

1 INTRODUCTION

1.1 INTRODUCTION

This Chapter of the Environmental Impact Assessment Report (EIAR) introduces the proposed Gortyrhilly 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 as amended by Directive 2014/52/EU (EIA Directive).

The EIAR has been prepared by Jennings O'Donovan & Partners Limited, on behalf of Gortyrhilly Wind DAC, to accompany a planning application for the Development. This EIAR takes into account the Development as a whole, including all relevant ancillary and subsidiary elements of the overall project, 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 Project (**Table 1.1**), cumulatively with any other existing and permitted developments, projects 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 cumulative effects, namely the Inchamore Wind Farm and Cummeenabuddoge 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.

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".

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
The Site	Refers to all land that falls within the Proposed Gortyrhilly Wind Farm Site Boundary as shown on Figure 1.1 .
The Redline Boundary	Refers to the Proposed Development Boundary. It is the boundary line of all works to be completed as part of the Project.
The Baseline	Refers to the existing lands and their characteristics.
The Development	Refers to all elements of the proposed development as described in the planning application public notices for Gortyrhilly Wind Farm, the details of which are set out within Chapter 2: Project Description . These elements include the wind turbines, all site infrastructure, the Grid Connection Route and all works required along the Turbine Delivery Route within the Redline Boundary.
The Project	Refers to the Development as contained in the Redline Boundary and the works along the Turbine Delivery Route which is outside the Redline Boundary and landholding boundary.
Survey Areas	Refers to areas within which surveys are undertaken. These are specifically defined within each technical section.
Study Areas	Refers to areas which are considered as part of the assessment process. These are specific and defined within each technical section.
The Board	Refers to An Bord Pleanála.
The Developer	Gortyrhilly Wind DAC
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).
The 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.

Term	Definition
Scoping	This is the process to identify key environmental issues, and to determine which elements of the Development 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 and control building including the compound in which it is located.
Met Mast	Refers to proposed Meteorological Mast to be located on site.
The Replant Lands	Refers to the offsite forestry replanting lands.
The Construction Haul Routes	Refers to the proposed routes from local quarries and suppliers to the Site.
The Turbine Delivery Route	Refers to the proposed turbine delivery route from Ringaskiddy Port to the Site.
Grid Connection	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 which will be reinstated to the current forestry land use following completion of construction.
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 foundations 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.
The Council	Refers to Cork County Council.

1.3 THE APPLICANT

The Applicant seeking planning permission is Gortyrähilly 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 FuturEnergy Ireland is to help materially the country 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, FuturEnergy Ireland is looking to actively drive Ireland's transition to a low carbon economy by developing 1GW of wind energy projects by 2030.

FuturEnergy Ireland 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.

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 700MW 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 667 hectares, of which a significant area is commercial forest owned by Coillte and the remaining third-party land is agricultural of varied productivity and open mountain heath. The Site is located 4.3km south-west of Ballyvourney, Co. Cork and 2km east of the county boundary between Cork

and Kerry. The Site elevations range from 420m AOD in the western side of the site to 220m AOD towards the eastern side of the site. A Site Location Map showing the Site 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 106 dwellings within a 2km radius of the proposed turbines, comprising one off houses and farm holdings (**Figure 1.3**). The nearest settlement is Reananerree which is situated 1.8km to the east of the Site, and the village of Coolea is located 1.9km to the north of the Site. A section (2,800m) of the Beara to Breifne Way traverses through the Site from the south-west to the north-east of the Site.

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

1.5 SUMMARY OF DEVELOPMENT DESCRIPTION

Permission is being sought by the Developer for the construction of 14 No. Wind Turbines, a meteorological mast, an on-site substation, Turbine Delivery Route and all ancillary works and the construction of an underground grid connection to Ballyvouskill 220kV substation, Co. Cork.

The Development will consist of the following main components:

- Construction of 14 No. wind turbines with an overall ground to blade tip height ranging from 179m to 185m inclusive. The wind turbines will have a rotor diameter ranging from 149m to 155m inclusive and a hub height ranging from 102.5m to 110.5m 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 one (35-year life cycle) meteorological mast with a height of 110m and a 4m lightning pole on top.
- Development of two on-site borrow pits.
- Construction of new permanent internal site access roads, upgrade of existing internal site access roads and upgrading of the L-34011-20 road (which forms part of the Beara-Breifne Way) and lies within the site, to include passing bays and all associated drainage infrastructure.
- Development of an internal site drainage network and sediment control systems.

- Construction of 1 no. permanent 110 kV electrical substation including 2 no. control buildings 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.
- All associated underground electrical and communications cabling connecting the wind turbines to the wind farm substation.
- Ancillary forestry felling to facilitate construction of the development.
- All works associated with the permanent connection of the wind farm to the national electricity grid comprising a 110 kV underground cable in permanent cable ducts from the proposed, permanent, on-site substation, in the townland of Gortyrhilly and onto the townlands of Derree, Derreenaculling, Lumnagh Beg, Lumnagh More, Scrahanagown, Bardinch, Milleeny, Inchamore, Derreenaling, Derryreag, Cummeenavrick, Glashacormick, Clydaghroe and Cummeennabuddoge to the existing Ballyvouskill 220 kV Substation in the townland of Caherdowney.
- All associated site development works including berms, landscaping, and soil excavation.
- Improvement of an entrance to an existing private road off the L-7405-0 local road to include localised widening of the road and creation of a splayed entrance to facilitate the delivery of abnormal loads and turbine component deliveries.
- Improvement of an existing site entrance off the L-3402-36 local road to include removal of existing vegetation for visibility splays to facilitate the use of it for the delivery of construction materials to the site.
- Upgrade works on the turbine delivery route to include the following:
 - Construction of a temporary bridge over the Sullane River to allow access to the L-3400-79 from the N22 in Ballyvourney for the duration of the construction works.
 - Localised widening of the L-3405-0 road to a width of 4.5m, from the junction with the L3400-79 road to the junction with the L-7405-0 road.
 - Localised widening of the L-7405-0 road to a width of 4.5m, from the junction with the L-3405-0 to the entrance to an existing private road off the L-7405-0.
 - The construction of a temporary access road off the N22 in the townland of Cummeenavrick to facilitate a 180 degrees turning manoeuvre by the turbine delivery vehicles.

