultation, EIAR Sections 11: Noise (Assessment)
Irwin Carr Consulting	Shane Carr	Scoping responses and Consultation, EIAR Sections 11: Noise (Modelling)
Macro Works	Richard Barker	Scoping responses and Consultation, EIAR Chapter 12: LVIA
John Cronin & Associates	<p>Tony Cummins (Cultural Heritage Assessment)</p> <p>David Murphy (Field surveys)</p>	Scoping responses and Consultation, EIAR Chapter 14: Cultural Heritage

Consultants	Principal Staff Involved in the Project	EIAR Input
AI Bridges	David McGrath (Telecommunications Report preparation) Kevin Hayes (Report review) Patrick Tinney (Modelling) Karla Chagas (Modelling)	Scoping responses and Consultation, EIAR Appendix 13.1 Inchamore Wind Farm Telecommunications Impact Study

### 1.9.2 Project Team Experience

#### ***David Kiely B.E., M.Sc., Eur.Ing., C.Eng., FIEI, MICE, F.RConSEI***

David Kiely is a Director of JOD who holds a BE in Civil Engineering from University College Dublin and MSc in Environmental Protection from IT Sligo. He is a Fellow of Engineers Ireland, a Chartered Member of the Institution of Civil Engineers (UK) and has over 40 years' experience. He has extensive experience in the preparation of EIARs and EISs for environmental projects including Wind Farms, Solar Farms, Wastewater Projects, and various commercial developments. David has also been involved in the construction of over 60 wind farms since 1997.

#### ***Sean Molloy B.Eng., M.Sc., C.Eng., MIEI, Dip.PM***

Sean is a Senior Associate and Senior Project Manager in the JOD Renewable Energy Department with over 15-years' experience. He is a Chartered Engineer with an Honours Master's Degree in Environmental Systems from Galway Mayo Institute of Technology (GMIT) and an Honours Degree in Civil & Transportation Engineering from Edinburgh Napier University. He has also received a Certified Project Management Diploma from the Institute of Project Management Ireland. Sean's professional experience includes managing Environmental Impact Assessments, Civil and Environmental Design, preparation of Planning Documentation and Technical Reports and Stakeholder Consultation.

#### ***Sarah Moore MSc, BSc Env.***

Sarah is an Environmental Scientist in JOD with over 18 years of environmental consultancy experience. She has obtained a MSc in Environmental Engineering from Queens University, Belfast, and a BSc in Environmental Science from University of Limerick. Since joining JOD, Sarah has been involved as a Project Environmental Scientist on a range of renewable energy, wastewater, structures and commercial projects. She has experience in the preparation of Appropriate Assessments, Ecological Impact Assessments, Environmental Impact Assessments and Geographic Information Systems.

***Breana Coyle BA, MSc MRTPI HD Planning and Environmental Planning Law***

Breana has over 14 years' experience in the private sector and has a thorough knowledge of the planning system. Breana holds a MSc in Environmental Planning from Queens University Belfast and a Bachelor of Arts in History & Geography from NUI Galway. She is a Member of the Irish Planning Institute and a Member of the Royal Town Planning Institute. Since joining JOD, she has developed experience in a range of sectors through various projects and planning issues with a current focus within the environmental and renewable energy sector.

***Anthony McCoubrey Cert.Civil.Eng***

Anthony is a Senior Technician in JOD with over 35 years' experience. He has been involved in the preparation of planning through to as constructed drawings, land surveying and land transaction mapping for numerous renewables, commercial, water and wastewater projects. Anthony has received a National Certificate in Civil Engineering from the Institute of Technology, Sligo.

***John Doogan Dip.Civil.Eng.***

John Doogan is a Senior Designer at JOD. He has a National Diploma in Civil Engineering from Bolton Street College of Technology, Dublin and has over 32 years of road design experience. John has worked on over 30 wind farms in Ireland and Sweden.

***Shirley Bradley B.Sc. (Hons)***

Shirley is a Graduate Environmental Scientist with a First-Class Honours Degree (BSc. Hons) in Environmental Science from the Institute of Technology, Sligo. She was also awarded with the Governing Body award for a BSc in Environmental Protection. Shirley has two years' experience in consultancy and her key capabilities include preparation of Environmental Impact Assessment Reports, writing management plans, running software such as WindPRO 3.6 and ArcGIS Pro and assisting with project management.

***Dr Brian Madden BA (Mod.), PhD, MCIEEM (botanist and ornithologist)***

Brian Madden graduated in Natural Sciences from the University of Dublin in 1984 and earned a Ph.D. degree in 1990 from the National University of Ireland for his research on ecosystem processes in Mongan Bog, a raised bog in Co. Offaly (research work sponsored by Bord na Móna and Royal Irish Academy). Since then, he has carried out botanical surveys and habitat assessments for most terrestrial habitats which occur on the island of Ireland.

Brian is an experienced ornithologist, with particular interests in birds of prey and wetland birds. He has published a range of research papers, including papers on the birds of Mongan Bog, the impacts of wind farms on Hen Harriers, and the status of the Peregrine Falcon in Ireland. Brian is the principal ecologist with BioSphere Environmental Services.

***Joe Adamson***

Joe Adamson B.Sc., M.Sc., MCIEEM is a consultant senior ornithologist with BioSphere Environmental Services. He is highly experienced, having worked in the field of ornithology and ecology since 1988 and has extensive knowledge of Irish birds and their habitats. Joe has been involved in baseline bird surveys on the Bord na Móna cutaway bogs since 2014 and carries out winter and summer bird surveys. Joe carried out baseline ornithological surveys for the project.

***Aidan Duggan***

Aidan Duggan has more than 30 years of bird surveying experience in Ireland and abroad and is an active member of the Cork branch of Birdwatch Ireland. Aidan has worked on a variety of projects throughout Ireland and is proficient in Vantage Point surveys, Transect Surveys, Hinterland surveys, merlin surveys and red grouse surveys. Clients include Fehily Timoney & Co. Consultants, BioSphere Environmental Services, and Kelleher Ecology Services. Aidan carried out baseline ornithological surveys for the project.

***Dr John Conaghan BSc., PhD, MCIEEM – habitats, vegetation & flora***

John Conaghan is an experienced plant ecologist who has worked as a consultant ecologist in Ireland since 1994. He is a specialist in the survey and assessment of wetland vegetation and habitats with bogs and fens his main area of expertise. These surveys and assessments have contributed towards Environmental Impact Assessment Reports of a range of wind farm, power line, road, and gas pipeline developments.

***John Curtin BSc.- bat surveys***

John Curtin holds a BSc in Environmental Science from NUI Galway and has been working as a consultant ecologist since 2010. John is an experienced ecologist with a high skillset over several disciplines. A skilled field worker; with experience in botanical & habitat identification, ornithological surveys & monitoring, mammal surveys. John has also acted as lead bat ecologist for several large scale wind farm projects. John carried out bat surveys at Inchamore Wind Farm in 2021.

***Tina Aughney B.Sc., Ph.D***

Tina is an experienced bat ecologist with a B.Sc. in Environmental Science from University of Galway, 1996 and a Ph.D in Environmental Science from National University Ireland, Galway, 2000. Tina co-ordinates the All Ireland Daubenton's Bat Waterways Survey and the Brown Long-eared Bat Roost Monitoring Scheme. In addition, Tina undertakes numerous bat walks and talks, administration and training of volunteers. Tina undertook the 2022 bat surveys for the proposed Inchamore Wind Farm.

***Dr Patrick Crushell BSc MSc PhD MCIEEM CEcol***

Patrick holds an honours degree in Applied Ecology from University College Cork, 1997, a Masters degree in Environmental Resource Management from University College Dublin, 2000 and a PhD on peatland ecology from Wageningen University, the Netherlands, 2008. Patrick's skills include project management, ecological field surveying, GIS mapping and report preparation.

***Karen Banks (Fehily Timoney Consultants) – bat activity and roost surveys.***

Karen is an ecologist with 13 years' experience in the field of ecological assessment. She holds a BSc in Environment and Development from Durham University and is a full member of the Chartered Institute of Ecology and Environmental Management. Karen is an experienced and skilled bat surveyor, first gaining a scientific licence to disturb bats from Natural England, UK in 2008.

***Dr Jonathon Dunn (Fehily Timoney Consultants) – bat static detector surveys in 2019/20.***

Jonathon is an ecologist with over seven years' experience in the environmental sector with specialism in spatial analyses and bird ecology/conservation. Jonathon holds a BA (Hons) in Natural Sciences (Zoology) from the University of Cambridge, an MSc in Ecology, Evolution and Conservation from Imperial College London and a PhD in Avian Ecology from Newcastle University. Jonathon is an ecologist currently located in Ireland.

***Sinéad Clifford (Fehily Timoney Consultants)***

Sinéad Clifford is a Graduate Ecologist working as part of the Energy and Environment Team at Fehily Timoney and Company (FT). She is a Graduate member of Chartered Institute of Ecology and Environmental Management (CIEEM) Sinéad Clifford holds a BA (Hons) from Institute of Technology, Tralee and a Certificate in Ecological Consultancy from Acorn Ecology and is fully trained in sound analysis of bat calls. Sinéad has conducted habitat surveys, including Appropriate Assessment (AA), ornithological surveys, and

ecological appraisals. She has also carried out bat surveys, including preliminary surveys, activity surveys and sound analysis.

**Paul Murphy *MSc Dip Aq Biol CEnv MCIEEM MIFM***

Paul Murphy is the Director of EirEco Environmental Consultants. He is an approved surveyor by the National Parks and Wildlife Service for various aquatic Annex-listed species and has held numerous licenses for the survey of freshwater pearl mussel (Stage 1 and Stage 2), white-clawed crayfish and lamprey. He regularly undertakes electro-fishing surveys and has held numerous Section 14 Authorizations from Inland Fisheries Ireland. Paul has been involved in river habitat survey for many decades covering riparian and instream habitats and their associated biota and is also experienced in the River Hydromorphology Assessment Technique (RHAT). He regularly carries out biological water quality assessment using the standardized EPA Q-Value methodology in addition to sampling for physico-chemical parameters. He is a qualified HSE Part III Commercial Diver (surface demand) and PADI Divemaster and regularly undertakes surveys in freshwater and marine environments. Paul has garnered a wealth of practical experience in the construction of infrastructure in the aquatic environment and was the principle author of the National Roads Authority Guidelines for the Crossing of Watercourses on National Road Schemes (2005).

Paul has been operating in the environmental field for over two and a half decades covering a broad range of projects in a variety of countries. He has expert knowledge of the various EU Environmental Directives (Habitats Directive, Birds Directive, Water Framework Directive, Environmental Liability Directive, etc.) and the Natura 2000 network and has been involved in the preparation of management plans for designated areas and Natura 2000 sites. He has extensive experience in Environmental Impact Assessment and ecological mitigation design for numerous major infrastructural schemes (roads, bridges, power plants, wind farms, etc.) and is fully conversant with the Appropriate Assessment process having undertaken numerous Screening Reports and Natura Impact Statements for a wide variety of developments. He has extensive experience at defending EIA's at Oral Hearings over a period of more than two decades.

**Cecil Shine *BSc MSc PGeo EurGeol***

Cecil is Managing Director and a Senior Hydrogeologist in Minerex Environmental with a M.Sc. (Masters) in Hydrogeology & Contaminated Land from University of Birmingham, UK, and a B.Sc. (Hons) in Geology from University College Dublin (UCD). He has over 20 years'

experience in hydrogeology both in Ireland and Africa and has employed over 200 staff during that time.

From a background in geology, mineral exploration and hydrogeology, Cecil set up Minerex Environmental in 1994 as a hydrogeological and environmental consultancy focusing on soil and water and is the managing director and chief technical assessor. His extensive managerial and technical experience ranges from groundwater resource exploration and development, catchment management studies, surface and groundwater hydrochemical and hydrometric interactions, groundwater source protection zone (SPZ) delineation, groundwater dependent terrestrial ecosystems (GWDTE) conceptualisation and risk assessment (RA) studies, geohydrological investigation of peatland & wetland environments, well design, yield testing, waste materials sampling and categorisation prior to disposal, environmental impact assessments, hydrogeological investigation and especially site dewatering in the current economic and business climate.

In the field of dewatering and soil classification, Cecil has developed a sought-after reputation around soil and groundwater issues on sites, designing suitable investigation and assessment programmes, implementing same, monitoring (remote, continuous, telemetric) and reporting in a manner that builds confidence and trust amongst arrange of clients and business sectors, including public and private and industry.

Cecil has acted as an expert witness in legal disputes and planning cases. Cecil's particular strengths are in managing staff performance, technical assessment & direction, project scoping and getting results.

***Sven Klinkenbergh BSc PG Dip. M.CIWEM***

Sven is a Project Manager/Environmental Consultant with over eight years' experience. He has obtained a Post Graduate Diploma in Environmental Protection from IT Sligo (2020) and a Bachelor of Science in Environmental Science from IT Sligo (2013).

Sven is a specialist in undertaking Hydrology, Hydrogeology, Land, Soils and Geology chapters of Environmental Impact Assessment Reporting and associated field investigations. Sven has multiple years' worth of experience in Environmental Monitoring with a focus on surface water and groundwater in addition to soil classification as waste / byproduct. With a background in project management, Sven has carried out multiple Flood Risk Assessments (Stage 1) as well as Peat and Slope Stability Risk Assessments.

***Jayne Stephens BSc PhD***

Jayne is an Environmental consultant with c. 5 years' experience working in microbiology, water, and environmental disciplines. She graduated with a BSc in Environmental Science from National University of Ireland Galway in 2014, majoring in mammal ecology. Following this, Jayne was the successful Irish applicant to the Tropical Biological Association in Cambridge to complete a field course in tropical biodiversity and conservation in Tanzania. She holds a PhD in environmental microbiology, graduating in 2023. Jayne has worked on a large number of bathing water and surface water monitoring investigations, on project Acclimatize, an EU funded project which aimed to bridge the knowledge gap in relation to at-risk urban and rural bathing waters in Ireland and Wales. During this project, Jayne was team lead for site investigations and has a number of years' experience on microbial contamination and public involvement projects for better water quality.

***Dr Chris Fennel BA (mod), PG Cert., Ph.D.***

Chris is a Project Hydrogeologist with over five years' experience. He has received a B.A (mod) in Environmental Science (First class) from Trinity College Dublin, a Post Graduate Certificate in Statistics from Trinity College Dublin and a Ph.D. in Civil, Structural and Environmental Engineering from Trinity College Dublin.

He is currently working on projects throughout Ireland pertaining to groundwater sampling, gas monitoring, critical analysis of results and subsequent reporting, site dewatering infrastructural setup and maintenance.

***Lissa Colleen McClung BSc MSc***

Colleen has recently joined Minerex Environmental Limited (RSK Ireland) as a Graduate Project Scientist under the Hydrology & Hydrogeology and Land, Soils & Geology Team. After attaining an MSc in Environmental Science, with 1.1 First Class Honours, from Trinity College Dublin in 2021 she began the new year with RSK Ireland drafting Environmental Impact Assessments. Colleen has undertaken technical report writing such as Environmental Impact Assessment Reports (Ireland) Environmental Statements (NI) and Flood Risk Assessments (Stage 1 & Stage 2). She has experience in report mapping in GIS and has worked on a number of projects which have involved field work associated with baseline surveying of sites, i.e., initial site walkovers, photographing and GPS logging of data, surface water grab sampling and hydrochemistry analysis.

***Mairéad Duffy BSc MSc***

Mairéad has experience in technical report writing and field work surveying of hydrological and geological elements of the environment with associated proposed green energy projects around the country.

***Brendan O'Reilly MPhil ISEE SFA EAA***

Brendan has obtained a Master of Philosophy (MPhil) science degree in noise & vibration from the University of Liverpool, (2000). He was a Member of the International Society of Explosives Engineers (ISEE) for over 20 years, a Member of IMQS and Committee member for over 20 years and a member of French Society of Acoustic (FSA) for a number of years.

Brendan has compiled numerous Environmental Noise Impact Statements (EIS) since 1985 for projects ranging from wind farms/sewage treatment plants to mines/quarries and retail development. He successfully completed noise EIS's for over 100 wind farms throughout Ireland ranging in size from 0.65 MW to over 100 MW and has provided expert evidence in An Bord Pleanála oral hearings on large wind farm proposals (Straboy Energy in Co. Donegal and Doonbeg Wind Farm in Co. Clare).

Large wind farm projects, in which Brendan was the noise consultant, with a successful conclusion included Yellow River in Co. Offaly and Sliabh Bawn in Co. Roscommon. Brendan has also completed compliance monitoring on over 20 wind farms including Sliabh Bawn and acted as expert noise witness provided for Drehid Landfill, Fountain Cross Quarry and extension of the Boliden Tara Mines Tailing Storage Facility (2017) and on behalf of residents in EirGrid North/South overhead line.