A 10-year planning permission and 35-year operational life 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 Grid Connection and substation 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.

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:

“(I) 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 1st 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 1st 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 26th 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 Development (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
- (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
	5	Terrestrial Ecology
	6	Aquatic Ecology
	7	Ornithology
	8	Soils and Geology
	9	Hydrology and Hydrogeology
	10	Air and Climate
13	Material Assets & Other Issues	
<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
	17	Interactions of the Foregoing

1.6.2.3 Major Accidents and 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 40km or more from the Development.

There is limited potential for significant 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 with isolated pockets associated with localised elevated stability risk' to 'Moderate'. 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 year¹. Overall, the data shows that wind turbine fires are relatively rare². 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. 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 discussed in further detail in **Chapter 16: Major Accidents and Natural Disasters**.

1.6.2.4 Alternatives to the Development

Article 5(1)(d) of the EIA Directive 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.

1.6.2.5 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
- The 2014 EIA Directive Circular PL 05/2018

¹ <https://www.windpowerengineering.com/is-rope-based-descent-emergency-evacuation-at-the-end-of-its-tether/> [Accessed 27/01/2022]

² <https://www.firetrace.com/fire-protection-blog/wind-turbine-fire-statistics> [Accessed 27/01/2022]

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

1.6.2.6 European Guidance

- Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report, European Commission, 2017

1.6.2.7 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 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
- 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 competency of the author and relevant qualifications. Please see section 1.9 for more information.

1.7 NEED FOR THE DEVELOPMENT

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 be met by 40% from renewable electricity, 12% from renewable heat and 10% from the renewable transport sector.

REPower EU Energy Plan 2022

The European Commission presented the REPowerEU plan on 18 May 2022³. 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
- smart investment

The European Commission has recommended that an amendment be made to the Renewable Energy Directive which would recognise renewable energy as an "overriding public interest." 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.

The Climate Action Plan 2021

The Climate Action Plan 2021 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*".

³ 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 [Accessed 22/07/2022]

In relation to electricity generation there is a commitment to increase the reliance on renewables to 80%, which includes increasing the target of off-shore wind energy by up to 5GW. The target for onshore wind energy is 8GW, in the same period.

The European Commission announcement⁴ 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 2021 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 Action Plan is underlined by the Irish government's declaration of a climate emergency in 2019.

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

The Renewable Energy Directive (recast) 2018/2001/EU entered into force in December 2018 and 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.

⁴ 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

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

The Development 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 (CO₂) emissions
- Avoid significant fines from the EU (the EU Renewables Directive)
- 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)
- A requirement to increase Ireland's national energy security as set out in the Energy White Paper
- Provision of cost-effective power production for Ireland which would deliver local benefits
- 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:

- Provision of clean energy whilst minimising environmental impacts
- 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. 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 in February 2022. 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)⁵; this is approximately enough to power 2.2 million Irish homes annually.

A standalone Planning Statement as part of this application presents a full description of the international, national, regional and local energy policy context for the Development.

Chapter 5 addresses Climate Change, including Ireland's current status with regard to meeting greenhouse gas emission reduction targets.

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 was focus on calling to houses within 2km of the project area. With the distribution and communication of Newsletter 1 in September 2020, Newsletter 2 in March 2021, Newsletter 3 in June/July 2021, Introduction letter to FuturEnergy Ireland from the CEO in November 2021, a project update letter In March 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 June 2022 a Media release was sent to local and regional journalists launching the Gort Uí Rathaile Wind Farm's detailed project brochure and Virtual Tour. In tandem a detailed 36-page project brochures and Invite letter to the projects Virtual Tour was distributed to the projects near neighbours and wider community out to 5km, interest groups and local elected representatives.

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

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. 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 projects 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 evenings in an effort to meet residents unavailable during weekday in an effort to reach out to all.

At all stages of the Projects engagement cycle from 2020 to 2022, all our communications material included our contact number, project email, postal address, and dedicated Project website www.gortyrahillywindfarm.ie when launched were included. From this time onward all project updates and newsletters were continuously uploaded to the dedicated project website.

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

To reinforce the public consultation program FuturEnergy Ireland and SSER organised three Public Information Days (PIDs) to provide the opportunity for the local elected representatives and community to meet the project team, to view the proposals and ask questions.

Three (PID's) were arranged. One (PID) was specifically for local elected representatives and two (PID's) were arranged for the local community with an open invite to the local elected representatives to attend.