Brendan has experience in many projects including Europe's largest Zn/Pb mine dealing with a variety of noise and vibration issues over a 35-year period. Other projects in which Brendan has been involved with include the development of the first continuous noise and vibration monitoring system in Europe for an industrial enterprise including the change from an analogue system to a digital integrated noise and wind monitoring system.

Brendan has experience in the investigation of complaints and specification for ameliorative noise and vibration control measures for numerous companies North and South, Consultancies and Local Authorities.

Brendan has been an expert witness as a vibration specialist in the High Court for Meath County Council relating to road construction (vibratory rollers to rock breaking). As well as

this, Brendan has been an expert witness as vibration specialist in Belfast High Court regarding blasting vibration. He is an acknowledged contributor to the Irish EPA Integrated Pollution Control Licensing, 'Guidance Note for Noise in Relation to Scheduled Activities', 1995.

Brendan is also a co-author and project partner (as a senior noise consultant) in 'Environmental Quality Objectives Noise in Quiet Areas administered by the Environmental Protection Agency on behalf of the Dept. of Environment., Heritage and local Government.

***Shane Carr BSc (Hons), MIA, CIEH***

Shane is a Director in Irwin Carr Consulting, primarily responsible for environmental noise and noise modelling. He has over 22 years' experience working in both the public and private sectors having previously obtained a BSc (Hons) Degree in Environmental Health and a Post-Graduate Diploma in Acoustics. He is a Member of the Institute of Acoustics and a Chartered Member of the Chartered Institute of Environmental Health.

Shane has carried noise assessments for various wind farm development schemes throughout Ireland in line with the ETSU standard, been responsible for designing the assessment schemes to assess the noise impact for major wind farm redevelopments within Ireland as well as assessing the suitability of proposed sites for residential or commercial/industrial development.

He has a broad range of experience in all aspects of noise including environmental noise assessment and control. He has presented expert evidence on a number of occasions for a range of planning issues and environmental noise assessments.

Shane has contributed to numerous EIA in relation to significant developments in both Northern Ireland and the Republic of Ireland and where the Air Quality or Noise element of assessment is deemed key. He has been responsible for co-ordinating and preparation of the assessment for submission to the appropriate authority. This has included significant renewable energy schemes.

***Richard Barker MLA. BA Env. PG Dip for. MILI. – Principal Landscape Architect***

Richard formerly worked as a Town Planner in New Zealand, London and Dublin before moving into the field of Landscape Architecture. He has spent the last 16 years working as a Landscape Architect in Ireland and has considerable experience in the fields of both Landscape and Visual Impact Assessment (LVIA) and landscape design, covering all

stages from project feasibility through to construction. This cross-over of expertise is invaluable in determining and designing the most appropriate and effective form of landscape and visual mitigation for infrastructural development projects.

Richard manages the LVIA department in Macro Works undertaking assessment work on a broad spectrum of projects from wind and solar energy, to roads and large-scale industrial and infrastructural development. Richard has personally completed the landscape and visual assessment of over 90 wind farms and 80 solar farms including nine SID projects. Consequently, he has considerable oral hearing expert witness experience. This extends to more than 15 oral hearings over the past 12 years with four of these being for large SID wind farm projects.

Richard has presented a number of conference papers relating to sustainable landscape design and LVIA as well as delivering the inaugural workshop on the landscape and visual effects of wind energy developments on behalf of the Irish Wind Energy Association. He has presented a paper to members of the Irish Landscape Institute on the application of the Guidelines for Landscape and Visual Impact Assessment (2013) using a wind energy case study. Richard has also delivered guest lectures to the University College Dublin professional course in EIA Management in relation to LVIA.

***Tony Cummins BA MA – Senior Archaeologist & EIA Consultant***

Tony Cummins has been a Senior Archaeologist with John Cronin & Associates since 2009. He holds B.A. and M.A. degrees in archaeology (University College Cork (UCC) 1992/1994) and has accumulated twenty-seven years industry experience. Tony has been a licence-eligible archaeologist since 1998 and has directed numerous excavations in Ireland. He also has a number of years' experience as an archaeological project manager responsible for assessing and supervising large-scale infrastructure projects, including the Limerick Southern Ring Road, the Waterford City Bypass, Killaloe Bypass, County Clare and the Clashavoon-Dunmanway 110 kV transmission, County Cork. He has extensive experience in preparing cultural heritage impact assessments for wind farm projects and his inputs to these have included liaising with project design teams and LVA specialists, as well as consulting with relevant local and national authority specialists. Examples of some of these wind farm projects include: Derrybrien rEiAR (Co. Galway), Coom, Glentane and Knockeenboy (Co. Cork), Shragh (Co. Clare) and Croaghaun Hill (Co. Carlow). Tony carried out desktop research and field inspections for the Inchamore project and was the principal author of the EiAR chapter.

***David Murphy BA – Senior Project Archaeologist***

David Murphy joined John Cronin & Associates in 2014 as a licence-eligible archaeologist. He holds a B.A. degree in archaeology (UCC 2003) and has accumulated eighteen years industry experience. Since becoming a licence-eligible archaeologist in 2012, David has overseen the completion of a large number of field surveys, monitoring, testing and excavation projects, while also authoring numerous archaeological impact assessments and screening reports for a variety of large infrastructure schemes, including wind farm developments. Between 2016 and 2021, David fulfilled the role of Project Archaeologist at a large-scale ESB wind farm development at Grousemount, Kilgarvan, Co. Kerry. During the course of the Grousemount project, David developed a comprehensive programme of mitigation measures for a range of previously unrecorded archaeological and cultural heritage sites which were identified within lands in the environs of construction areas. David contributed to the desktop research, field inspections and drone surveys carried out as part of the assessment of the Inchamore project.

***David McGrath B.Sc. Computing***

David is a Radio Planning Engineer in Ai Bridges Ltd. with over 10 years' experience working on radio frequency related projects, in excess of 7 years' experience working with wind farm wireless signal interference and remediation services, and over 5 years' experience of wireless network installations and commissioning.

He has received a B.Eng in Electronic Engineering and is experienced in analysing and troubleshooting RF issues, research and development in varying wireless network projects, and supervision of Dublin Institute of Technology Master's degree students.

Similar projects worked on include: Hunters Hill and Crockagarron Wind Farm, Slieve Kirk Wind Farm, Clydagh Wind Farm, Glenora Wind Farm, Woodhouse Wind Farm, Grouselodge Wind Farm, Bruckana Wind Farm, Mount Lucas Wind Farm, Athea Wind Farm, Dromada Wind Farm, Knockastanna Wind Farm, Rathcathill Wind Farm, Clydaroghe Wind Farm and Tievnameeta Wind Farm.

***Patrick Tinney, B.Eng. Electronics, Occupational First Aid***

Patrick is a Communications Engineer in Ai Bridges Ltd. with 3 years' experience as a company first aider and representative on Health and Safety committee. He has received a B.Eng. in Computer and IT Systems, with other training including ISRT Advanced Climber and ISRT Rescue Climber. Patrick has experience in conducting site surveys and RF planning using CE4 software prediction tools for UMTS mobile and fixed wireless networks.

He provides on-site support for Chorus roll-out of fixed wireless access in Ireland and RF planning/software modelling using Pathloss and CelPlan software prediction tools.

Previous wind farm projects worked on include: Developed Assessment Survey Methodologies Woodhouse Wind Farm Wireless Signal Interference Field Surveys; Co-ordinated and assisted on Grouselodge Wind Farm Wireless Signal Interference Field Surveys Project; Calibration Modelling on Bruckana Wind Farm Wireless Signal Interference Field Surveys Project, Managed “self-help” re-transmitter installation for Athea Wind Farm Wireless Signal Interference Field Surveys Project, and completion of Carrickateane, Eglis, Crockdun Wind Farm Residential Broadband Desk-top software prediction modelling services and completion of TV, GSM and Broadband Interference Reports.

***Karla Chagas, B.Eng., M.Sc. Electrical Engineering***

Karla is a Software Engineer in Ai Bridges Ltd. with over 14 years' experience working in radar, telecommunications and radio related interference and telecommunications modelling projects, and over 4 years' experience working with aviation, telecommunications and EMI interference and remediation projects. She has received a M.Sc. in Electrical Engineering and is currently undertaking a Ph.D. in Computer Engineering.

Karla has participated in numerous cellular network planning projects for vendors/operators. Prominent telecommunications include Radar and IS2000 network designs. She worked as a research scholar at Virginia Tech's Alexandria Research Institute, where her research included optimisation of Wide-Area IEEE 802.11 Systems for Community Networks.

Relevant experience includes development of the 3D paging system prediction model for Aviation, 3G Broadband and EMI Interference Projects, development of a proprietary 3D model for TV Interference for analogue and digital terrestrial broadcast based on the ITUT standards, and development of the software prediction modelling on contract for UK, NI and Scotland Aviation and MET Radar Interference Analysis on FITS Wind Farm Project.

### **1.9.3 Chapter Structure**

Each technical assessment included in the EIAR has followed the same general format:

- Assessment Methodology and Significance Criteria: A description of the methods used in baseline surveys and in the assessment of the significance of effects

- **Baseline Description:** A description of the Site’s existing baseline, based on the results of surveys, desk information and consultations, and a summary of any information required for the assessment, that could not be obtained, if applicable
- **Assessment of Potential Environmental Effects:** A description of how the baseline environment could potentially be affected for the Development including a summary of the measures taken during the design of the Development to minimise effects
- **Mitigation Measures and Residual Effects -** A description of measures recommended that will be implemented to reduce and/or off-set potential negative effects and a summary of the assessed level significance of the effects of the Development and/or the Development after mitigation measures have been implemented
- **Cumulative Effects:** A description identifying the potential for effects of the Development to combine with those from other existing, pending and/or permitted developments to affect resources
- **Statement of Significance of effects**

The significance of effects resulting from the Development will be determined through consideration of a combination of the sensitivity of the receiving environment and the predicted level of change from the baseline state. Environmental sensitivity can be categorised by several aspects including factors such as; the transformation of natural landscapes, the protection afforded to, and presence of, European sites, rare or endangered species, land use and fisheries.

Sensitivity of classification of the receiving environment can vary between the different technical areas of assessment e.g., ecology, hydrology, population and human health and visual. In general, this EIAR largely follows the principles and terminology of the 2022, EPA ‘Guidelines on the Information to be Contained in Environmental Impact Assessment Reports’ in relation to the identification of significant effects. Where a technical assessment has adopted an alternative to this process, such as following technical guidance bespoke to that topic, such assessment criteria are made clear in that chapter. **Table 1.4** highlights the general framework for the assessment of significance of effects.

**Table 1.4: Impact Classification Terminology (EPA Guidelines, 2022)**

Impact Characteristic	Term	Description
Quality	Positive	A change which improves the quality of the environment
	Neutral	No effects or effects that are imperceptible within normal bounds of variation or within the margin of forecasting error

Impact Characteristic	Term	Description
	Negative	A change which reduces the quality of the environment
Significance	Imperceptible	An effect capable of measurement but without significant consequences
	Not significant	An effect which causes noticeable changes in the character of the environment but without significant consequences
	Slight	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities
	Moderate	An effect that alters the character of the environment in a manner consistent with existing and emerging baseline trends
	Significant	An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment
	Very significant	An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment
	Profound	An effect which obliterates sensitive characteristics
Extent & Context	Extent	Describe the size of the area, number of sites and the proportion of a population affected by an effect
	Context	Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions
Probability	Likely	Effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented
	Unlikely	Effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented
Duration and Frequency	Momentary	Effects lasting from seconds to minutes
	Brief	Effects lasting less than a day
	Temporary	Effects lasting less than a year
	Short-term	Effects lasting one to seven years
	Medium-term	Effects lasting seven to fifteen years
	Long-term	Effects lasting fifteen to sixty years
	Permanent	Effect lasting over sixty years
	Reversible	Effects that can be undone, for example through remediation or restoration
	Frequency	Describe how often the effect will occur, (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually)

Impact Characteristic	Term	Description
Type	Indirect	Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway
	Cumulative	The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.
	'Do Nothing'	The environment as it would be in the future should the subject project not be carried out
	'Worst Case'	The effects arising from a project in the case where mitigation measures substantially fail
	Indeterminable	When the full consequences of a change in the environment cannot be described
	Irreversible	When the character, distinctiveness, diversity, or reproductive capacity of an environment is permanently lost
	Residual	Degree of environmental change that will occur after the proposed mitigation measures have taken effect
	Synergistic	Where the resultant effect is of greater significance than the sum of its constituents

#### 1.9.4 Turbine Parameters used for EIAR Assessments

The proposed range of turbine parameters are assessed within the impact assessment chapters of this EIAR (Chapters 4-17) and are presented on **Figure 1.4**. In this regard the European Commission "Guidance document on wind energy developments and EU nature legislation, (November 2020)<sup>7</sup> notes that:

*"The key issue for a competent national authority to authorise a wind energy development project based on an envelope rather than a specific design relates to environmental impact. From an environmental impact perspective, the applicant must ensure that the EIA and the Appropriate Assessment undertaken has considered the worst-case design possible within the different options available in the design envelope."*

**Table 1.5** describes for each of the EIAR topics how the turbine range, which is set out in the below bullet points, has been assessed. It should be noted that the Natura Impact Statement (NIS) submitted has similarly assessed the proposed range of turbine parameters. The proposed range of turbine parameters is limited to a variation of 8 m in tip height and 6 m in rotor diameter.

<sup>7</sup> [https://ec.europa.eu/environment/nature/natura2000/management/docs/wind\\_farms\\_en.pdf](https://ec.europa.eu/environment/nature/natura2000/management/docs/wind_farms_en.pdf), accessed 17/09/2021

- Turbine Tip Height – Maximum height 185 metres, Minimum height 177 metres.
- Hub Height – Maximum height 110.5 metres, Minimum height 102.5 metres.
- Rotor Diameter - Maximum diameter 155 metres, Minimum diameter 149 metres.
- Turbine Foundations – Maximum diameter 25.5 metres, Minimum diameter 22 metres.

**Table 1.5: EIAR Topics and Turbine Ranges Assessed**

Chapter	Turbines Considered
Chapter 3 Alternatives Considered	This chapter provides a description of the reasonable alternatives studied by the Developer, and the main reasons for choosing the proposed project (which includes the Turbine Range), taking into account the effects of the proposed project on the environment.
Chapter 4 Population & Human Health	<p>This chapter comprehensively assesses the potential effects of the Project on Population and Human Health (which includes the turbine range).</p> <p>The relevant Irish guidance for shadow flicker is derived from the ‘Wind Energy Development Guidelines for Planning Authorities’ (Department of the Environment, Heritage and Local Government (DoEHLG), 2006) and the ‘Best Practice Guidelines for the Irish Wind Energy Industry’ (Irish Wind Energy Association, 2012).</p> <p>The DoEHLG Guidelines state that at distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low.</p> <p>Taking the above into consideration, JOD examined maps to identify receptors (dwellings) in the local area within a study area, a distance ten times the maximum proposed rotor diameter of the proposed turbines (10 x 155 m = 1,550 m). The maximum rotor diameter of 155 m was used to calculate this distance which was then rounded up to 2 km to ensure a conservative assessment. This dimension will give the most significant number of receptors and the largest study area. A specimen turbine was selected to model a base case scenario using the maximum possible rotor diameter and tip height. To ensure the full extent of the moving shadow which would be</p>

Chapter	Turbines Considered
	<p>created by the Turbine Range was assessed the following scenarios were modelled.</p> <p>These scenarios are appropriate to this assessment as they represent the full turbine range.</p> <ul style="list-style-type: none"> <li>• Specimen Turbine – 107.5 m hub, 155 m rotor diameter, 185 m tip height</li> <li>• Alternative Scenario 1 – 102.5 m hub, 155 m rotor diameter, 180 m tip height (lowest hub height and largest rotor diameter)</li> <li>• Alternative Scenario 2 – 110.5 m hub, 149 m rotor diameter, 185 m tip height (highest hub height and lowest rotor diameter)</li> <li>• Alternative Scenario 3 – 102.5 m hub (lowest hub), 149 m rotor diameter (shortest rotor), 177 m tip height</li> </ul>
<p>Chapter 5 Terrestrial Ecology</p>	<p>This chapter comprehensively assesses all scenarios and potential effects within the Turbine Range on terrestrial ecology. The potential impacts that could arise from the Project during the construction, operational and decommissioning phases were assessed, and it was found that there will be no change to the potential impacts or predicted effects irrespective of which turbine is selected within the Turbine Range. Habitat loss due to the extent of excavations required (30.75 ha) for the Project will differ depending on which turbine is chosen. However, the difference in effects is not seen as significant.</p>
<p>Chapter 6 Aquatic Ecology</p>	<p>This chapter comprehensively assesses all scenarios within the Turbine Range on Aquatic Ecology. The potential impacts that could arise from the Project during the construction, operational and decommissioning phases relate to the potential for increased suspended sediment concentrations associated with site preparation activities and excavations (77,262 m<sup>3</sup>) for the infrastructure elements including the turbine foundations, cable trenches and watercourse crossings. There will be no change to the potential impacts or predicted effects irrespective of which turbine is selected within the Turbine Range because of the design phase mitigation measures which will be implemented prior to construction. All works will be outside of the 65 m buffer from watercourses and 20 m buffer from drains. Additionally, all temporary stockpiles will be at no less than</p>