1.7.1.1 Public Information Days (PIDs)

During November 2021 the first PID was held as part of the Public Consultation process. There was a meeting arranged and held between the projects lead project manager, Community Liaison Officer, local TD's, local Councillors, where the project was presented on followed by an open Q & A session.

The second PID was held as part of the Public Consultation process. A community webinar took place on the 21st of July at 7pm followed by a Q&A session.

The Third PID was held as part of the Public Consultation process; Was held between July 26th, 27th 2022 at Ionad Áise, Renariee, Macroom, Co Cork, P12F447 (a venue close to the Site and easily accessible to local residents). It was decided that the public consultation events should take place between the hours of 11:00 am and 20:00 pm, 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 Community Consultation Report has been submitted to the Board as a standalone document as part of this planning application and is included in **Appendix 1.3**. The 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 the whole way through to the project's submission into planning, including reports of the PIDs, how we intend to continually engage with the local community into the future and details, how comments received have been considered and addressed in the Project.

1.7.1.2 Informing the Public and Local Residents

Between 2020 and 2022 this was achieved by having a local dedicated CLO who is easily contactable and available allocated to the project to keep the projects nearest neighbours, local interest groups, wider community and local elected representatives keep them up to date. Through providing Newsletter 1, 2, 3, having a dedicated project website for all to access, an Introduction letter to FuturEnergy Ireland, Project update letter, Detailed project brochure, Virtual Tour, Media releases, Advertisements, Posters, Sponsored Educational programs, 3 PID'S (Elected representatives meeting, Webinar, on-site local clinic). All our communications materials have our contact details and provided easy ways of accessing the project team.

The first PID that was held as part of the public consultation process was a meeting arranged directly with the local TD's, Local Councillors.

The Local residents and the general public and local elected representatives were informed of the second and third PIDs through the following methods:

- An Irish and English version of an invite letter to attend the projects Webinar on the 21st of July and to the local On-site engagement clinic on the 26th/27th of July was distributed in the local area.
- Advertisements placed in local newspapers and in one newspaper for 2 consecutive weeks with an invite to attend the projects Webinar on the 21st of July and to the local On-site engagement clinic on the 26th/27th of July.
- Posters with an Irish and English version placed in local shops

- A poster/newsletter released through the local Community e-newsletter
- Notice of the PID's were uploaded and displayed on the
- Gortyrhilly dedicated project website.
- Letters were also sent with an Irish and English version in the post/emailed or delivered to stakeholders who may have an interest in the Project to include community groups and the local elected representatives in the area.

After both the Webinar and the On-Site engagement Clinic had taken place any queries and questions that arose were replied to by the project team. Some requests for information were logged so that when the information become available it would be provided.

1.7.1.3 Information to be Included in a Decision to Grant

Article 8a (1) of the 2014 EIA Directive 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 Board 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.**

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. 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, Report Sections <ul style="list-style-type: none"> • 1: Introduction (SME & SB) • 2: Project Description (SME, SB & SM) • 3: Alternatives Considered (SME & SB) • 4: Population & Human Health (SME & SB) • 10: Air & Climate (SME & SB) • 13: Material Assets (SME & SB)

Consultants	Principal Staff Involved in the Project	EIAR Input
		<ul style="list-style-type: none"> • 15: Traffic & Transportation (DK, JD & AMcC) • 16 Major Accidents and Natural Disasters (SME & SB) • 17 Interactions of the Foregoing (SME & SB)
Biosphere Environmental Services	<p>Brian Madden</p> <p>With expert contributions from John Conaghan (Habitat surveys) John Curtin (Bat surveys) and Patrick Crushell (Kerry Slug Surveys)</p> <p>Karen Banks, Jonathon Dunn & Sinead Clifford (Fehily Timoney - Bird & Bat surveys)</p>	<p>Consultation and Report Chapters 5: Terrestrial Ecology & Chapter 7: Ornithology</p>
EirEco Environmental Consultants	Paul Murphy	<p>Consultation and Report Sections</p> <p>6: Aquatic Ecology</p>
Minerex	<p>Cecil Shine (Chapter Review)</p> <p>Sven Klinkenbergh (Chapter preparation)</p> <p>Jen Caleno (EIAR figures)</p> <p>Chris Fennel (Chapter preparation)</p> <p>Lissa Colleen McClung (Chapter preparation)</p>	<p>Consultation and Report Sections</p> <p>8: Soils & Geology</p> <p>9: Hydrology & Hydrogeology</p>
Brendan O'Reilly, Noise & Vibration Consultants Limited	Brendan O'Reilly	<p>Consultation and Report Sections</p> <p>11: Noise (Assessment)</p>
Irwin Carr Consulting	Shane Carr	<p>Consultation and Report Sections</p>

Consultants	Principal Staff Involved in the Project	EIAR Input
		11: Noise (Modelling)
Macro Works	Richard Barker	Consultation and Chapter 12: LVIA
John Cronin & Associates	Tony Cummins (Cultural Heritage Assessment) David Murphy (Field surveys)	Consultation and Chapter 14: Cultural Heritage
AI Bridges	David McGrath (Report preparation) Kevin Hayes (Report review) Patrick Tinney (Modelling) Karla Chagas (Modelling)	Consultation and Chapter 13: Material Assets and Other Issues

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 14-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 17 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 13 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.

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's key capabilities include preparation of Environmental Impact Assessments, Feasibility Studies, Construction & Environmental Management Plans, Appropriate Assessment

Screening Reports, Invasive Species Management Plans, Surface Water Management Plans, Peat and Spoil Management Plans and Geographic Information Systems (GIS).