Chapter	Turbines Considered
	<p>25 m from watercourses. This will be implemented regardless of the volume of excavated materials created as a result of the Turbine Range.</p>
<p>Chapter 7 Ornithology - Bird Collision Risk</p>	<p>This chapter comprehensively assesses all scenarios within the Turbine Range on Ornithology. The potential impacts that could arise from the Development during the construction, operational and decommissioning phases relate to the potential for increased collision risk for the Turbine Range. The Collision Risk Model has accounted for all scenarios within the Turbine Range.</p>
<p>Chapter 8 Soils &amp; Geology</p>	<p>This chapter comprehensively assesses all scenarios within the Turbine Range on Soils and Geology. The potential impacts that could arise from the Project during the construction, operational and decommissioning phases relate to the potential for increased stability issues and suspended sediment concentrations associated with site preparation activities and excavations for the infrastructure elements including the turbine foundations and cable trenches (77,262 m<sup>3</sup>) as detailed in <b>Appendix 2.1: Construction Environmental Management Plan</b>.</p> <p>The peat stability assessment has been completed on the basis of two scenarios:</p> <ol style="list-style-type: none"> <li>1. Scenario A – Peat Stability in terms of the receiving environment as is, that is using the depth of peat observed and recorded during site surveys.</li> <li>2. Scenario B – Peat stability in terms of the <i>in situ</i> peat with 1 m fill (presumed peat) placed on top, that is using the depth of peat observed and recorded during site surveys plus 1 m fill (depth + 1.0 m). This is the assessment worst case scenario and this will be used to assess stability at proposed infrastructure locations.</li> </ol> <p>There will be no change to the potential impacts or predicted effects irrespective of which turbine is selected within the Turbine Range as there is only a 3.5 m range in diameter of the wind Turbine Foundations to cater for all turbines within the Turbine Range. The</p>

Chapter	Turbines Considered
	<p>difference will be negligible in the assessment of potential effects of the Development on the environment.</p> <ul style="list-style-type: none"> <li>• Turbine Tip Height – Maximum height 185 metres, Minimum height 177 metres.</li> <li>• Hub Height – Maximum height 110.5 metres, Minimum height 102.5 metres.</li> <li>• Rotor Diameter - Maximum diameter 155 metres, Minimum diameter 149 metres.</li> <li>• Turbine Foundations – Maximum diameter 25.5 metres, Minimum diameter 22 metres.</li> </ul>
<p>Chapter 9 Hydrology and Hydrogeology</p>	<p>This chapter comprehensively assesses all scenarios within the Turbine Range on hydrology and hydrogeology. The potential impacts that could arise from the Project during the construction, operational and decommissioning phases relate to the potential for increased suspended sediment concentrations associated with site preparation activities and excavations for the infrastructure elements including the turbine foundations, cable trenches and watercourse crossings (77,262 m<sup>3</sup>). There will be no change to the potential impacts or predicted effects irrespective of which turbine is selected within the Turbine Range because of the design phase mitigation measures which will be implemented prior to construction. All works will be outside of the 65 m buffer from watercourses and 20 m buffer from drains, where possible. Where this is not possible, additional mitigation measures such as increased use of Sustainable Drainage Systems (SuDS), will be implemented. Additionally, all temporary stockpiles will be at no less than 25 m from watercourses. This will be implemented regardless of the volume of excavated materials created as a result of the Turbine Range.</p>
<p>Chapter 10 Air &amp; Climate</p>	<p>The assessment in this chapter considers an overall power output from the Project (which includes the Turbine Range) of between 28 MW to 33 MW.</p> <p>The Carbon Calculator, which is assessed for both the lower range (5.6 MW) and the higher range (6.6 MW), accounts for improvement works such as the habitat enhancement area and the years taken for the Site to return to its original characteristics.</p>

Chapter	Turbines Considered
	<p>Carbon Losses and Savings were calculated based on the lower and higher ranges of output to ensure all scenarios within the proposed range are assessed.</p>
<p>Chapter 11 Noise</p>	<p>This chapter comprehensively assesses all scenarios within the Turbine Range as well as all associated works.</p> <p>The 2006 Guidelines, ETSU-R-97 and the IOA Good Practice Guide recommend the measurement and use of wind speed data, against which background noise measurements are correlated. The IOA Good Practice Guide Supplementary Guidance Note 4<sup>8</sup> (Appendix 11.2) gives the methodology to account for wind shear, calculation to hub height and to standardise 10 m height wind speed.</p> <p>For this reason, the hub height was used to assess the potential effects of noise.</p> <p>A variation in hub height will not change the maximum sound power level of a turbine. However, a hub height wind speed of 110.5 m for the N149 when calculated to a 10 m height wind speed will give marginally different noise levels at the low wind speeds of 3 m/s and 4 m/s (10 m height) than if calculated from a hub height wind speed of 102.5 m. The marginal variation for the N149 is in the order giving lower levels of 0.8 dB at 3 m/s and 0.7 dB at 4 m/s for the hub height of 102.5 m. At 5 m/s (10 m height) and above the maximum sound power level does not change. A difference in sound power levels less than 1 dB are negligible to the human ear.</p>
<p>Chapter 12 Landscape &amp; Visual Amenity</p>	<p>This chapter comprehensively assesses all scenarios within the Turbine Range as well as all associated works on the landscape and visual amenity.</p> <p>A specimen turbine and two alternative scenarios were included in the assessment in order to fully assess the range of turbine parameters.</p>

<sup>8</sup> IOA, A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise- Supplementary Guidance Note 4: Wind Shear

Chapter	Turbines Considered
	<p>A specimen turbine was selected to model a base case scenario using the maximum possible rotor diameter and tip height.</p> <p>To ensure the full extent of the visual effects of the Development on the landscape, which would be created by the Turbine Range, the following scenarios were modelled.</p> <ul style="list-style-type: none"> <li>• Specimen Turbine – 107.5 m hub, 155 m rotor diameter, 185 m tip height (as used for the visual impact assessment herein)</li> <li>• Alternative Scenario 1 – 102.5 m hub, 155 m rotor diameter, 180 m tip height (lowest hub height, longest rotor diameter)</li> <li>• Alternative Scenario 2 – 110.5 m hub, 149 m rotor diameter, 185 m tip height (highest hub height, shortest rotor diameter)</li> </ul> <p>As the lower, middle and higher ranges that would have the most visual impact on the landscape have been assessed, all scenarios within the Turbine Range are assessed.</p>
<p>Chapter 13 Material Assets and Other Issues</p>	<p>This chapter comprehensively assesses the Project (which includes the Turbine Range) on material assets and other issues.</p> <p>For aviation, the tallest tip height (185 m) represents the largest obstacle of any turbine within the Turbine Range to air traffic (irrespective of the turbine selected and constructed within the Turbine Range, a turbine with an equal or lesser tip height will still be within that space). Similarly, for the telecoms assessment, the largest possible dimensions of a turbine selected and constructed within the Turbine Range (which is a 185 m tip and a 155 m rotor diameter) were assessed as this provided the largest obstacle to communication links (any other turbine selected and constructed will be within that space). In terms of utilities, there will be no change to the potential impacts or predicted effects irrespective of which turbine is selected within the Turbine Range.</p>
<p>Chapter 14 Cultural Heritage</p>	<p>This chapter comprehensively assesses all scenarios within the Turbine Range on Cultural Heritage. The potential impacts that could arise from the Project during the construction, operational and</p>

Chapter	Turbines Considered
	<p>decommissioning phases relate to the potential for increased ground disturbance associated with site preparation activities and excavations for the infrastructure elements including the Turbine Foundations.</p> <p>Turbine Foundations will range from 22 m in diameter to 25.5 m in diameter.</p> <p>With larger excavations for larger Turbine Foundations, the chances of finding unrecorded, subsurface archaeological features are higher. However, such features may also be found where a smaller Turbine Foundation is used.</p> <p>Therefore, there will be no change to the potential impacts or predicted effects irrespective of which turbine is selected within the Turbine Range.</p> <p>The setting impacts described in Chapter 14 will result from the presence of turbines within the wider environs of extant cultural heritage sites. The difference in dimensions within the Turbine Range will not result in a likely increased magnitude of impact on setting that would result in changes to predicted effects.</p>
<p>Chapter 15 Traffic and Transportation</p>	<p>This chapter comprehensively assesses the proposed project (which includes the Turbine Range). There is one element of this assessment for which the turbine dimensions are directly relevant (i.e., The maximum blade length of 76.8 m). The transport assessment considered the worst-case scenario in terms of works required to the turbine delivery route based on a maximum 76.8 m blade length. Regardless of which turbine is selected and constructed within the Turbine Range the scale and extent of accommodation works required on the public road will remain the same as the same turbine delivery truck and methodology will be applied across the range of rotor diameters and therefore the associated impacts remain the same.</p>

Chapter	Turbines Considered
	It should also be noted there are no additional traffic movements arising irrespective of which turbine is selected and constructed within the Turbine Range.
Chapter 16 Major Accidents and Natural Disasters	There will be no change to the likelihood of major accidents or natural disasters irrespective of which turbine is selected within the Turbine Range.
Chapter 17 Interactions of the Foregoing	There will be no change to the potential impacts or predicted effects irrespective of which turbine is selected within the Turbine Range.

**1.9.5 Significance Criteria**

The significance of the potential effects of the Development have been classified by taking into account the sensitivity of receptors and the magnitude of the potential effect on them, combined with the likelihood of an impact occurring as defined in **Table 1.6**

**Table 1.6: Rating of Significant Environmental Impacts (EPA Guidelines, 2022)**

Description of Impact					
Character/Magnitude/Duration/Likelihood/Consequences					
Magnitude of Significance /Sensitivity		Negligible	Low	Medium	High
<b>Extremely High</b>		Not Significant	Profound/ Very Significant	Profound	Profound
<b>Very High</b>		Not Significant	Moderate	Significant	Profound/ Very Significant
<b>High</b>		Not Significant	Slight	Significant/ Moderate	Very Significant
<b>Medium</b>		Not Significant/ Imperceptible	Slight	Moderate	Significant/ Moderate
<b>Low</b>		Imperceptible	Slight/ Not Significant	Slight	Slight/ Moderate
<b>Negligible</b>		Imperceptible	Imperceptible	Imperceptible	Imperceptible

**1.9.5.1 Mitigation Measures and Residual Effects**

There are three established strategies for impact mitigation - avoidance, reduction and remedy. The efficacy of each is directly dependent on the stage in the design process at which environmental considerations are taken into account, (i.e., impact avoidance can only be considered at the earliest stage, while remedy may be the only option available for projects where avoidance and reduction were not possible).

The EIA co-ordinator has engaged with stakeholders, which has provided the benefit of developing and refining mitigation through an iterative process rather than 'adding on' such measures at the end of the Project. Mitigation measures have been prioritised and embedded into the design phase of the Development to avoid, reduce and offset any significant adverse effects. These are referred to within this EIAR as 'embedded mitigation'.

Relevant mitigation measures are discussed within each technical Chapter of this EIAR. **Chapter 17: Interactions of the Foregoing** provides a summary of mitigation measures for all technical assessments in **Appendix 17.1: Schedule of Mitigation Measures**.

#### **1.9.5.2 Cumulative Effects**

The potential cumulative impact of the Project has been assessed in line with Annex IV of the EIA Directive as amended which provides that the EIAR must contain a description of the likely significant effects of the project on the environment resulting from the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources.

The assessment of the Project in combination with other projects considers the range and nature of existing projects within the cumulative impact study area of the Project, as far as practically possible. For the purposes of this EIAR, a radius of 3 km from the Redline Boundary, 50 m either side of the Turbine Delivery Route and a radius of 20 km for larger scaled projects for landscape and visual impacts.

Projects with the potential for cumulative or in combination effects were identified and those which will neither directly or indirectly contribute to cumulative or in combination impacts (outside of 3 km from the Development) were screened out.

A summary of the relevant projects with potential to create cumulative impacts has been included in **Appendix 2.4** and detailed cumulative impact assessments are included in each relevant section of the EIAR.

The geographic extent of the cumulative assessment is considered on a case-by-case basis, in line with the following:

- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022).

- Guidance on the Preparation of the Environmental Impact Assessment Report (European Union 2017) (Directive 2011/92/EU as amended by 2014/52/EU); and
- Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions (European Commission 1999).

Assessment material for this cumulative impact appraisal was compiled based on relevant developments within 3 km of the Development, and 50 m either side of the length of the Grid Connection Route and Turbine Delivery Route lands.

For the purpose of Cumulative Assessment of Landscape and Visual, all existing and approved wind farms and wind farms pending a decision from the planning authority within 20 km from the outermost turbines of the Project were identified for Cumulative Visual Assessment. This study area is derived from the Wind Energy Development Guidelines (2006).

All existing and approved large-scale projects and large-scale projects pending a decision from a planning authority within 20 km of the Development were considered for potential Cumulative Assessment in all other chapters of this EIAR. This measurement was taken from the outermost turbines of the Development. A 20 km distance was considered appropriate due to the size and extent of the proposed wind farm and the nature of the potential effects as detailed throughout the EIAR.

All existing and approved projects and projects pending a decision from a planning authority within 50 m of the Grid Connection Route and Turbine Delivery Route lands were considered for potential Cumulative Assessment in all other chapters of this EIAR. A 50 m distance was considered appropriate due to the brief to temporary nature of the works involved and due to the limited extent of the works required.

The material for the cumulative assessment was gathered through a search of relevant County Councils' Online Planning Registers, the An Bord Pleanála website and the EIA Portal. Relevant EIA documents, planning application details and planning drawings were reviewed, which served to identify the locations of existing and approved projects and projects pending a decision from a planning authority, their activities and their environmental impacts.

The relevance of the projects was considered on a case-by-case basis in each chapter as necessary depending on the interaction and likelihood of in combination impacts. A full list of projects identified for cumulative assessment is set out in **Appendix 2.4**.

### **1.9.5.3 Statement of Significance of Effects**

The statement of significance outlines the conclusion of each technical assessment in order to provide a final overall conclusion as to the significance of the Development under the terms of the EIA Directive 2011/92/EU (EIA Directive) and the 2014 EIA Directive 2014/52/EU (2014 EIA Directive).

## **1.10 SCOPING AND CONSULTATION**

The scoping and consultation process was carried out in accordance with the EIA Directive and in accordance with the Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, May 2022).

The 2014 EIA Directive Circular (PL 05/2018)<sup>9</sup> notes that:

*“It is a requirement of the EIA process to consult with statutory consultees and to take into account any submissions made by these consultees. Such submissions may contain expert specialist opinions on topics to be assessed in the EIA process...”*

A consultation and scoping exercise were carried out in November 2020 and again in September 2022. **Table 1.7** documents individuals and organisations that have been consulted as part of the EIA process. The purpose of this consultation process was to provide a focus for the EIA by identifying the key issues of relevance. As such, the consultation process informs the various organisations of the Development, thereby providing an opportunity to submit comments and to offer information relevant to the preparation of this EIAR. Responses can be found in **Volume IV, Appendix 1.1: Consultation Responses**.