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 and is the main contact between the consultancy and the client.

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

John Conaghan 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 Assessments of a range of wind farm, power line, road, and gas pipeline developments.

John Curtin holds a BSc in Environmental Science from NUI Galway and has been working as a consultant ecologist since 2010. John carried out bat surveys at Gortyrhillly Wind Farm in 2021.

Dr Patrick Crushell BSc MSc PhD MCIEEM CEcol

Patrick holds an honours degree in Applied Ecology from UCC, a Masters degree in Environmental Resource Management from UCD and a PhD on peatland ecology from Wageningen University, the Netherlands.

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 and 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.

Sinead Clifford (Fehily Timoney Consultants)

Sinead 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.

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 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 / bi-product. 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.

Jen Caleno M.Sc.

Jen is a Project Geoscientist with over eight years' experience and has a MSc in Petroleum Geoscience from UCD (2016).

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 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.

Brendan O'Reilly MPhil ISEE SFA EAA

Brendan has obtained a Masters 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 0.65MW to over 100MW 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 with a successful conclusion included Yellow River in Co. Offaly and Slaibh Bawn in Co. Roscommon. Compliance monitoring successfully carried out in over 20 wind farms including Slaibh Bawn. 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.

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 included 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.

Investigation of complaints and specification for ameliorative noise and vibration control measures for numerous companies North and South, Consultancies and Local Authorities.

Expert witness as a vibration specialist in the High Court for Meath County Council relating to road construction (vibratory rollers to rock breaking). Expert witness as vibration specialist in Belfast High Court regarding blasting vibration. Acknowledged contributor to the Irish EPA Integrated Pollution Control Licensing, 'Guidance Note for Noise in Relation to Scheduled Activities', 1995.

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 110kV 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 Gortyrhill 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 Gortyrhilly 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, Eglish, 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 2017, Draft 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
	Negative	A change which reduces the quality of the environment

Impact Characteristic	Term	Description
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)
Type	Indirect	Impacts on the environment, which are not a direct result of the project, often produced away from the project site or

Impact Characteristic	Term	Description
		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)⁶ 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

⁶ https://ec.europa.eu/environment/nature/natura2000/management/docs/wind_farms_en.pdf, accessed 17/09/2021

parameters. The proposed range of turbine parameters is limited with a variation of only 6 metres in tip height and rotor diameter.

- Turbine Tip Height – Maximum height 185 metres, Minimum height 179 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 25.5m, Minimum diameter 22m

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 proposed project (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 155m = 1550m). A range of turbine parameters was assessed, however, a maximum rotor diameter of 155m was used to calculate this distance which was then rounded up to 2km to ensure a conservative assessment. This dimension will give the most significant outcome as smaller rotor diameters will cast less shadow. In order to ensure the full extent of the moving shadow which would be created by the turbine range is considered in the assessment the following scenarios were</p>

Chapter	Turbines Considered
	<p>modelled:</p> <ul style="list-style-type: none"> • Specimen Turbine – 107.5m hub, 155m rotor diameter, 185m tip height with Derragh Wind Farm • Alternative Scenario 1 – 102.5m hub, 155m rotor diameter, 180m tip height with Derragh Wind Farm (lowest hub height and largest rotor diameter) • Alternative Scenario 2 – 110.5m hub, 149m rotor diameter, 185m tip height with Derragh Wind Farm (highest hub height and lowest rotor diameter)
Chapter 5 Terrestrial Ecology	This chapter comprehensively assesses all scenarios within the Turbine Range. The potential impacts that could arise from the Development 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.
Chapter 6 Aquatic Ecology	This chapter comprehensively assesses all scenarios within the Turbine Range. The potential impacts that could arise from the Proposed Development 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. There will be no change to the potential impacts or predicted effects irrespective of which turbine is selected within the Turbine Range.
Chapter 7 Ornithology - Bird Collision Risk	This chapter comprehensively assesses all scenarios within the Turbine Range. 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.
Chapter 8 Soils & Geology	This chapter comprehensively assesses all scenarios within the Turbine Range which is described in Section 8.1.1.1. The potential impacts that could arise from the Proposed Development during the construction, operational and decommissioning phases relate to the potential for increased stability issues and suspended sediment

Chapter	Turbines Considered
	<p>concentrations associated with site preparation activities and excavations for the infrastructure elements including the turbine foundations and cable trenches. 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 9 Hydrology and Hydrogeology</p>	<p>This chapter comprehensively assesses all scenarios within the Turbine Range which is described in Section 9.1.1.1. The potential impacts that could arise from the Proposed Development 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. 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 10 Air & Climate</p>	<p>The assessment in this chapter considers an overall power output from the proposed project (which includes the Turbine Range) of between 78.4 and 92.4 MW.</p> <p>The Carbon Calculator, which is assessed for both the lower range (5.6MW) and the higher range (6.6MW), accounts for improvement works and the years taken for the Site to return to its original characteristics</p> <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,</p>

Chapter	Turbines Considered
	<p>against which background noise measurements are correlated. The IOA Good Practice Guide Supplementary Guidance Note 47 (Appendix 11.2) gives the methodology to account for wind shear, calculation to hub height and to standardise 10m height wind speed.</p> <p>A variation in hub height will not change the maximum sound power level of a turbine. The higher turbine hub height (110.5m) gives marginally higher noise levels at the lower wind speeds of 3 and 4m/s and thus lower hub heights will generate marginally lower noise levels. It should be noted that the marginally higher noise levels at the 110.5 hub height will have a negligible effect on predicted noise levels.</p>
Chapter 12 Landscape & Visual Amenity	<p>This chapter comprehensively assesses all scenarios within the Turbine Range as well as all associated works.</p> <p>The comparative scenarios used to support the assessment include:</p> <ul style="list-style-type: none"> • Specimen Turbine – 107.5m hub, 155m rotor diameter, 185m tip height (as used for the visual impact assessment herein) • Alternative Scenario 1 – 102.5m hub, 155m rotor diameter, 180m tip height (lowest hub height, longest rotor diameter) • Alternative Scenario 2 – 110.5m hub, 149m rotor diameter, 185m tip height (highest hub height, shortest rotor diameter)
Chapter 13 Material Assets and Other Issues	<p>This chapter comprehensively assesses the proposed project (which includes the Turbine Range).</p> <p>This chapter comprehensively assesses the proposed project (which includes the Turbine Range). For the aviation, the tallest tip height (185m) 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 (185m tip and</p>

⁷ 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
	155m 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.
Chapter 14 Cultural Heritage	This chapter comprehensively assesses all scenarios within the Turbine Range. The potential impacts that could arise from the Development during the construction, operational and 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. There will be no change to the potential impacts or predicted effects irrespective of which turbine is selected within the Turbine Range.
Chapter 15 Traffic and Transportation	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 relevant (A blade length of 76m). The transport assessment considered the worst-case scenario in terms of works required to the turbine delivery route based on a 76m 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. 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 potential impacts or predicted effects 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/Probability/Consequences					
Magnitude of Significance /Sensitivity		Negligible	Low	Medium	High
	Extremely High	Not Significant	Profound/ Very Significant	Profound	Profound
	Very High	Not Significant	Moderate	Significant	Profound/ Very Significant
	High	Not Significant	Slight	Significant/ Moderate	Very Significant
	Medium	Not Significant/ Imperceptible	Slight	Moderate	Significant/ Moderate
	Low	Imperceptible	Slight/ Not Significant	Slight	Slight/ Moderate
	Negligible	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.

1.9.5.2 Cumulative Effects

The assessment has considered 'cumulative effects'; these are effects that result from increasing changes caused by past, present or those which are reasonably foreseeable together with the Development. Consideration has been given to the combined cumulative effects of all developments that may, on an individual basis, be insignificant, but which cumulatively may give rise to a significant effect.

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 Draft Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, August 2017).

The 2014 EIA Directive Circular (PL 05/2018)⁸ 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 scoping exercise was carried out in November 2020. **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**.