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<sup>9</sup> Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment, August 2018. Available online: <https://www.opr.ie/wp-content/uploads/2019/08/2018-Environmental-Impact-Assessment-1.pdf> [Accessed 22/07/2022]

**Table 1.7: Scoping Responses Received on The Project**

Consultee Organisation	Response Received	Implications for the EIA/Design	EIA Chapter/Section where comments have been addressed
Cork County Council	<p>A pre-planning meeting was held via Microsoft Teams on 14/01/2021 and 17/11/2022. A presentation was given outlining the project purpose, impact assessments carried out and the application process under Strategic Infrastructure Development guidelines. The main points of interest during the consultations included:</p> <ul style="list-style-type: none"> <li>• CDP objective HE2-3 Biodiversity outside protected areas and the Heritage Chapter as a whole</li> </ul>	<p>At the pre-planning meeting held via Microsoft Teams on 14/01/2021, a significantly different and larger scope of works was proposed to what was proposed at the meeting on 17/11/2022.</p> <p>All items raised were considered during the design and assessment processes.</p> <p>The study area of the Project was extended to approximately 2 km from the Redline Boundary for the checking of potential bat roosts. The underground grid connection route was also included in the study area. For the Turbine Delivery Route, an assessment was made of locations where physical works are required to facilitate the passing of the vehicles.</p> <p>The following frame of reference was used in determining the importance of ecological features identified during the desk study and surveys:</p> <ul style="list-style-type: none"> <li>-International and European</li> <li>-National (Ireland)</li> <li>-County (County Cork)</li> <li>-Local (lower value / higher value)</li> <li>-Site (wind farm immediate study area)</li> </ul> <p>The value of habitats has been measured against published selection criteria where available. The ecological evaluation and impact assessment approach used in this report is based on EPA Guidance (2022) and Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland (“CIEEM guidelines”) (CIEEM, 2019) (Biodiversity is addressed in</p>	<p><b>Ecology</b> addressed in Chapters 5 and 6</p> <p><b>Ornithology</b> addressed in Chapter 7</p> <p><b>Hydrology</b> addressed in Chapter 9</p> <p><b>Soils and Geology</b> addressed in Chapter 8</p> <p><b>Grid Connection Options</b> addressed in Chapter 3</p> <p><b>Landscape and Visual Amenity</b> addressed in Chapter 12</p> <p><b>Selected Grid Connection</b> assessed in Chapters 5-15</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> <li>Rationale for view point locations, suggested some additional viewing points from the new N22 would be of value</li> </ul>	<p><b>Chapter 5: Terrestrial Ecology, Chapter 6: Aquatic Ecology and Chapter 7: Ornithology).</b></p> <p>All of the scenic routes where the Zone of Theoretical Visibility (ZTV) indicates potential visibility were investigated during fieldwork to determine whether actual views of the Development might be afforded. Where visibility may occur, a viewpoint has been selected for use in the visual impact appraisal later in this chapter (<b>Chapter 12: Landscape and Visual Amenity</b>). A variety of receptor locations was also selected that are likely to provide views of the proposed wind farm from different distances, different angles and different contexts.</p> <p>The visual impact of a Development is assessed using up to 6 categories of receptor type as listed below:</p> <ul style="list-style-type: none"> <li>-Key Views (from features of national or international importance);</li> <li>-Designated Scenic Routes and Views;</li> <li>-Local Community views;</li> <li>-Centres of Population;</li> <li>-Major Routes; and</li> <li>-Amenity and heritage features</li> </ul> <p>The N22 is the only major route within the study area with any reasonable potential for visual impacts. As this route is a designated scenic route for the entire portion of the study area it is discussed in the context of scenic designations specifically in respect of View Points(VP19 and VP20).</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> <li>• Ecology unit identified some turbines they had concerns with.</li>   <li>• Welcomed the stated approach to avoid bog</li>   <li>• Welcomed distances achieved from residential units, in line with draft national guidelines.</li> </ul>	<p>Taking into consideration consultation with Cork County Council regarding the N22 Ballyvourney Bypass, potential views from the new road alignment are considered. Viewing Point VP25 was selected for this purpose.</p> <p>Only one turbine, T1, will be constructed on habitats (wet heath/blanket bog) of significant ecological interest. This will result in the loss of 2 ha of wet heath/blanket bog . A Habitat Enhancement Area will be established as part of this Project to directly mitigate this effect., 11 ha of degraded blanket bog to the west of the Development will be rehabilitated as part of the enhancement area. The significance of the residual effect on wet heath/blanket bog is rated as a Moderate Adverse Effect of Long-term Duration.</p> <p>The other turbines and infrastructure are largely in commercial forest.</p> <p>Blanket Bog and other Annex I habitats have been avoided where possible. This habitat is widespread in this part of the County. A habitat enhancement plan has been prepared and will be implemented to offset the impacts where these habitats have been lost (<b>Appendix 6.1 Habitat Enhancement Plan</b>).</p> <p>There are 39 houses within 2 km of the proposed turbines. This can be seen in <b>Figure 1.3</b>. The closest property to a proposed turbine is 753 m</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>Following the pre-planning meeting Scoping Opinion was received on 22/01/2021. The main points were as follows:</p> <ul style="list-style-type: none"> <li>The EIAR and construction practice and methodology should take into account existing ground conditions onsite and best practice. Disposal or elimination of waste/surplus material from construction/site clearance, particularly significant for peatland sites.</li> <li>Grid connection needs to be finalised - Should the grid connection not form part of the planning application, the EIAR should indicate the most likely corridor of the grid connection, its width and route and the likely nature of the connection in terms of</li> </ul>	<p>away from T2. All houses located within 2 km of the proposed turbines are shown in <b>Figure 1.3</b>.</p> <p>There are no inhabited dwellings contained within the specified setback distance of 740 m stated in the Draft Revised Wind Energy Development Guidelines (2019) based on the maximum proposed tip height of the turbines.</p> <p>Existing ground conditions have been taken into consideration. A Site Investigation Report and Peat Stability Risk Assessment are included as <b>Appendix 8.1</b>.</p> <p>The estimated potential total volume of excavated material has been calculated in <b>Appendix 2.1 CEMP</b>, Management Plan 4: Peat and Spoil Management Plan. All excavated material apart from that along the Grid Connection Route will be reused onsite. The excavated material arising from the Grid Connection Route Construction will be removed to a licensed facility.</p> <p>The grid connection is being assessed as part of the EIAR. However, planning permission is not being sought for the grid connection.</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>line voltage, whether it will be underground (preferred) or over ground (including details of pole type) and any ancillary equipment (e.g., substations).</p>	<p>It is proposed to construct one 38kV electricity substation within the Site, as shown on Figure 2.2. This will provide a connection point between the wind farm and the grid connection point at the existing Ballyvouskill 220kV Substation. Electricity transmitted between the turbines and the substation on the Site will be at 20 kV.</p> <p>The width of a 38kV cable trench based on a trefoil formation will be 600 mm. The depth of the trench for 38kV cables is 1 m.</p> <p>The overall length of the grid connection between the substation and the existing 220 kV GIS substation (<b>Figure 1.2</b>) is 19.9 km, of which 1.3 km is within the Site. The remaining 18.6 km is located off-road and in third-party lands through the townlands of Inchamore, Derryreag, Derreenaling, Cummeenavrick, Glashacormick, Clydaghroe, Cummeennabuddoge and Caherdowney. The proposed grid connection will consist of underground 110 38 kV cables.</p> <p>This grid cable will pass through the townlands of, Derryreag, Cummeenavrick, Glashacormick, Clydaghroe, Cummeennabuddoge and Caherdowney.</p> <p>The Grid Connection Route and a summary of the activities are outlined in <b>Chapter 2: Project Description</b>. Assessment of all elements of the application for the construction of Inchamore Wind Farm including the Grid Connection Route are assessed in <b>Chapters 4-17</b>.</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>Comments received from the Ecology Office in November 2022. The main points included:</p> <ul style="list-style-type: none"> <li>○ Potential for impact on sites designated or proposed to be designated for protection of biodiversity;</li> <li>○ Potential for impact on habitats of high natural value; and</li> <li>○ Potential for impact on protected species.</li> </ul>	<p>The layout of the Development has been designed to minimise the potential environmental effects of the wind farm while utilising the maximum energy yield from the Site's wind resource. Layout design constraints are outlined in Section 2.5.1 <b>Chapter 2: Project Design.</b></p> <p>A habitat survey was carried out and has been included in <b>Chapter 5: Terrestrial Ecology.</b></p> <p>Habitats of high natural value were only noted to exist in proximity to the proposed location of T1.</p> <p>Potential effects on all habitats surveyed have been assessed and mitigation measures have been recommended and will be implemented where necessary. A Residual Effect exists by the loss of wet heath/blanket bog habitat, which is rated as a Moderate Adverse Effect of Long-term Duration. However the loss of 2 ha of wet heath/blanket bog will be mitigated by the restoration and protection of 11 ha of degraded bog within the habitat enhancement area which is located directly adjacent to the site .</p> <p>Protected species at the Site have been identified and potential effects of the Project on these protected species such as Kerry Slug, bats, otter etc. have been assessed in <b>Chapter</b></p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> <li>With regard to bat activity, if commuting and foraging routes of bats relative to proposals could be presented and if these routes could also be presented respective of habitats on site including any habitat loss associated with the development.</li> <li>It is generally recommended to avoid intact upland habitats, in particular peatland habitats when identifying appropriate sites for development of wind farms.</li> </ul>	<p><b>5: Terrestrial Ecology.</b> Mitigation measures listed in this chapter will be implemented during the pre-construction, construction, operational and decommissioning phases of the Project. With mitigation, no significant impacts are predicted on protected species.</p> <p>The ecological study area encompasses the Project. A Zone of Influence (minimum 15 km radius) was also considered as part of the review of designated sites.</p> <p>Industry best practice/guidance will be used to avoid the potential impacts on bats.</p> <p>Bat activity surveys targeted a range of foraging and commuting habitats present within the study area and those associated with linear features such e.g., roadside margins (<b>Chapter 6: Biodiversity</b>). Bat roost inspection surveys identified trees, structures, dwellings etc where bat roosts may occur and also assessed the surrounding habitat for suitable commuting and foraging areas.</p> <p>The heath/bog habitat mosaic in the western area of the site has been rated as of Significant at a County level. Losses will be mitigated through the significant addition of restored bog habitats <b>Appendix 6.1 Habitat Enhancement Plan (Chapter 6: Biodiversity)</b>, with the residual adverse effect reduced to Moderate significance of long term duration.</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> <li>• Per above comments and based on constraints mapping, it is recommended that development is avoided within areas identified as:                             <ul style="list-style-type: none"> <li>- 'largely intact upland blanket bog' and 'cutaway blanket bog with intact areas' located in proximity to turbine 3 and associated developable areas within the vicinity of these habitats; and</li> <li>- areas comprising of a 'Mosaic of Upland Blanket Bog and Wet Heath' in proximity to the developable area associated with turbine 1.</li> </ul> </li> <li>• Potential for the project to give rise to negative effects on freshwater habitats and having particular regard to potential impacts on Fresh water pearl Mussel and Salmon. To this end, there should be a focus at design stage on providing for an appropriately designed surface water management system which minimises risk of release of</li> </ul>	<p>Given the upland nature of the proposed works at Inchamore predominantly located within upland peatland habitats with coniferous plantations, there will be no significant loss of bat foraging/commuting habitat such as woodland edge associated with the Development.</p> <p>A constraints map has been prepared (<b>Figure 3.1</b>) as part of this EIAR. This was a key factor in deciding the area in which to develop the wind farm. Environmental sensitivities, such as sensitive habitats and watercourse buffer zones etc., dictate a large proportion of design constraints. The developable area, including the proposed locations for turbines and site infrastructure avoids largely intact upland blanket bog, wet heath and cutover bog..</p> <p>Annex I habitats have been avoided where possible. The habitat enhancement plan has been prepared and will be implemented to offset the effects where these habitats have been lost (<b>Appendix 6.1 Habitat Enhancement Plan</b>).</p> <p>Mitigation measures for the construction, operational, and decommissioning phases are embedded in Chapter 5: <b>Terrestrial Ecology</b>, Chapter 6: <b>Aquatic Ecology</b> and Chapter 7: <b>Ornithology</b>. Included in the design is an appropriately designed surface water management system, which minimises risk of</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>contaminants to surface waters and ensures that there is no increase in surface water run-off from the site. Avoidance of disturbance of peat based habitats will greatly assist with this.</p>	<p>release of contaminants to surface waters and ensures that there is no increase in surface water run-off from the site.</p> <p>The <b>Surface Water Management Plan (Appendix 2.1)</b> details the site drainage that has been designed for the site using the principles of Sustainable Drainage Systems (SuDS). The drainage system for the Development is designed in a manner to ensure there are no changes to the baseline water quality within or downstream of the Site.</p> <p>A comprehensive suite of drainage measures have been developed to protect all receiving waters from potential impacts during the construction, operation and decommissioning of the Development in the catchment of the Site and along the proposed Grid Connection Route. The assessment and associated proposed mitigation measures are in <b>Chapter 6: Aquatic Ecology</b> and <b>Chapter 9: Hydrology and Hydrogeology</b>.</p> <p>The Peat Stability Assessment Risk Ranking ranged from 'Very Low with isolated pockets associated with localised elevated stability risk' to 'Moderate'. The risk of peat-slide is further addressed in <b>Chapter 8: Soils and Geology</b>.</p>	
	<ul style="list-style-type: none"> <li>Any species specific surveys which are deemed to be required including bird surveys must be completed by qualified and experienced practitioners following recognised best practise</li> </ul>	<p>All aquatic, terrestrial, and ornithological surveys were undertaken by qualified and experienced professionals following best practice methods. Details of surveyor qualifications and experience</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>methods. It should be noted that up to two years' full season surveys are required for certain bird species should a potential impact on any such species be identified as a possible risk having regard to reference.</p> <ul style="list-style-type: none"> <li>Decommissioning and reinstatement should be considered in detail and shall include opportunities for biodiversity enhancement where possible.</li> </ul>	<p>and accompanying best practice methods followed are described in <b>Chapter 5: Terrestrial Ecology, 6: Aquatic Ecology, and 7: Ornithology.</b></p> <p>Detailed decommissioning works are provided in the Decommissioning Plan (<b>Appendix 2.1</b>). Following expert ecological guidance, natural succession will be allowed to prevail post the decommissioning period i.e., post removal of turbines.</p> <p>The Habitat Enhancement Plan will allow for the restoration of Annex I habitats that have been degraded by over-grazing. It is anticipated that various species of flora and fauna will utilise the area as the habitats are rehabilitated and improve in quality. The objectives for this plan are achievable as similar work has been carried out successfully at other sites throughout Ireland.</p>	
<p>Kerry County Council</p>	<p>Response received 26/08/2021. The observations/comments by the area planner to the Grid Connection and Turbine Delivery Route for the Development which are located within in County Kerry. are as follows:</p> <p>Environmental Impact Assessment. Appropriate Assessment. Archaeology assessments are all required.</p> <p>Transport Infrastructure Ireland/N22 implications to be assessed. Area is zoned Secondary Special Amenity in the County Development Plan.</p>	<p>The Grid Connection Route and the Turbine Delivery Route for the Project have been assessed as part of the EIAR. They are also assessed in the Natura Impact Statement prepared for this Project.</p> <p>Transport Infrastructure Ireland have been consulted and a Road Safety Audit has been prepared as part of the Project. Please see <b>Chapter 15: Traffic and Transportation</b> for more details.</p>	<p><b>Ecology</b> addressed in Chapters 5 and 6</p> <p><b>Ornithology</b> addressed in Chapter 7</p> <p><b>Hydrology</b> addressed in Chapter 9</p> <p><b>Soils and Geology</b> addressed in Chapter 8</p> <p><b>Grid Connection Options</b> addressed in Chapters 3</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>It should be noted that the Site (of the grid connection works and Turbine Delivery Route works in Co. Kerry) is outside of the area zoned as “open to consideration” in the Renewable Energy Strategy.</p> <p>A pre-planning meeting was held via Microsoft Teams on 03/11/2022. From that meeting, Fiona O’Sullivan (Killarney Area Planner) noted the following:</p> <ul style="list-style-type: none"> <li>the applicant is to submit an EIAR and AA Screening Report,</li> <li>Regarding the EIAR - the applicant should include an ecological impact assessment on terrestrial and aquatic habitats and protected species, if applicable, identified. All supporting survey work should be undertaken to current best practices with competencies of staff outlined. Please consult with IFI and NPWS as applicable,</li> <li>Regarding likely significant effects on European sites, I note the application is outside of European Sites but upstream of the Killarney National Park, Macgillycuddy Reeks and Caragh River Catchment cSAC and in proximity to other European sites including those designated for birds of SCI,</li> </ul>	<p>Additionally, a Planning and Policy Statement has been included as part of the planning application.</p> <p>It is noted that elements of the Project (i.e., Sections of the Grid Connection Route and sections of Site Access Road and nodes of off-site roads) are within County Kerry and as such, a separate planning application has been prepared for such works and has been issued to Kerry County Council (Planning Authority).</p> <p>An Environmental Impact Assessment Report, Appropriate Assessment Screening Report and Natura Impact Statement have been prepared as part of this application.</p> <p>The potential effects of the Project on terrestrial ecology (<b>Chapter 5: Terrestrial Ecology</b>), aquatic ecology (<b>Chapter 6: Aquatic Ecology</b>) and ornithology (<b>Chapter 7: Ornithology</b>) have been assessed. This includes designated areas of ecological importance.</p> <p>All survey work has been carried out under best practice by competent experts. Please see the relevant chapters for details.</p> <p>Potential sensitive receptors have been identified and the likelihood and significance of potential effects on European sites have been assessed in the Natura Impact Statement which accompanies this planning application.</p>	<p><b>Landscape and Visual Amenity</b> addressed in Chapter 12</p> <p><b>Cultural Heritage</b> Addressed in Chapter 14</p> <p><b>Selected Grid Connection</b> assessed in Chapters 5-15  <b>Chapter 15: Traffic and Transportation</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> <li>As the applicant is no doubt aware, any measures intended to avoid or reduce harmful effects on European sites should not be included at screening stage,</li> <li>Any ornithology surveys should be robust and supported by at least 1 year of winter and breeding survey undertaken to concurrent best practices,</li> <li>Likely impacts on White Tailed Sea Eagle should be specifically assessed, advisable to consult with NPWS in relation to same and note mitigation provided in the recently adopted Kerry County Development Plan for mitigation of any likely impacts on the species.</li> <li>The application should include and assess all in-combination/accumulative effects of all elements of the project (grid connection etc) and/or other projects in the environs of the proposed development.</li> <li>The Planning Report should clearly outline that this application forms part of a larger proposed development and details should be given of the application submitted to Cork Co Co.</li> </ul>	<p>Mitigation measures intended to avoid or reduce harmful effects on European sites as a result of this Project have not been considered at screening stage.</p> <p>Robust ornithology surveys have been completed and are detailed in <b>Chapter 7: Ornithology</b>.</p> <p>The potential effects on White Tailed Sea Eagle from the Development have been assessed in <b>Chapter 7: Ornithology</b>. National Parks and Wildlife Service have been consulted with at the scoping stage of this application and responses can be seen within this Table.</p> <p>The EIAR has assessed the cumulative impact of the Project on the various specific subject chapters. Please see the relevant effects assessed in each of the EIAR assessment chapters as prepared by the relevant experts.</p> <p>The EIAR has introduced the Project Description in Section 1.5 and also in <b>Chapter 2: Project Description</b>.</p>	
Minister for Housing, Planning and Local Government	No response received	n/a	n/a
<b>Aviation</b>			
Cork Airport	No response received	n/a	n/a

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
IAA	<p>Scoping response received 17<sup>th</sup> December 2020. The main points were as follows:</p> <ul style="list-style-type: none"> <li>• Contact Kerry Airport and request to assess whether a preliminary screening assessment is required</li> <li>• In the event of planning consent being granted, the applicant should be conditioned to contact the Irish Aviation Authority to:                             <ul style="list-style-type: none"> <li>○ Agree an aeronautical obstacle warning light scheme for the wind farm development</li> <li>○ Provide as-constructed coordinates in WGS84 format together with round and tip height elevations at each wind turbine location</li> </ul> </li> </ul>	<p>Kerry Airport were contacted on 12<sup>th</sup> November 2020, 22<sup>nd</sup> November 2022 and 13<sup>th</sup> February 2023.. A response was received on 8<sup>th</sup> March 2023.</p> <p>In the event that planning permission is granted for the Project, the Irish Aviation Authority will be contacted prior to the commencement of any works for consultation.</p> <p>All items considered during the design process.</p> <p>No implications for the EIA/Design</p>	<p><b>Aviation</b> discussed in <b>Chapter 13 Material Assets</b></p> <p>An Aviation impact Assessment is included as <b>Appendix 13.3.</b></p>
Kerry Airport	<p>Kerry Airport were contacted on 12<sup>th</sup> November 2020, 22<sup>nd</sup> November 2022 and 13<sup>th</sup> February 2023. A response was received on 8<sup>th</sup> March 2023.</p> <p>From an initial review the development would appear to be outside Kerry Airports 15 km OLS area.</p> <p>However, as you have highlighted in your scoping document section 4.2, the development has potential to impact on aviation coverage, and as such I would recommend that this be investigated further to confirm the development will not impact on the safe operation of aircraft and maintain current aviation associated coverage such as radio, radar, navigational aids etc. The requirements for lighting and inclusion of the structures on associated maps etc. will I am sure be addressed by the IAA.</p> <p>Further correspondence received on 18<sup>th</sup> April 2023 included:</p>	<p>Communication specialists, Ai Bridges were commissioned to undertake an aviation impact assessment of the operational phase of the Project, which is attached as <b>Appendix 13.3.</b></p>	<p><b>Aviation</b> discussed in <b>Chapter 13 Material Assets</b></p> <p>An Aviation impact Assessment is included as <b>Appendix 13.3.</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>For the assessment report (Appendix 13.3)</p> <ol style="list-style-type: none"> <li>1. Section 2.2 as the proposed development penetrates the Annex 15 Aerodrome surfaces, the developer must ensure the development does not impact or increase current published operating minima associated with Kerry Airport.</li> <li>2. Section 2.3 MSA's- any development must ensure that there is no impact on the current published MSA's associated with Kerry Airport.</li> <li>3. Section 2.8- Obstacle warning lights- the developer should liaise with the Aviation Authority to ensure that the development is included on maps and lighted in the interest of aviation safeguarding.</li> <li>4. The assessment and planning should include the assessment of the construction phase as part of planning to ensure cranes or other equipment involved in the development do not impact on Aviation safety during the construction phase.</li> </ol>	<ol style="list-style-type: none"> <li>1. The development does not impact or increase current published operating minima associated with Kerry Airport.</li> <li>2. There is no impact on the current published MSA's associated with Kerry Airport.</li> <li>3. The Aviation Authority has been consulted with regarding aviation safeguarding and their response has been included in this table.</li> <li>4. The construction phase has been assessed and the Development will not impact on aviation safety.</li> </ol>	
<b>Ecology</b>			
An Taisce	No response has been received.	n/a	n/a
Development Applications Unit,	<p>Scoping response received 19<sup>th</sup> April 2021. The main points were as follows:</p> <p>The proposed wind farm is within the catchment of the River Sullane, which, in addition to fish species of conservation importance (please consult Inland Fisheries Ireland for scoping), contains a population of the freshwater pearl mussel. The (high) water quality requirements of this species should be taken into account in designing siltation control measures. The</p>	<p>All items considered during the design process. No further implications for the EIA/Design</p> <p>Inland Fisheries Ireland were consulted and a Scoping Opinion was received 23/11/2020 and a pre-planning meeting was held via Microsoft Teams 08/01/2021. Please see response to the scoping opinion below in this Table.</p>	<p><b>Aquatic Ecology</b> addressed in Chapter 6</p> <p><b>Ornithology</b> addressed in Chapter 7</p> <p><b>Hydrology</b> addressed in Chapter 8</p> <p><b>Soils and Geology</b> addressed in Chapter 9</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>combination of clean water diversion, lined multicelled stone-constructed sediment ponds which can be cleaned by suction rather than excavated out, an environmental management plan, alarmed autosamplers, and previous best-practice upland construction experience indicates that a sediment control system could control sediment release such that it will not have an adverse effect on freshwater life downstream.</p> <p>3. In connection with the above also, a thorough geotechnical stability risk and hydrogeological assessment needs to be carried out of areas of relatively deep peat soil, not just for turbine foundations, but also for access roads, borrow pits, drains, etc. There are a number of cases of peat slides during upland wind farm construction, and the scientific investigations of the causes of these should be taken into account in the EIAR.</p>	<p>Inland Fisheries Ireland will be consulted with again prior to the commencement of any construction activities.</p> <p>Potential effects of the Development on aquatic life have been assessed in <b>Chapter 6: Aquatic Ecology</b> while water quality has been further assessed in <b>Chapter 9: Hydrology and Hydrogeology</b>. A Surface Water Management Plan and a Water Quality Management Plan have been prepared as part of <b>Appendix 2.1 Construction Environmental Management Plan, Chapter 2: Project Description</b>. Sustainable Drainage Systems (SuDS) have been included in the design phase of the Project.</p> <p>A comprehensive geotechnical stability risk and hydrogeological assessment have been carried out at proposed turbine locations, access roads, drains and borrow pit areas, as part of the preparation of this EIAR.</p> <p>A Peat and Spoil Management Plan (Management Plan 4) has been included as part of Appendix 2.1: Construction Environmental Management Plan, <b>Chapter 2: Project Description</b>.</p> <p>A Peat Slide Risk Assessment has been appended to <b>Chapter 8: Soils and Geology</b> as Appendix 8.1 PSRA and has been fully assessed in the chapter.</p> <p>An Emergency Response Plan has also been prepared as part of Appendix 2.1: CEMP, <b>Chapter 2: Project Description</b> and <b>Chapter</b></p>	<p><b>Landscape and Visual Amenity</b> addressed in Chapter 12</p> <p><b>Drainage Design</b> is addressed in the CEMP</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>4. Other protected species that require species-appropriate survey methods following published best practice are</p> <ul style="list-style-type: none"> <li>(a) red grouse,</li> <li>(b) merlin,</li> <li>(c) hen harrier,</li> <li>(d) golden plover,</li> <li>(e) curlew</li> <li>(f) Leisler's bat,</li> <li>(g) Kerry slug and</li> <li>(h) marsh fritillary.</li> </ul> <p>For red grouse, the long-term effect of increased human access (on foot, motorbike or ORV) via roadways (and potentially fox access), as well as increased perches and food for hooded crows, needs to be considered in terms of the likelihood of increased predation on this species. Note that both merlin and roosting hen harrier are often difficult to detect, and have been underestimated previously in some EIARs, so experienced observers are recommended. Golden plover must be taken into account in cumulative assessment with other wind farms in the Cork/Kerry Mountains. Leisler's bat may be more susceptible to collision or baro-trauma, so turbine locations which overlap with feeding features need to be taken into account. A licence application for addressing any direct impacts on Kerry slug habitat may be necessary.</p> <p>Marsh fritillary may not be present in suitable habitat every year due to their metapopulation dynamics, so suitable habitat should also be recorded (as mentioned on page 6 of the Scoping Report).</p>	<p><b>16: Major Accidents and Natural Disasters</b> also assesses the impact of peat slippage.</p> <p>All species mentioned were surveyed for following published best practice.</p> <p>Potential effects on these species as a result of the Development are assessed in <b>Chapter 5: Terrestrial Ecology</b> and <b>Chapter 7: Ornithology</b>.</p>	

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	<p>5. There are a few upland protected plant species (including mosses and liverworts – see Statutory Instrument. No. 356 of 2015, Flora Protection Order) which need to be surveyed for, if or where suitable habitat exists in the development footprint. The discovery of the small cudweed (<i>Filago minima</i>) is mentioned in the Scoping Report, and it needs to be established if this can be avoided by the development.</p> <p>6. It is now well established that climate change is likely to have a considerable impact on biodiversity and wildlife, due to droughts, floods, sea level rise, changes in seasonal weather, etc. The impact of CO2 emissions from extensive peat excavation, if this is to be carried out, needs to be fully accounted.</p> <p>7. Impacts from associated works:                      (a) The likelihood of increases in nutrient loading of the River Sullane from forestry felling should also be assessed;                      (b) The effect of haul road widening and bridge upgrade works on protected species (e.g. otter, Kerry slug, Daubenton's and other bat species) should also be assessed;                      (c) if underground cables are to transport electricity, then river/stream crossings need to be examined, especially if in designated rivers;                      (d) effects of any fencing, lattice anemometer towers, etc., on red grouse collisions should be assessed.</p>	<p>Site surveys were completed to identify upland protected plant species.                      Potential effects on the identified protected plant species (<i>Filago minima</i>) as a result of the Development have been assessed in <b>Chapter 5: Terrestrial Ecology</b>.</p> <p>Mitigation measures will be implemented to prevent potential effects on <i>Filago minima</i>.                      A carbon calculation has been completed as part of this EIAR. This is detailed in <b>Chapter 10: Air and Climate</b>.</p> <p>a. The likelihood and significance of nutrient loading on watercourses as a result of forestry felling activities at the Development has been assessed in <b>Chapter 9: Hydrology and Hydrogeology</b>. A monitoring plan will be implemented as part of the Project.                      b. The effect of haul road widening and bridge upgrade works on protected species (e.g. otter, Kerry slug, Daubenton's and other bat species) have been assessed in <b>Chapter 5: Terrestrial Ecology</b>.                      c. <b>Chapter 9: Hydrology and Hydrogeology</b> assesses the impact of crossings on water quality.                      d. Potential effects of any fencing, lattice anemometer towers, etc., on red grouse collisions is assessed in <b>Chapter 7: Ornithology</b>. A Collision Risk Model</p>	

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	<p>8. The focus on habitats of conservation importance which are not protected, in the Scoping Report (page 6), is welcome. It should be kept in mind that some external funding agencies at European or global level are now expecting no net loss of biodiversity as part of their funding requirements.</p> <p>9. The visibility of the turbines from Killarney National Park, although not an ecological issue, needs to be assessed elsewhere in the EIAR.</p> <p>10. Section 3.6 refers to assessment of ornithological impacts during construction and operation. Assessment of decommissioning, because of its often-similar disturbance effects to construction, should also be assessed.</p> <p>11. Finally, reliance on post-planning approval of detailed works (e.g., river crossings), and monitoring design, by the National Parks and Wildlife Service (NPWS) of the Department, should be avoided as (a) it may indicate inadequacies of assessment by the EIAR, and (b) staff may not be available to support this in the time frame of an active construction project.</p>	<p>(CRM) has been included in this assessment.</p> <p>A Habitat Enhancement Plan (<b>Appendix 5.5 of Chapter 5: Terrestrial Ecology</b>) has been prepared as part of this EIAR to counter any potential loss of habitat as a result of the Development.</p> <p>The visibility of the turbines has been assessed in <b>Chapter 12: Landscape and Visual</b>.</p> <p>Potential effects during the decommissioning phase of the Project have been assessed in all technical chapters of the EIAR. In addition to this, a Decommissioning Plan has been prepared as part of <b>Appendix 2.1: Construction Environmental Management Plan</b>.</p> <p>Reliance on post-planning approval of detailed works (e.g., river crossings), and monitoring design, by the National Parks and Wildlife Service (NPWS) of the Department has been avoided.</p>	
Bat Conservation Ireland	No response received.	n/a	n/a
Birdwatch Ireland	Acknowledgement of Scoping Receipt (17/11/2020) No response received.	n/a	n/a
Irish Wildlife Trust	Response received (16/02/2021) stating they did not have the capacity to respond right now. Follow up	n/a	n/a