⁸ 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	EIAR Chapter/Section where comments have been addressed
Cork County Council	<p>A pre-planning meeting was held via Microsoft Teams on 14/01/2021. A presentation was given outlining the project purpose, impact assessments carried out and the application process under SID guidelines. The main points of interest during the consultation included:</p> <ul style="list-style-type: none"> • CDP objective HE2-3 Biodiversity outside protected areas and the Heritage Chapter as a whole 	<p>All items raised were considered during the design and assessment processes.</p> <ul style="list-style-type: none"> • While the initial Study Area was the actual site of the proposed wind farm at Gortyrhilly, this was subsequently extended to a distance of approximately 2km from the wind farm 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>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"> -International and European -National (Ireland) -County (County Cork) -Local (lower value / higher value) -Site (wind farm immediate study area) <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 Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland ("CIEEM guidelines") (CIEEM,</p>	<p>Ecology addressed in Chapters 5 and 6</p> <p>Ornithology addressed in Chapter 7</p> <p>Hydrology addressed in Chapter 9</p> <p>Soils and Geology addressed in Chapter 8</p> <p>Grid Connection Options addressed in Chapters 3</p> <p>Landscape and Visual Amenity addressed in Chapter 12</p> <p>Selected Grid Connection 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"> Rationale for view point locations, suggested some additional viewing points from the new N22 would be of value 	<p>2019) (Biodiversity is addressed in Chapter 5: Terrestrial Ecology, Chapter 6: Aquatic Ecology and Chapter 7: Ornithology).</p> <ul style="list-style-type: none"> 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 (Chapter 12: Landscape and Visual Amenity). A variety of receptor locations was selected that are likely to provide views of the proposed wind farm from different distances, different angles and different contexts. <p>The visual impact of a proposed development is assessed using up to 6 categories of receptor type as listed below:</p> <ul style="list-style-type: none"> -Key Views (from features of national or international importance); -Designated Scenic Routes and Views; -Local Community views; -Centres of Population; -Major Routes; and -Amenity and heritage features <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 VP11, VP22, and VP23.</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> A requirement to identify the Met Mast and clarify height 	<p>Taking into consideration consultation with Cork County Council regarding the N22 Ballyvourney Bypass, which is currently under construction, potential views from the new road alignment should also be considered. VP 30 was selected for this purpose.</p> <ul style="list-style-type: none"> A permanent meteorological mast (35-year- life cycle) has been identified as having a height of 110m with a 4m lightning pole on top (Chapter 1: Introduction). <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 Chapter 2: Project Design and Chapter 3: Alternatives Considered.</p> <p>A permanent planning permission is now being sought for the grid connection and substation as these will become an asset of the national grid under the management of EirGrid and will remain in place upon decommissioning of the wind farm (Chapter 1: Introduction).</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> • Ecology unit identified some turbines they had concerns with. • Grid connection should be included in the same application for turbines • Welcomed the stated approach to avoidance of bog 	<p>Blanket Bog and other Annex I habitats have been avoided where possible. The habitat enhancement plan has been prepared and will be implemented to offset the impacts where these habitats have been lost (Appendix 6.1 Habitat Enhancement Plan).</p> <p>There are 106 houses within 2km of the proposed turbines. This excludes a cluster of two residential buildings located 225m from T12. This can be seen in Figure 2.1. In the event that planning consent is achieved, these buildings will be in control of the applicant and will not be inhabited for the operational period. A letter from the landowner stating this will included in the application. These buildings are uninhabited and the landowner is in agreement with the above terms, therefore, this dwelling has been removed from the EIAR assessment. The closest house to a turbine that is to be assessed as part of this EIAR, is H1. This is located 753m from T5. All houses located within 2km of the proposed turbines are shown on Figure 1.3.</p> <p>There are no inhabited dwellings contained within the specified setback distance of 750m from the Draft Revised Wind Energy Development Guidelines (2019) for the tip height of the proposed turbines.</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> Welcomed distances achieved from residential units, in line with draft national guidelines. 	<p>Existing ground conditions have been taken into consideration. A Site Investigation Report and Peat Stability Risk Assessment are included as Appendix 8.1.</p> <p>The estimated potential total volume of excavated material has been calculated in Appendix 2.1 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>Permanent planning permission is being sought for the Grid Connection Route.</p> <p>It is proposed to construct one 110kV 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 33kV.</p> <p>The width of a 110kV cable trench with a trefoil formation will be 600mm. The depth of the trench for 110kV cables is 1m.</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>Following the pre-planning meeting a Scoping Opinion was received 22/01/201. The main points were as follows:</p> <ul style="list-style-type: none"> 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. 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 line voltage, whether it will be underground (preferred) or over ground (including details of pole type) and any ancillary equipment (e.g. substations). 	<p>The overall length of the Grid Connection Route between the substation and the existing Ballyvouskill 220kV GIS substation is 27.8km, of which, 0.5m is within the site of the Development, and 7.0km is located along the public road corridor. 19.9km is located along the route of an existing forestry road. The remaining 0.4km is located off road in third party lands.</p> <p>This will be through the townlands of Lumnabeg, Lumnagh More, Carrignaspirroge, Inchamore, Knockbwee, Cummeenavrick, Glashacormick, Clydaghroe, Cummeennabuddoge and Caherdowney.</p> <p>The Grid Connection Route and a summary of the activities are outlined in Chapter 2: Project Description. Assessment of all elements of the application for the construction of Gortyrachilly Wind Farm including the Grid Connection Route are assessed in Chapters 4-17.</p> <ul style="list-style-type: none"> 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 Chapter 2: Project Design. 	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
		<p>The ecological study area encompasses the actual site for the proposed wind farm at Gortyrhilly, extended radius for checking potential bat roosts, underground grid connection route, and the turbine delivery route. A Zone of Influence (minimum 15km radius) was also considered as part of the review of designated sites.</p> <p>Annex I habitats have been avoided where possible. The habitat enhancement plan has been prepared and will be implemented to offset the impacts where these habitats have been lost (Appendix 6.1 Habitat Enhancement Plan).</p> <p>Mitigation measures for the construction, operational, and decommissioning phases are embedded in Chapter 5: Terrestrial Ecology, Chapter 6: Aquatic Ecology and Chapter 7: Ornithology.</p> <ul style="list-style-type: none"> 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 Chapter 8: Soils and Geology. <p>The Site avoids intact upland habitats. While the proposed wind farm at Gortyrhilly is predominantly situated in</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 on 03/02/2021. The main points included:</p> <ul style="list-style-type: none"> ○ Potential for impact on sites designated or proposed to be designated for protection of biodiversity; ○ Potential for impact on habitats of high natural value; and ○ Potential for impact on protected species. 	<p>upland peatland habitats which have been degraded through forestry, drainage and turf cutting, losses will be mitigated through Appendix 6.1 Habitat Enhancement Plan. (Chapter 6: Biodiversity).</p> <ul style="list-style-type: none"> • The Surface Water Management Plan (Appendix 2.1) 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>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 Chapter 6: Aquatic Ecology and Chapter 9: Hydrology and Hydrogeology.</p> <ul style="list-style-type: none"> • All aquatic, terrestrial, and ornithological surveys were undertaken by qualified and experienced professionals following best practice methods. Details of surveyor 	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> It is generally recommended to avoid intact upland habitats, in particular peatland habitats when identifying appropriate sites for development of wind farms. 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 contaminants to surface waters and ensures 	<p>qualifications and experience and accompanying best practice methods followed are described in Chapter 5: Terrestrial Ecology, 6: Aquatic Ecology, and 7: Ornithology.</p> <ul style="list-style-type: none"> Industry best practice/guidance will be used to avoid the potential impacts on bats. <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 (Chapter 6: Biodiversity). 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>Given the upland nature of the proposed works at Gortyrhilly, 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 wind farm development.</p> <ul style="list-style-type: none"> Detailed decommissioning works are provided in the Decommissioning Plan (Appendix 2.1). Site restoration will not be undertaken during the decommissioning 	