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	communication was made between the Applicant and Irish Wildlife Trust but no response was provided.		
<b>Soils and Water</b>			
Geological Survey of Ireland	Scoping response received 20/11/2020 and include the following comments: <ul style="list-style-type: none"> <li>• Geoheritage: Records show there are no unaudited County Geological Site (CGS) in the vicinity of the proposed development.</li> </ul>	Consultation with available maps (GSI) indicates that there are no recorded 'Geoheritage' sites located within the redline boundary of the Site or within the near vicinity.  All items considered during the design process. No implications for the EIA/Design	<b>Chapter 8: Soils and Geology</b>
	<ul style="list-style-type: none"> <li>• Groundwater: The Groundwater Vulnerability map indicates the proposed wind farm area is of variable vulnerability. We would therefore recommend use of the Groundwater Viewer to identify areas of High to Extreme Vulnerability and 'Rock at or near surface' which can be used to inform appropriate mitigation measures.</li> </ul>	Consultation with the GSI Groundwater Map Viewer (2022) indicates that the Wind Farm Site is underlain by areas classified predominantly mapped as 'Extreme (E)' vulnerability rating which tend to be at lower elevations, with some areas mapped as 'Rock at or Near Surface (X)' vulnerability rating particularly at higher elevations. Both the Turbine Delivery Route and Grid Connection Route traverse land with groundwater vulnerability ratings ranging from 'Moderately Vulnerable' to 'Extreme Vulnerability' ( <b>Figure 9.9a – Groundwater Vulnerability</b> ).	<b>Chapter 9: Hydrology and Hydrogeology</b>
	<ul style="list-style-type: none"> <li>• Geological Mapping: Geological Survey Ireland (GSI) maintains online datasets of bedrock and subsoils geological mapping that is reliable, accessible and meets the requirements of all users including depth to bedrock and physiographic maps and the GSI encourages the use of these.</li> </ul>	Consultation with the Geological Survey Ireland online data sets as well as site visits were carried out.	<b>Chapter 8: Soils and Geology</b>
	<ul style="list-style-type: none"> <li>• Geohazards: Landslide susceptibility in the area of the proposed wind farm is variable and is classed from Moderately Low / Moderately High to High.</li> </ul>	Peat and slope stability investigations at the Site ( <b>Appendix 8.1</b> ) indicate that the Site has a generally low risk probability with respect to peat	<b>Chapter 8: Soils and Geology</b>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		<p>slippage and slope failure under the footprint of the Development.</p> <p>Considering the assessment conclusions are related to the Development and construction activities including vehicular movements will be limited to the Development, areas of potentially high risk (Geohazards, for example, GSI high risk landslide susceptibility) in terms of peat and slope stability will be avoided.</p>	
	<ul style="list-style-type: none"> <li>Natural Resources (Mineral / Aggregates): In keeping with a sustainable approach, we would recommend use of our data and mapping viewers to identify and ensure that natural resources used in the proposed development are sustainably sourced from properly recognised and licensed facilities.</li> </ul>	<p>GSI data and map viewers have been consulted in the preparation of this EIAR.</p> <p>Imported stone will be from licensed facilities, as discussed in <b>Chapter 15: Traffic and Transportation</b>.</p>	<p><b>Chapter 15: Traffic and Transportation</b></p>
<p>Inland Fisheries Ireland</p>	<p>Scoping Opinion received 23/11/2020 and pre-planning meeting via Microsoft Teams 08/01/2021. The following comments were made:</p> <ul style="list-style-type: none"> <li>There should be no drainage or other physical interference with the bed or bank of any watercourse without prior consultation with IFI.</li> </ul>	<p>All items considered during the design process and IFI will be consulted prior to any construction works.</p> <p>IFI will be consulted with prior to any works commencing on the Development.</p> <p>All water crossings as part of the Development will be clear span bridges and will avoid permanent disruption to the stream beds and banks, protecting fishery habitats.</p> <p>There will be 113 No. culvert crossings and three watercourse/bridge crossings will occur along the Grid Connection Route as part of the Project.</p> <p>This is further detailed in <b>Chapter 2: Project Description</b>.</p>	<p><b>Ecology</b> addressed in Chapter 6</p> <p><b>Hydrology and Hydrogeology</b> addressed in Chapter 9</p> <p><b>Soils and Geology</b> addressed in Chapter 8</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		<p>The original slope of the riverbank will be maintained with no sudden drops on the downstream side.</p> <p>Design details on the proposed clear span bridges (three (3 No.)) have been included in the Planning Drawings and have been assessed in the EIAR.</p>	
	<ul style="list-style-type: none"> <li>• Suspended solids and or hydrocarbon contaminated site run-off waters must be controlled adequately so that no pollution of surface waters can occur.</li> </ul>	<p>All site drainage will be directed through either sediment traps, settlement ponds and/or buffered drainage outfalls to ensure that total suspended solid levels in all waters discharging to any watercourse will not exceed 25 mg/L.</p> <p>This is detailed in <b>Chapter 2: Project Description</b> and <b>Chapter 9 Hydrology and Hydrogeology</b>.</p> <p>Construction phase drainage proposed can be seen in the Surface Water Management Plan as part of <b>Appendix 2.1 Construction Environmental Management Plan</b>.</p>	<p><b>Chapter 2: project Description</b></p> <p><b>Chapter 9: Hydrology and Hydrogeology</b></p> <p><b>Appendix 2.1 CEMP, Management Plan 2 Surface Water Management Plan</b></p>
	<ul style="list-style-type: none"> <li>• The following issues should be addressed                             <ul style="list-style-type: none"> <li>○ Identifying and zoning the project for environmental impact should a peat slip occur</li> <li>○ Setting out contingency plan should a peat movement occur.</li> <li>○ Setting out a plan for the control of silt in such a scenario, including measures to be put in place at the initial stages of construction.</li> </ul> </li> </ul>	<p>The design of the Project has taken into consideration the depth of peat and angle of slope onsite. A constraints study was completed to provide a developable area. This is discussed in <b>Chapter 3: Alternatives Considered</b>.</p> <p>A Peat Slide Risk Assessment was carried out and can be seen as <b>Appendix 8.1 of Chapter 8: Soils and Geology</b>.</p> <p>An Emergency Response Plan has been prepared as part of <b>Appendix 2.1:</b></p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		<p><b>Construction Environmental Management Plan</b> (Management Plan 1). Emergency procedures in the case of the unlikely movement of peat have also been included in <b>Chapter 8: Soils and Geology</b>.</p> <p>Construction phase drainage proposed can be seen in the Surface Water Management Plan as part of <b>Appendix 2.1 Construction Environmental Management Plan</b>.</p>	
	<ul style="list-style-type: none"> <li>• In the event of any watercourse crossings being bridged or culverted the following general criteria should apply,                             <ul style="list-style-type: none"> <li>○ The free passage of fish must not be obstructed.</li> <li>○ The original slope of the river bed should be maintained with no sudden drops on the downstream side. Design details on any proposed crossing should be incorporated at planning stage</li> <li>○ Bridges are preferable to culverts.</li> </ul> </li> </ul>	<p>All water crossings as part of the Development will be clear span bridges and will avoid permanent disruption to the stream beds and banks, protecting fishery habitats.</p> <p>There will be 113 No. culvert crossings and three watercourse/bridge crossings will occur along the Grid Connection Route as part of the Project.</p> <p>This is further detailed in <b>Chapter 2: Project Description</b>.</p> <p>The original slope of the riverbank will be maintained with no sudden drops on the downstream side.</p> <p>Design details on the proposed clear span bridges (three (3 No.)) have been included in the Planning Drawings and have been assessed in the EIAR.</p>	<p><b>Chapter 2: Project Description</b></p> <p><b>Appendix 2.1: CEMP, Management Plan 2: Water Quality Management Plan</b></p> <p><b>Appendix 2.1: CEMP, Management Plan 3: Surface Water Management Plan</b></p> <p><b>Chapter 6 Aquatic Ecology</b></p> <p><b>Chapter 9: Hydrology and Hydrogeology</b></p>
	<p>All instream works should be carried out only in the May-September period.</p>	<p>All instream works will be carried out during the period of May to September only.</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
Irish Peatland Conservation Council	Scoping response received 15/02/2021 stating they had no comments to make at this time.	n/a	n/a
<b>Telecommunications</b>			
Broadcasting Authority of Ireland	Scoping response received 16/11/2020 and made the following comment: The BAI does not perform an in-depth analysis of the effect of wind turbines on FM networks. However, we are not aware of any issues from the existing windfarms into existing FM networks. Also, the proposed windfarms are not located close to any existing or planned FM transmission sites.	No implications for the EIA/Design	n/a
Eir Limited	Scoping response received 27/11/2020 stating there should be no impact on the eircom Ltd microwave radio network.	No implications for the EIA/Design	Radio link discussed in Chapter 13
ENET	Scoping response received 19/02/2021 highlighting the ENET link near the proposed turbines.	All items considered during the design process. No implications for the EIA/Design.	<b>Telecommunications</b> discussed in <b>Chapter 13: Material Assets</b> and <b>Chapter 3: Alternatives Considered</b>
RTÉ	Scoping response received 17/11/2020 highlighting that there was a risk of interference to DTT viewers receiving from the Mullaghanish site.  Several pre-planning meetings were held with 2RN (trading name of RTÉ) on behalf of RTÉ to discuss the existing links and minimum buffers required.	Telecommunications specialist (AI Bridges) was employed to inform the turbine layout to minimise impact to existing links.	<b>Telecommunications</b> discussed in <b>Chapter 13: Material Assets</b>
Tetra Ireland	Scoping response received 09/12/2020 stating no impact from the development was anticipated.	No implications for the EIA/Design	n/a
Three Ireland (Hutchison) Limited	No response received	n/a	n/a

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
Virgin Media Television	Scoping response received 16/11/2020 and stated Virgin Media does not have any record of underground services at this location.	No implications for the EIA/Design	n/a
Vodafone	Scoping response received 15/02/2021 highlighting the links that will be effected by the proposed development.	Telecommunications specialist (AI Bridges) was employed to inform the turbine layout to minimise impact to existing links.	<b>Telecommunications</b> discussed in <b>Chapter 13: Material Assets</b>
<b>Other</b>			
Commission for Communications Regulation	No response received	n/a	n/a
Department of Agriculture	No response received	n/a	n/a
Department of Defence	Scoping response received 08/12/2020 and included the following points: <ul style="list-style-type: none"> <li>In all locations where wind farms are permitted it should be a condition that they meet the following lighting requirements:</li> </ul>	All items considered during the design process. No implications for the EIA/Design	<b>Aviation</b> discussed in Chapter 13
	<ul style="list-style-type: none"> <li>Single turbines or structures, or turbine delineating corners of a wind farm should be illuminated by high intensity obstacle lights.</li> </ul>	High intensity obstacle lighting will be used on selected turbines within the Development.	
	<ul style="list-style-type: none"> <li>Obstruction lighting elsewhere in a wind farm will be of a pattern that will allow the hazard to be identified and avoided by aircraft in flight.</li> </ul>	Obstruction lighting elsewhere in the wind farm will be of a pattern that will allow the hazard to be identified and avoided by aircraft in flight.	
	<ul style="list-style-type: none"> <li>Construction lights used should be incandescent or of a type visible to Night Vision Equipment. Obstruction lighting fitted to obstacles must emit light at the near Infra-Red (IR) range of the electromagnetic spectrum specifically at or near 850nanometres (nm) of wavelength. Light intensity to be of similar value to that emitted in the visible spectrum of light.</li> </ul>	Construction lights used will be incandescent or of a type visible to Night Vision Equipment. Obstruction lighting fitted to obstacles will emit light at the near Infra-Red (IR) range of the electromagnetic spectrum specifically at or near 850 nanometres (nm) of wavelength. Light intensity will be of similar value to that emitted in the visible spectrum of light.	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
Department of Transport, Tourism and Sport	<ul style="list-style-type: none"> <li>Scoping response received 26/11/2020 and includes the following points:</li> </ul>	All items considered during the design process. No implications for the EIA/Design	<p><b>Alternatives Considered</b> discussed in Chapter 3</p> <p><b>Traffic and Transport</b> discussed in Chapter 15</p>
	<ul style="list-style-type: none"> <li>The EIAR should include information on what impact the proposed development may have on the public road network both during construction and in the longer term.</li> </ul>	<p><b>Chapter 15: Traffic and Transportation</b> of the EIAR and <b>Management Plan 7, Traffic Management Plan</b> of <b>Appendix 2.1: Construction Environmental Management Plan</b> includes information on what impact the proposed development may have on the public road network both during construction and in the longer term.</p>	<p><b>Chapter 15: Traffic and Transportation</b></p> <p><b>Appendix 2.1: CEMP</b></p>
	<ul style="list-style-type: none"> <li>The EIAR should indicate whether it is proposed to use public roads to connect the windfarm to the grid and if that is the case specify the extent of the works required including drainage, diversions, relocation of services and road re-instatement.</li> </ul>	<p><b>Chapter 2: Project Description</b> details the extent of works relating to the Grid Connection Network within the public road infrastructure.</p> <p>Please also see <b>Appendix 2.4: Grid Connection Details.</b></p>	<p><b>Chapter 2: Project Description</b></p> <p><b>Appendix 2.4: Grid Connection Details</b></p>
	<ul style="list-style-type: none"> <li>The EIAR should also address the future maintenance requirements related to the installation of the cables in public roads and the cost implications for the relevant local authority. Consideration should also be given to how cabling needs to be organised and, where a number of cables are envisaged from existing, approved and proposed developments, rationalised into one cable or a group of cables in one trench in order to minimise the impacts on the road network and the environment along the road boundary (hedgerows).</li> </ul>	<p>All items considered during the design process. No implications for the EIA/Design.</p> <p>The only instance in which cables will be installed in public roads is via directional drilling under the N22 and therefore, the road surface will not be disturbed and there will be no requirement for future maintenance by the local authority. All items considered during the design process. No implications for the EIA/Design</p> <p><b>Chapter 2: Project Description</b> details the extent of works relating to the Grid Connection Network within the public road infrastructure.</p> <p>Please also see <b>Appendix 2.4: Grid Connection Details.</b><b>Chapter 15: Traffic and</b></p>	<p><b>Chapter 2: Project Description</b></p> <p><b>Appendix 2.4: Grid Connection Details</b></p> <p><b>Chapter 5: Terrestrial Ecology</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		<p><b>Transportation</b> of the EIAR and <b>Management Plan 7, Traffic Management Plan of Appendix 2.1: Construction Environmental Management Plan</b> includes information on what impact the proposed development may have on the public road network both during construction and in the longer term.</p>	
	<ul style="list-style-type: none"> <li>In addition the EIAR should consider the possibility of over-ground solutions for the transmission of electricity as an alternative.</li> </ul>	<p>All items considered during the design process. No implications for the EIA/Design</p> <p><b>Chapter 2: Project Description</b> details the extent of works relating to the Grid Connection Network within the public road infrastructure.</p> <p>Please also see <b>Appendix 2.4: Grid Connection Details.</b></p>	<p><b>Appendix 2.4: Grid Connection Details</b></p> <p><b>Chapter 3: Alternatives Considered</b></p>
Environmental Protection Agency	Acknowledgement of Scoping Receipt (13/11/2021)	n/a	n/a
Fáilte Ireland	Scoping response received 23/11/2020 and includes the following points:	All items considered during the design process.	Addressed in Chapters 2-16 – Tourism is addressed specifically in <b>Chapter 4: Population and Human Health</b>
	<ul style="list-style-type: none"> <li>Project descriptions are required to describe the location of the project, the physical characteristics of the whole project, the main characteristics of the operational phase of the project and an estimate, by type and quantity, of the expected residues and emissions. The location of the project should include identifying key sensitive receptors (including tourism receptors). In the operational phase of the project any tourism based, or potentially tourism related activity, should be identified.</li> </ul>	<p>A description of the location of the project, the physical characteristics of the whole project can be found in <b>Chapter 2: Project Description</b> and has been summarised and assessed in full in each chapter of the EIAR.</p> <p>The main characteristics of the operational phase of the project have been summarised throughout the EIAR and an estimate, by type and quantity, of the expected residues and</p>	<p><b>Chapter 2: Project Description</b></p> <p><b>Chapter 4: Population and Human Health</b></p> <p><b>Chapter 13: Material Assets</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		<p>emissions has been included in <b>Chapter 13: Material Assets</b> and <b>Chapter 10: Air and Climate</b>.</p> <p>Key human sensitive receptors (including tourism receptors) have been identified in <b>Chapter 4: Population and Human Health</b>.</p>	<p><b>Chapter 10: Air and Climate</b></p>
	<ul style="list-style-type: none"> <li>Detail the key considerations culminating in the selection of the design, the reasoning for these and the environmental effect of these decisions. The developer is expected to consider reasonable alternatives. What is considered reasonable may vary from case to case.</li> </ul>	<p>Cumulative effects have been assessed throughout the entire EIAR. Cumulative effects in relation to tourism have been included in <b>Chapter 4: Population and Human Health</b>.</p> <p>Reasonable alternatives have been considered in the design of the Project as detailed in <b>Chapter 3: Alternatives Considered</b>.</p>	<p><b>Chapter 3: Alternatives Considered</b></p> <p><b>Chapter 4: Population and Human Health</b></p>
	<ul style="list-style-type: none"> <li>Baseline assessments should identify any tourism sensitivities in the zone of influence of a development. This zone of influence of a development is highly dependent on its <b>Context, Character, Significance, and Sensitivity</b>, as outlined in the Draft Guidelines. These characteristics apply to both the development and the environment.</li> </ul>	<p>All items considered during the design process. No implications for the EIA/Design.</p> <p>Tourism receptors have been identified and have been assessed in <b>Chapter 4: Population and Human Health</b> and <b>Chapter 13: Material Assets</b>.</p>	<p><b>Chapter 4: Population and Human Health</b></p>
	<ul style="list-style-type: none"> <li>Impact assessment should contain the likely significant effects of a development arising from both construction and operation of a development. Advice on describing the effects is contained within the Draft Guidelines and includes the <b>quality, significance, extent, probability, type</b> and <b>duration</b> of the effect, with particular descriptors for each. Impact assessment should be carried out as per EPA guidelines and the best practice for that prescribed topic. It may be considered appropriate to consider impact on tourism assets under the 'material assets' topic below.</li> </ul>	<p>All items have been considered and addressed throughout the EIAR.</p> <p>Tourism has been assessed in <b>Chapter 4: Population and Human Health</b> and <b>Chapter 13: Material Assets</b>.</p>	<p><b>Chapter 4: Population and Human Health</b></p> <p><b>Chapter 13: Material Assets</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> <li>The impact upon tourism can be considered within this section through the sensitivities of Hospitality, Safety and Pace of Life. Changes in population can impact the perception of pace of life or safety in a particular location. Impacts upon these issues in areas which rely heavily on tourism or have a particular sensitive tourism generator should be considered in this section.</li> </ul>	<p>All items have been considered and addressed throughout the EIAR.</p> <p>Tourism has been assessed in <b>Chapter 4: Population and Human Health</b> and <b>Chapter 13: Material Assets</b>.</p>	<p><b>Chapter 4: Population and Human Health</b></p> <p><b>Chapter 13: Material Assets</b></p>
	<ul style="list-style-type: none"> <li>The disturbance to ecology must be managed to minimise impact. Biodiversity is also a tourism asset and should be protected as such from other development and should be provided for in proposals where possible.</li> </ul>	<p>All items have been considered and addressed in the EIAR.</p> <p>Disturbance to ecology will be managed through mitigation measures included in:</p> <ul style="list-style-type: none"> <li><b>Chapter 5: Terrestrial Ecology,</b></li> <li><b>Chapter 6: Aquatic Ecology</b></li> <li><b>Chapter 7: Ornithology</b></li> </ul>	<p><b>Chapter 4: Population and Human Health</b></p> <p><b>Chapter 5: Terrestrial Ecology,</b></p> <p><b>Chapter 6: Aquatic Ecology</b></p> <p><b>Chapter 7: Ornithology</b></p> <p><b>Chapter 13: Material Assets</b></p> <p><b>Chapter 14: Cultural Heritage</b></p>
	<ul style="list-style-type: none"> <li>Negative impacts to Soils and Geology, Air and Climate, Water should be avoided</li> </ul>	<p>All items have been considered and addressed in the EIAR. No implications for the EIA/Design.</p> <p>Potential effects have been assessed in:</p> <ul style="list-style-type: none"> <li><b>Chapter 8: Soils and Geology</b></li> <li><b>Chapter 10: Air and Climate</b></li> <li><b>Chapter 9: Hydrology and Hydrogeology</b></li> </ul>	<p><b>Chapter 8: Soils and Geology</b></p> <p><b>Chapter 10: Air and Climate</b></p> <p><b>Chapter 9: Hydrology and Hydrogeology</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		<p>Potential negative impacts on Soils and Geology have been assessed in <b>Chapter 8: Soils and Geology</b>. Potential negative impacts have been assessed in <b>Chapter 9: Hydrology and Hydrogeology</b>. All items have been considered and addressed in the EIAR. No implications for the EIA/Design. Buffer zones have been implemented into the design of the Development to prevent negative impacts.</p> <p>Air Quality has been fully assessed and potential negative impacts have been identified in <b>Chapter 10: Air and Climate</b>. All items have been considered and addressed in the EIAR</p>	
	<ul style="list-style-type: none"> <li>A link between tourism and this prescribed environmental factor, beyond the normal development impacts, is rare, however the impact upon tourism of issues of noise and vibration can be significant. Construction for example should consider the sensitivity of the development and ensure mitigation is in place.</li> </ul>	<p>All items have been considered and addressed in the EIAR.</p> <p>Potential effects from noise and vibrations created as a result of this Development have been assessed in <b>Chapter 11: Noise</b>.</p>	<p><b>Chapter 11: Noise</b></p>
	<ul style="list-style-type: none"> <li>The construction programme of developments should work to avoid peak tourism periods in tourism areas and should consider planned or anticipated tourism events and festivals.</li> </ul>	<p>All items have been considered and addressed in the EIAR.</p> <p>Potential effects on Tourism have been identified and mitigation measures have been proposed in <b>Chapter 4: Population and Human Health</b>. No tourism events are anticipated within the vicinity of the Development during the construction, operational or decommissioning phases of the Project. Peak tourism periods will be avoided.</p>	<p><b>Chapter 4: Population and Human Health</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		<p>Potential effects on tourism as a result of the Development have been assessed in <b>Chapter 4: Population and Human Health</b>.</p>	
	<ul style="list-style-type: none"> <li>Cultural heritage should be strongly considered in non-tourism developments and the impact upon tourism considered as a potential impact.</li> </ul>	<p>All items have been considered and addressed in the EIAR.</p> <p>A small section of the grid route (640 m) is located along the Beara to Breifne Way. Works along this section will take up to seven days to complete. Pedestrian access will be maintained during the construction and decommissioning phases and works will be completed outside peak tourist season where possible.</p> <p>Potential effects on cultural heritage as a result of the Development have been assessed in <b>Chapter 14: Cultural Heritage</b>.</p>	<p><b>Chapter 14: Cultural Heritage</b></p>
	<ul style="list-style-type: none"> <li>Waste and Waste disposal issues can also impact the perception of an unspoiled environment, effecting tourism, which should be considered.</li> </ul>	<p>All items have been considered and addressed in the EIAR.</p> <p>An assessment of potential effects as a result of waste generated during the construction, operational and decommissioning phases of the Project has been included in <b>Chapter 13: Material Assets</b>.</p> <p>In addition to this, a Waste Management Plan has been prepared as an appendix to the Construction Environmental Management Plan.</p>	<p><b>Chapter 13: Material Assets</b></p> <p><b>Appendix 2.1 CEMP; Management Plan 5: Waste Management Plan</b></p>
	<ul style="list-style-type: none"> <li>Tourism could be considered a material asset as its impact upon the economy and the infrastructure in place to support it is a material consideration in assessing economic impact.</li> </ul>	<p>All items have been considered and addressed in the EIAR.</p> <p>There are many walking and cycling routes in the vicinity of the Development and within Counties Cork and Kerry. These routes provide activities for both international visitors and local</p>	<p><b>Chapter 13: Material Assets</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		tourists bringing with them, minor economic gains to the locality. All items have been considered and addressed in <b>Chapter 4: Population and Human Health</b> and <b>Chapter 13: Material Assets</b> .	
	<ul style="list-style-type: none"> <li>The visual impact of a tourism development, especially in locations which are visually sensitive or renowned for their scenic or landscape beauty, should be considered carefully. A development intended to utilise or enjoy a particular vista or environment should minimise impact upon that environment.</li> </ul>	<p>All items have been considered and addressed in the EIAR.</p> <p>There are many scenic, walking and cycling routes within the vicinity of the Development and within Counties Cork and Kerry. These routes provide activities for both international visitors and local tourists. The impact of the Development on the landscape as well as the cumulative effects of other developments in the area have been assessed in <b>Chapter 12: Landscape and Visual</b>.</p>	<b>Chapter 12: Landscape and Visual</b>
	<p><b>Major Accident and Natural Disaster</b> There is a requirement for developments to describe expected significant effects on the environment of the proposed development's vulnerability to major accidents and/or natural disasters relevant to it. Where appropriate measures should be identified to prevent or mitigate the significant adverse effects of such accidents or disasters, including resulting from climate change, on the environment and detail the preparedness for the proposed response.</p>	All items have been considered and addressed in the EIAR. A separate chapter has been prepared to assess the impacts of major accidents and natural disasters.	<b>Chapter 16: Major Accidents and Natural Disasters</b>
	<p><b>Interaction of Effects</b> Where two or more environmental impacts combine or interact they should be considered under the prescribed topics. It is best practice to provide a table of interactions within an EIAR or EIAR Screening Report.</p>	All items have been considered and addressed in the EIAR.	<b>Chapter 17: Interactions of the Foregoing</b>
	<b>Mitigation</b>	All items have been considered and addressed in the EIAR. Mitigation measures have been	<b>Appendix 17.1 Schedule of Mitigation Measures</b>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>Mitigation should follow the hierarchy of minimisation in descending order of preference- Avoid, Reduce, Remedy.</p> <p>Mitigation measures must be measurable and achievable within the bounds of the project.</p>	<p>included in each technical chapter of the EIAR for the construction, operational and decommissioning phases.</p> <p>A schedule of mitigation measures has also been appended to <b>Chapter 17: Interactions of the Foregoing</b>.</p>	
	<p><b>Cumulative Impact</b></p> <p>The cumulative impact is that of the project combined with any known likely project which will interact or compound an environmental impact.</p>	<p>All items have been considered and addressed in the EIAR.</p> <p>All technical chapters of this EIAR include an assessment of cumulative effects.</p>	Chapters 4-16
	<p><b>Transboundary Impact</b></p> <p>Transboundary impacts should be included in EIAR. In the case of tourism, especially international travel, the transboundary impacts may not be proximate to the EIAR site</p>	n/a	n/a
Health Service Executive	A response was received on 10/12/2020 and contains the following points:	All items considered during the design process.	Addressed in chapters 2-16
	<ul style="list-style-type: none"> <li>• The Environmental Impact Assessment should examine all likely significant impacts and provide the following information for each:               <ol style="list-style-type: none"> <li>a) Description of the receiving environment;</li> <li>b) The nature and scale of the impact;</li> <li>c) An assessment of the significance of the impact;</li> <li>d) Proposed mitigation measures;</li> <li>e) Residual impacts.</li> </ol> </li> </ul>	<p>All items have been included in the technical chapters of the EIAR.</p> <p>A description of the baseline conditions of the receiving environment has been included in each technical assessment of the EIAR.</p> <p>The potential effects of the Development on the receiving environment have been identified in each technical chapter of the EIAR. This includes the significance of the potential effects.</p> <p>Mitigation measures have been proposed against the potential effects identified and the</p>	Chapters 4-16