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	<p>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> <ul style="list-style-type: none"> • 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 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. • 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 with respect to habitats on site including any habitat loss associated with the development. 	<p>phase. Following expert ecological guidance, natural succession will be allowed to prevail post the decommissioning period. The Habitat Enhancement Plan will allow for the restoration of Annex I habitats that have been degraded by afforestation. It is anticipated that various species of flora and fauna will utilise the area as the habitats develop and/or improve in quality. The objectives for this plan are achievable as similar work has been carried out successfully at other sites throughout Ireland.</p> <ul style="list-style-type: none"> • We note your comments in relation to the proposed permanent junctions off the N22. The likely timing of the Wind Farm construction date is such that the bypass will be fully complete and the possible temporary junction at Carrigaphoooca will be reinstated. Therefore, we propose that the construction traffic will utilise the Macroom Bypass and take the Toolane exit and then travel eastwards along the existing N22 to Lisacressig and will then use the L-3402 to get to the wind farm site. 	

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	<ul style="list-style-type: none"> Decommissioning and reinstatement should be considered in detail and shall include opportunities for biodiversity enhancement where possible. 	<ul style="list-style-type: none"> The landowner consents have been procured. The remaining consents will be procured if planning permission is granted for the development. Noted. Widening and strengthening of the L-3405-0 and L-7405-0 local roads is proposed and has been assessed in the planning application. All bridge crossings have been surveyed with the result of insufficient clearance existing within each structure. Horizontal Directional Drilling (HDD) will be utilized in order to achieve satisfactory clearance along the cable route. There are (5 no.) bridges along the underground cable connection (UCG) route which will require HDD due to there being insufficient cover and depth in the bridge to cross within the bridge deck. Further details of this are provided in Appendix 2.4. The UGC route will include up to nine Service crossings, 170 No. Culvert Crossings and four Watercourse/bridge Crossings. Crossing existing culverts will be implemented using open trenching with either an undercrossing or an overcrossing, depending on the depth of the culvert. 	

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	<ul style="list-style-type: none"> • 'blanket bog' in proximity to the developable area associated with turbine 8. <p>Comments on the delivery route are as follows:</p> <ul style="list-style-type: none"> • My previous comment re the junction off the N22. 	<p>The Local Authority will be notified as culverts are exposed. A record, including locations and photographs, will be kept and provided to the Local Authority upon completion of the Grid Connection works along public roads.</p> <ul style="list-style-type: none"> • No road upgrade works are proposed to facilitate the delivery of construction materials. However, trenches, joint bays and link boxes will be installed in Local Roads L-7405, L-7404, L-3400-32, L-7400 and L7401-1. Some 6,060m of trenching, 0.6m wide, will be laid within these roads (c.570m will also be installed within former N22). These local roads will be reinstated (temporary and permanent) in accordance with "Guidelines for Managing Openings in Public Roads", Department of Transport, Tourism and Sport, Second Edition (Rev. 1), April 2017. This will involve full width resurfacing as part of the permanent reinstatement to be carried out once commissioning of the wind farm substation is complete. • Planning Documentation (Environmental Impact Statement, August 2013) in relation to Grousement Wind Farm was reviewed. <p>The proposed grid route will cross the existing grid route serving Grousemount Wind Farm along the L3400-32. This road section is between the L-7405 and L-7400</p>	

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	<ul style="list-style-type: none"> The consents for the re-installation of the temporary bridge could be difficult Widening and strengthening of the local road network from the main Coolea/Ballyvourney road south will be required. <p>Regarding the grid connection:</p> <ul style="list-style-type: none"> All bridges will require HDD - no cable is to be attached to any bridge. <ul style="list-style-type: none"> Any existing culverts exposed along the route must be replaced across the full width of the road with a suitably sized pipe. Also such points must be notified to the local Council office as they are exposed. A location and 	<p>and measures length of 670m before diverging from the route.</p> <p>This is shown in EIAR Figure 15.7 and is discussed in Chapter 15: Traffic and Transportation.</p> <ul style="list-style-type: none"> Noted. All joint bays are proposed off the public road line. <p>Specific details of each temporary traffic measure shall be developed by the Contractor (s) for each site access in consultation with the Roads Authority, An Garda Síochána and other Emergency services, before being submitted to the Roads Authority for formal approval prior to any works taking place (Traffic Management Plan).</p> <p>Road Closures will be obtained for grid connection works on narrow public roads i.e. L-7405 and L-7400. Where possible, a single lane closure will be implemented, to minimise impacts on local traffic. On narrower roads (such as the L-7405, L-7404 and L-7401-1 sections of the grid connection) a full road closure is proposed. A number of options are available in some areas for diverting traffic that will allow flexibility during construction. While traffic diversions are in place, local access will be maintained at all times. All access points</p>	

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	<p>photographic record of these crossings is to be maintained and handed over to the local Council office once the grid route on the public road is complete.</p> <ul style="list-style-type: none"> • A full width regrading and resurfacing will be required on all sections of public road affected. <ul style="list-style-type: none"> • Specific details required where the proposed grid route crosses the existing grid route serving Grousemount Wind Farm. • Joint Bays are to be off the road line. • Any diversion routes are to be suitably prepared to ensure that they are fit for the level of traffic expected. These routes must be maintained (hedge cutting/potholing/etc) for the duration of any diversion. • The contractor will have to maintain the temporary reinstatement in a good condition until a permanent reinstatement is completed. 	<p>(domestic, business, farm) will be considered when finalising the proposed road closures and diversions. Additional measures such as local road widening, traffic shuttle systems and 'Stop-Go' systems will also be considered subject to agreement with Cork County Council (Chapter 15: Traffic and Transport).</p> <p>Further details of road closures and road cleaning are detailed in the Traffic Management Plan.</p> <ul style="list-style-type: none"> • Local roads will be reinstated (temporary and permanent) in accordance with 'Guidelines for Managing Openings in PUBLIC Roads', Department of Transport, Tourism and Sport, Second Edition (Rev. 1), April 2017. This will involve full-width resurfacing as part of the permanent reinstatement to be carried out once commissioning of the wind farm substation is complete. 	