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		residual impacts have been identified and their significance has been included in each technical chapter of the EIAR.	
	<ul style="list-style-type: none"> <li>Population and Human Health should be adequately assessed.</li> </ul>	All items have been considered and addressed in the EIAR.	<b>Chapter 4: Population and Human Health</b>
	<ul style="list-style-type: none"> <li>In addition to any likely significant negative impacts from the proposed development, any positive likely significant impacts should also be assessed. The HSE will consider the final EIAR accompanying the SID/ planning application and will make comments to An Bord Pleanála and Cork County Council on the methodology used for assessing the likely significant impacts and the evaluation criteria used in assessing the significance of the impact.</li> </ul>	<p>All potential effects of the Development on the receiving environment have been identified in each technical chapter of the EIAR.</p> <p>The methodology for assessing the potential effects has been included in each of the relevant chapters.</p> <p>All items have been considered and addressed in the EIAR.</p>	
	<p><b>Public Consultation</b></p> <ul style="list-style-type: none"> <li>It is strongly recommended that early and meaningful public consultation with the local community should be carried out to ensure all potentially significant impacts have been adequately addressed. All parties affected by the proposed development, including those who may benefit financially from the project, must be fully informed of what the proposal entails, especially with regard to potential impacts on surrounding areas.</li> <li>Sensitive receptors and other stakeholders should be identified to ensure all necessary and appropriate mitigation measures are put in place to avoid any complaints about the proposed wind farm development in the future.</li> <li>It is acknowledged that current restrictions around public gatherings as a result of Covid 19 prevention measures will impact on opportunities for public consultation events. However, it is expected that</li> </ul>	<p>The project at an early stage appointed a local Community Liaison Officer (CLO) in July 2020.</p> <p>Sensitive receptors and stakeholders were identified.</p> <p>Initially the CLO's direct engagement focused on calling to houses within 2km of the Development.</p> <p>Three (3 No.) Newsletters were sent to houses within 2 km of the Development between July 2020 and September 2021. A Project update letter was circulated to the same residences in November 2021. An introduction letter to FuturEnergy Ireland was circulated to the residences in December 2021. A further project update letter was circulated in March/April 2022 ad in November 2022.</p>	<p>Section 1.7.1 Public Consultation</p> <p><b>Appendix 1.3: Community Consultation Report</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>meaningful public consultation, where the local community is fully informed of the proposed development, will be undertaken. Members of the public should be given sufficient opportunities to express their views on the proposal wind farm.</p> <ul style="list-style-type: none"> <li>• The Environmental Impact Assessment Report (EIAR) should clearly demonstrate the link between public consultations and how those consultations have influenced the decision-making process in the EIA.</li> <li>• To assist with the consultation and planning process it is recommended that the applicant develops a dedicated website for the proposed wind energy project. All correspondence, maps, project updates and documentation including the EIAR should be uploaded to this site.</li> </ul>	<p>Five (5 No.) national schools in the vicinity of the Development were included in an Educational Programme around Climate Change.</p> <p>A media release in March 2023 launched the project brochure and virtual tour exhibition.</p> <p>The brochure was circulated to residences within 5 km of the Development and to elected representatives.</p> <p>Advertisements in local newspapers displayed details of the public information days.</p> <p>Two public information days were held in a location that was easily accessible to local residents. All documentation available at the public information days was in English and Irish and Irish speaking representatives were on hand to discuss the Development with local Irish speaking residents.</p> <p>A Pre-Application Community Consultation (PACC) Report has been submitted to Cork County Council and Kerry County Council as a standalone document as part of this planning application. The PACC Report summarises the engagement and consultation that has taken place with the local community over the project lifecycle to date. Starting from the introduction of the project through to the project's submission into planning, the PACC report includes reports of the public information day, how the Developer intends to continually engage with the local</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		<p>community into the future and how comments received have been addressed and incorporated by the Project.</p> <p>A dedicated project website was launched (<a href="https://inchamorewindfarm.ie/">https://inchamorewindfarm.ie/</a>) and provides updates to the public regarding the progress of the Project.</p>	
	<p><b>Decommissioning Phase</b></p> <ul style="list-style-type: none"> <li>The EIAR should detail what the eventual fate of the turbines and associated material will be, i.e., will the material be recycled or how will it be disposed of. Information should also be provided regarding the proposed methodology to be used for the disposal of the materials forming the foundations of the wind turbines. The EIAR should indicate the proposed future use of the wind farm site at the end of the planning permission period.</li> </ul>	<p>The decommissioning phase of the Project has been assessed in each of the technical chapters.</p> <p>The decommissioning of the wind farm is as follows:</p> <ul style="list-style-type: none"> <li>Removal of five wind turbines and concrete plinths.</li> <li>Removal of permanent meteorological mast.</li> <li>Removal of all associated underground electrical and communications cabling connecting the wind turbines to the wind farm substation. Ducting is to remain in-situ.</li> <li>All other elements of the Development will remain in-situ. The Site Access Roads and associated drainage systems will serve ongoing forestry and agriculture activity in the area. All other hard surfaced areas will be allowed to revegetate naturally. Based on the experience of the project team monitoring operational wind farm sites throughout the country, the approach of allowing these areas to revegetate naturally has proven to be very successful</li> <li>Cranes of similar size to those used for construction will disassemble each turbine</li> </ul>	<p><b>Appendix 2.1, Management Plan 6: Decommissioning Plan</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		<p>using the same crane hardstands. The towers, blades and all above ground components will be removed from site and reused, recycled, or disposed of in a suitably licensed facility. (The financial costs of decommissioning, at current material values, will be more than met by the recycling value of the turbine components.)</p> <ul style="list-style-type: none"> <li>• Turbines will be cut on site so as to fit on articulated trucks, therefore allowing the use of the civil construction delivery route for removal.</li> </ul> <p>A Decommissioning Plan has been prepared as part of the CEMP.</p>	
	<p><b>Siting, Location and details of Turbines</b></p> <ul style="list-style-type: none"> <li>• The EIAR should include a map and a description of the proposed location of each of the proposed wind turbines.</li> <li>• The Environmental Health Service expects that details (height and model) of the turbines to be installed will be available at the time planning permission is sought and will be included in the EIAR.</li> <li>• Details of turbine foundation structures, including depth, quantity and material to be used should be included in the EIAR.</li> </ul>	<p>All items have been considered and addressed in the EIAR. No implications for the EIA/Design.</p>	<p>n/a</p>
	<p><b>Opportunity for Health Gain</b></p> <ul style="list-style-type: none"> <li>• The proposed development should be assessed with a view to the potential to include opportunities for health gain within the site of the proposed wind farm by including greenways, cycle-paths or walking trails within the development site.</li> </ul>	<p>Areas of Coillte lands within the Development will continue to subject to the Open Forestry Policy implemented by Coillte with the Development not impacting on the use of forestry for reasons of health gain.</p>	

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	<p><b>Assessment of Consideration of Alternatives</b></p> <ul style="list-style-type: none"> <li>The EIAR should consider an assessment of alternatives. The EHS recommends that alternative renewable energy options to on shore wind farms should be assessed as part of the EIAR.</li> </ul>	<p>All items have been considered and addressed in the EIAR.</p> <p>The EIAR considers alternatives to on-shore wind energy developments in <b>Chapter 3: Alternatives Considered</b></p>	<p><b>Chapter 3: Alternatives considered</b></p>
	<p><b>Noise &amp; Vibration</b></p> <ul style="list-style-type: none"> <li>The potential impacts for noise and vibration from the proposed development on all noise sensitive locations must be clearly identified in the EIAR. The EIAR must also consider the appropriateness and effectiveness of all proposed mitigation measures to minimise noise and vibration.</li> <li>A baseline noise monitoring survey should be undertaken to establish the existing background noise levels. Noise from any existing turbines in the area should not be included as part of the background levels.</li> <li>In addition, an assessment of the predicted noise impacts during the construction phase and the operational phase of the proposed wind farm development must be undertaken which details the change in the noise environment resulting from the proposed wind farm development.</li> <li>The Draft Revised Wind Energy Development Guidelines were published in December 2019. Whilst these have yet to be adopted, any proposed wind farm development should have consideration of the draft Guidelines.</li> </ul>	<p>All items have been considered and addressed in the EIAR.</p> <p>A baseline noise monitoring survey was undertaken to establish baseline conditions. Potential effects of Noise and Vibration on sensitive receptors have been fully assessed and mitigation measures have been proposed where necessary. This has been completed for the construction, operational and decommissioning phases of the Project and can be found in <b>Chapter 11: Noise</b>.</p> <p>The Draft Revised Wind Energy Development Guidelines, 2019 have been considered in the assessment.</p>	<p><b>Chapter 11: Noise</b></p>
	<p><b>Shadow Flicker</b></p> <ul style="list-style-type: none"> <li>It is recommended that a shadow flicker assessment is undertaken to identify any dwellings and sensitive receptors which may be impacted by shadow flicker. The assessment must include all proposed mitigation measures. Dwellings should include all</li> </ul>	<p>All items have been considered and addressed in the EIAR.</p> <p>A shadow flicker assessment was completed as part of <b>Chapter 4: Population and Human</b></p>	<p><b>Appendix 4.1: Shadow Flicker Analysis</b></p>

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	<p>occupied properties and any existing or proposed properties for which planning consent has been granted for construction or refurbishment.</p> <ul style="list-style-type: none"> <li>It is recommended that turbine selection will be based on the most advanced available technology that permits shut down during times when residents are exposed to shadow flicker. As a result, no dwelling should be exposed to shadow flicker.</li> </ul>	<p><b>Health.</b> A schedule of mitigation measures has also been included in this chapter.</p> <p>The Development which currently complies with the WEDG (2006) shadow flicker guidelines will comply with the 2019 Draft WEDG if/when they come into effect by automatically shutting down when the control system detects that the sunlight is strong enough to cast a shadow, and the shadow falls on a property or properties.</p>	
	<p><b>Air Quality</b></p> <ul style="list-style-type: none"> <li>A Construction Environmental Management Plan (CEMP) should be included in the EIAR which details dust control and mitigation measures. Measures should include: <ul style="list-style-type: none"> <li>Sweeping of hard road surfaces</li> <li>Provision of a water bowser on site, regular spraying of haul roads</li> <li>Wheel washing facilities at site exit</li> <li>Restrict speed on site</li> <li>Provide covers to all delivery trucks to minimise dust generation</li> <li>Inspect and clean public roads in the vicinity if necessary</li> <li>Material stockpiling provided with adequate protection from the wind</li> <li>Dust monitoring at the site boundary</li> <li>Truck inspection and maintenance plan</li> <li>Details of a road maintenance agreement between the wind farm operator and the Local Roads Authority to clarify responsibility for the upkeep and repair of access roads during the construction phase of the project.</li> </ul> </li> </ul>	<p>The potential effects of the Development on Air Quality have been assessed as part of <b>Chapter 10: Air and Climate</b>. Mitigation measures against these potential effects have been included in this chapter.</p> <p>All construction phase mitigation measures have been included in the Construction Environmental Management Plan which has been prepared as Appendix 2.1 of <b>Chapter 2: Project Description</b>. In addition to this, a full Schedule of Mitigation Measures has been included as Appendix 17.1 of <b>Chapter 17: Interactions of the Foregoing</b>.</p> <p>All items have been considered and addressed in the EIAR.</p> <p>Mitigation measures have included all items.</p>	<p><b>Chapter 10: Air Quality</b></p>
	<p><b>Surface and Ground Water Quality</b></p>	<p>The <b>Surface Water Management Plan (Appendix 2.1)</b> details the site drainage that has</p>	<p><b>Chapter 8: Soils and Geology</b></p>

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	<ul style="list-style-type: none"> <li>All drinking water sources, both surface and ground water, must be identified. Public and Group Water Scheme sources and supplies should be identified. Measures to ensure that all sources and supplies are protected should be described. The Environmental Health Service recommends that a walk over survey of the site is undertaken in addition to a desktop analysis of Geological Survey of Ireland data in order to identify the location of private wells used for drinking water purposes.</li> </ul> <p>Any potential significant impacts to drinking water sources should be assessed. Details of bedrock, overburden, vulnerability, groundwater flows, aquifers and catchment areas should be considered when assessing potential impacts and any proposed mitigation measures.</p>	<p>been designed for the site using the principles of Sustainable Drainage Systems (SuDS). The drainage system for the Development is designed in a manner to ensure there are no changes to the baseline water quality within or downstream of the Site.</p> <p>A comprehensive suite of drainage measures have been developed to protect all receiving waters from potential impacts during the construction, operation and decommissioning of the Development in the catchment of the Site and along the proposed Grid Connection Route. The assessment and associated proposed mitigation measures are in <b>Chapter 6: Aquatic Ecology</b> and <b>Chapter 9: Hydrology and Hydrogeology</b>.</p> <p>Consultation with GSI (2022) well database indicates there are no mapped wells within the Redline Boundary. Governing industry guidelines stipulate a buffer zone of 250 m is required of from boreholes used for drinking water abstraction when assessing excavations for Turbine Foundations. The closest mapped wells are more than 800 m from the Redline Boundary (southeast of proposed T5 works), suggesting that any potential impact from the Development is low risk for wells in the immediate vicinity.</p> <p>With reference to the Baseline Description in this report, the groundwater aquifer underlying the Inchamore Windfarm Site is classified as a Locally Important Aquifer (LI) – Bedrock which is Moderately Productive only in Local Zones.</p>	<p><b>Chapter 9: Hydrology and Hydrogeology</b></p>

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		<p>The Grid Connection Route traverses land underlain by a LI aquifer. Similarly, a small portion of the Turbine Delivery Route, c. 5 km, is underlain by a PI, the remaining track has been routed over a LI aquifer. Any identified boreholes along these routes will highlight the significant potential for the proposed developments to impact groundwater supplies in local zones.</p>	
	<p><b>Geological impacts</b></p> <ul style="list-style-type: none"> <li>• A detailed assessment of the current ground stability of the site for the proposed wind farm extension and all proposed mitigation measures should be detailed in the EIAR. The assessment should include the impact construction work may have on the future stability of ground conditions, taking into consideration extreme weather events, site drainage and the potential for soil erosion.</li> <li>• Reference is made to a peat slide which occurred near Ballybofey in Co. Donegal on November 13<sup>th</sup> 2020 which may have been linked to construction activity at Meenbog Wind Farm. Potential impacts on water supply associated with contamination following a peat slide include sedimentation and alteration of pH levels.</li> <li>• The Environmental Health Service recommends that a detailed Peat Stability Assessment should be undertaken to assess the suitability of the soil for the proposed development. The EIAR should include provision for a peat stability monitoring programme to identify early signs of potential bog slides ('pre-failure indicators' see the Scottish Government's 'Peat Landslide Hazard and Risk Assessments: Best Practice Guide for Proposed Electricity Developments 2017).</li> </ul>	<p>Ground conditions and peat depths have been assessed as part of the EIAR. A peat slide risk assessment has been prepared as part of the EIAR. All of the items have been assessed in the EIAR.</p>	<p><b>Chapter 8: Soils and Geology</b></p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p><b>Ancillary Facilities</b></p> <ul style="list-style-type: none"> <li>The EIAR should include details of the location of all site office, construction compound, fuel storage depot, sanitary accommodation and canteen, First Aid facilities, disposal of wastewater and the provision of a potable water supply to the site canteen.</li> </ul>	All items have been included in the planning drawings accompanying this application.	n/a
	<p><b>Cumulative Impacts</b></p> <ul style="list-style-type: none"> <li>All existing or proposed wind farm developments in the vicinity should be clearly identified in the EIAR. The impact on sensitive receptors of the proposed development combined with any other wind farm developments in the vicinity should be considered. The EIAR should include a detailed assessment of any likely significant cumulative impacts of the proposed renewable energy development.</li> </ul>	Cumulative effects have been assessed in all technical chapters of this EIAR.	Chapters 4-16.
Irish Water	<p>Scoping response received 02/12/2020 and stated IW currently does not have the capacity to advise on scoping of individual projects.</p> <p>However, in general we would like the following aspects of Water Services to be considered in the scope of an EIAR where relevant;</p> <p>Impacts of the development on the capacity of water services (do existing water services have the capacity to cater for the new development if required). This is confirmed by IW in the form of</p> <p>a Confirmation of Feasibility (COF). If a development will require a connection to either a public water supply or sewage collection system the developer is advised to submit a Pre Connection Enquiry (PCE) enquiry to IW to</p>	<p>All items considered during the design process. No implications for the EIA/Design</p> <ul style="list-style-type: none"> <li>a) No connection to the public water supply is required.</li> <li>b) No upgrade to public water services is required.</li> <li>c) Trade effluent will not be discharged from the Development.</li> <li>d) There will be no discharge to sewers within the Development.</li> <li>e) Drinking Water Sources have been identified and assessed within Chapter</li> </ul>	<p><b>Hydrology</b> addressed in Chapter 9</p> <p><b>Soils and Geology</b> addressed in Chapter 8</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>determine the feasibility of connection to the Irish Water network. All pre-connection enquiry forms are available from <a href="https://www.water.ie/connections/get-connected/">https://www.water.ie/connections/get-connected/</a></p> <p>b) Any up-grading of water services infrastructure that would be required to accommodate the development.</p> <p>c) In relation to a development that would discharge trade effluent – any upstream treatment or attenuation of discharges required prior to discharging to an IW collection network</p> <p>d) In relation to the management of surface water; the potential impact of surface water discharges to combined sewer networks &amp; potential measures to minimise/stop surface waters from combined sewers</p> <p>e) Any physical impact on IW assets – reservoir, drinking water source, treatment works, pipes, pumping stations, discharges outfalls etc. including any relocation of assets</p> <p>f) If you are considering a development proposal, it is best practice to contact us in advance of designing your proposal to determine the location of public water services assets. Details, where known, can be obtained by emailing an Ordinance Survey map identifying the proposed location of your intended development to <a href="mailto:datarequests@water.ie">datarequests@water.ie</a>. Other indicators or methodologies for identifying infrastructure located within your lands are the presence of registered wayleave agreements, visible manholes, vent stacks, valve chambers, marker posts etc. within the proposed site.</p>	<p>9. There were no implications on the design of the Project.</p> <p>f) No public water infrastructure traverses the Site. Irish Water will be consulted with prior to the commencement of works.</p> <p>g) Items have been addressed in Chapter 9. A Surface Water Management Plan has been prepared as part of the EIAR.</p> <p>h) Items have been addressed in Chapter 9.</p> <p>i) No connection to the public water supply/wastewater treatment is required.</p> <p>j) All items have been considered and assessed in the EIAR.</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>g) Any potential impacts on the assimilative capacity of receiving waters in relation to IW discharge outfalls including changes in dispersion /circulation characterises</p> <p>h) Any potential impact on the contributing catchment of water sources either in terms of water abstraction for the development (and resultant potential impact on the capacity of the source) or the potential of the development to influence/ present a risk to the quality of the water abstracted by IW for public supply.</p> <p>i)Where a development proposes to connect to an IW network and that network either abstracts water or discharges waste water to a “protected”/sensitive area, consideration as to whether the integrity of the site/conservation objectives of the site would be compromised.</p> <p>j) Mitigation measures in relation to any of the above <i>This is not an exhaustive list.</i> Please note</p> <ul style="list-style-type: none"> <li>▪ The Confirmation of Feasibility from IW, to the applicant, should be issued prior to applying for planning permission.</li> <li>▪ Irish Water will not accept new surface water discharges to combined sewer networks</li> </ul>		
<p>Minister for Environment, Climate and Communications</p>	<p>See scoping response received on 20th November 2020 from Geological Survey of Ireland a division of the Department of Environment, Climate and Communications.</p> <p><b>Geoheritage</b> Geological Survey Ireland is in partnership with the National Parks and Wildlife Service (NPWS, Department</p>	<p>All items considered during the design process.</p> <p>Consultation with available maps (GSI) indicates that there are no recorded ‘Geoheritage’ sites located within the redline boundary of the Site or within the near vicinity.</p>	<p><b>Hydrology</b> addressed in Chapter 9</p> <p><b>Soils and Geology</b> addressed in Chapter 8</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>of Culture, Heritage and Gaeltacht), to identify and select important geological and geomorphological sites throughout the country for designation as geological NHAs (Natural Heritage Areas). This is addressed by the Geoheritage Programme of Geological Survey Ireland, under 16 different geological themes, in which the minimum number of scientifically significant sites that best represent the theme are rigorously selected by a panel of theme experts.</p> <p>County Geological Sites (CGS), as adopted under the National Heritage Plan are now included in County Development Plans and in the GIS of planning departments, to ensure the recognition and appropriate protection of geological heritage within the planning system. The audit for Co. Cork has not yet been completed, however unaudited CGSs can be viewed online under the Geological Heritage tab on the online Map Viewer. <b>Our records show that there are no unaudited CGSs in the vicinity of the proposed wind farm development.</b></p> <p><b>Groundwater</b>                      We recommend using our National Aquifer, Vulnerability and Recharge maps.                      The Groundwater Vulnerability map indicates the proposed wind farm area is of variable vulnerability. We would therefore recommend use of the Groundwater Viewer to identify areas of High to Extreme Vulnerability and 'Rock at or near surface' which can be used to inform appropriate mitigation measures.                      Although primarily focused on karst areas, this may provide information to benefit the proposed wind farm development. We recommend using out GWflood tools found under our programme activities (in conjunction with OPW data), to this end.</p>	<p>All items considered during the design process. No implications for the EIA/Design</p> <p>Consultation with the GSI Groundwater Map Viewer (2022) indicates that the Wind Farm Site is underlain by areas classified predominantly mapped as 'Extreme (E)' vulnerability rating which tend to be at lower elevations, with some areas mapped as 'Rock at or Near Surface (X)' vulnerability rating particularly at higher elevations. Both the Turbine Delivery Route and Grid Connection Route traverse land with groundwater vulnerability ratings ranging from 'Moderately Vulnerable' to 'Extreme Vulnerability' (<b>Figure 9.9a – Groundwater Vulnerability</b>).</p> <p>Consultation with the Geological Survey Ireland online data sets as well as site visits were carried out.</p> <p>Peat and slope stability investigations at the Site (<b>Appendix 8.1</b>) indicate that the Site has a generally low risk probability with respect to peat slippage and slope failure under the footprint of the Development.                      Considering the assessment conclusions are related to the Development and construction activities including vehicular movements will be limited to the Development, areas of potentially high risk (Geohazards, for example, GSI high risk landslide susceptibility) in terms of peat and slope stability will be avoided.</p> <p>GSI data and map viewers have been consulted in the preparation of this EIAR.</p>	

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	<p><b>Geological Mapping</b> We encourage the use of the Geological Survey Ireland datasets in assessments.</p> <p><b>Geohazards</b> Landslide susceptibility in the area of the proposed wind farm is variable and is classed from Moderately Low/ Moderately High to High. We recommend that geohazards be taken into consideration, especially when developing areas where these risks are prevalent, and we encourage the use of our data when doing so.</p> <p><b>Natural Resources (Minerals/Aggregates)</b> In keeping with a sustainable approach, we would recommend use of our data and mapping viewers to identify and ensure that natural resources used in the proposed development are sustainably sourced from properly recognised and licensed facilities.</p> <p><b>Other Comments</b> Geological Survey Ireland would much appreciate a copy of reports detailing any site investigations carried out. Should any significant bedrock cuttings be created, we would ask that they will be designed to remain visible as rock exposure rather than covered with soil and vegetated, in accordance with safety guidelines and engineering constraints.</p>	<p>Imported stone will be from licensed facilities, as discussed in <b>Chapter 15: Traffic and Transportation.</b></p>	
<p>Transport Infrastructure Ireland</p>	<p>Scoping response received 07/12/2020 and stated Transport Infrastructure Ireland (TII) is not in a position to engage directly with planning applicants with respect to proposed Developments. TII will endeavour to consider and respond to planning applications referred to it, given its status and duties as a statutory consultee under the Planning Acts.</p>	<p>No implications for the EIA/Design</p>	<p>n/a</p>

<b>Consultee Organisation</b>	<b>Response Received</b>	<b>Implications for the EIA/Design</b>	<b>EIAR Chapter/Section where comments have been addressed</b>
OPW	No response received	n/a	n/a
The Heritage Council	No response received	n/a	n/a
The Arts Council	No response received	n/a	n/a
Údarás na Gaeltachta	Acknowledgement of Scoping Receipt (16/11/2020) No response received	n/a	n/a

### 1.11 AVAILABILITY OF INFORMATION

The EIAR may be viewed online on the following website ([www.inchamorewindfarm.ie](http://www.inchamorewindfarm.ie)).

The planning application may be inspected or purchased at a fee not exceeding the reasonable cost of making a copy, at the offices of the planning authority during its public opening hours at the following address.

The Offices of Cork County Council, Ground Floor, County Hall, Carrigrohane Road, Cork, T12 R2NC.

### 1.12 GLOSSARY OF COMMON ACRONYMS

The common acronyms used throughout this EIAR are contained in Volume IV: **Appendix 1.2**.