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Kerry County Council	<p>Response received 26/08/2021. The observations/comments by the area planner to the Grid Connection and Turbine Delivery Route for the Development are as follows:</p> <p>Environmental Impact Assessment. Appropriate Assessment. Archaeology assessments are all required. Transport Infrastructure Ireland/N22 implications to be assessed. Area is zoned Secondary Special Amenity in the County Development Plan.</p> <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>	na	na
Minister for Housing, Planning and Local Government	Acknowledgement of Scoping Receipt (16/11/2021) No response received.	Na	na
Aviation			
Cork Airport	No response received	na	na
IAA	<p>Scoping response received 17th December 2020. The main points were as follows:</p> <ul style="list-style-type: none"> • Contact Kerry Airport and request to assess whether a preliminary screening assessment is required • 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"> ○ Agree an aeronautical obstacle warning light scheme for the wind farm development ○ Provide as-constructed coordinates in WGS84 format together with round and tip height elevations 	All items considered during the design process. No implications for the EIA/Design	Aviation discussed in Chapter 13

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	at each wind turbine location		
Kerry Airport	Scoping response received 12/01/2021 and having reviewed the scoping document Kerry Airport are of the opinion the development will not affect the operations of the airport.	No implications for the EIA/Design	na
Ecology			
An Taisce	No response received		
Development Applications Unit,	<p>Scoping response was received 19/04/2021 and the main points are as follows:</p> <ul style="list-style-type: none"> • A NIS is recommended because of in-combination effects of wind farm drainage with other wind farms, forestry and land drainage, on potential downstream erosion and peat siltation of the Gearagh cSAC. • Increased erosion is now a characteristic of many spate rivers in high rainfall areas in the western counties of Ireland. However, both mitigation measures to attenuate surface runoff speed from wind farm road drains, and a clear and precise assessment of their likely success, is required. • The EIAR should assess the locations of turbines with respect to valley and slope topography which increase the risk of collision with eagles gaining height on updrafts, based especially on published Norwegian data. • The proposed wind farm is mostly 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. • 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, 	<p>All items considered during the design process. No further implications for the EIA/Design</p> <p>Aquatic Ecology addressed in Chapter 6</p> <p>Ornithology addressed in Chapter 7</p> <p>Hydrology addressed in Chapter 8</p> <p>Soils and Geology addressed in Chapter 9</p> <p>Drainage Design is addressed in the CEMP</p>	

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>drains, etc.</p> <ul style="list-style-type: none"> The impact of CO₂ emissions from extensive peat excavation, if this is to be carried out, needs to be fully accounted. 		
Bat Conservation Ireland	No response received	Na	na
Birdwatch Ireland	Acknowledgement of Scoping Receipt (13/11/2021) No response received.	Na	na
Irish Wildlife Trust	Response received (16/02/2021) stating they did not have the capacity to respond right now. Follow up communication was made between the Applicant and Irish Wildlife Trust but no response was provided.	Na	na
Soils and Water			
Geological Survey of Ireland	<p>Scoping response received 20/11/2020 and include the following comments:</p> <ul style="list-style-type: none"> Geoheritage: Records show there is an unaudited County Geological Site (CGS) in the vicinity of the proposed development. 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. 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. Geohazards: Landslide susceptibility in the area of the 	All items considered during the design process. No implications for the EIA/Design	<p>Hydrology addressed in Chapter 8</p> <p>Soils and Geology addressed in Chapter 9</p> <p>Cultural Heritage addressed in Chapter 14</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>proposed wind farm is variable and is classed from Moderately Low / Moderately High to High.</p> <ul style="list-style-type: none"> 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. 		
Inland Fisheries Ireland	<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"> There should be no drainage or other physical interference with the bed or bank of any watercourse without prior consultation with IFI. Suspended solids and or hydrocarbon contaminated site run-off waters must be controlled adequately so that no pollution of surface waters can occur. The following issues should be addressed <ul style="list-style-type: none"> Identifying and zoning the project for environmental impact should a peat slip occur Setting out contingency plan should a peat movement occur. 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. In the event of any watercourse crossings being bridged or culverted the following general criteria should apply, <ul style="list-style-type: none"> The free passage of fish must not be obstructed. 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 Bridges are preferable to culverts. All instream works should be carried out only in the May-September period. 	<p>All items considered during the design process.</p> <p>All water crossings will be clear span bridges and will avoid permanent disruption to the stream beds and banks, protecting fishery habitats.</p> <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 25mg/l.</p>	<p>Ecology addressed in Chapter 6</p> <p>Hydrology and Hydrogeology addressed in Chapter 9</p> <p>Soils and Geology addressed in Chapter 8</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.	Na	Na
Telecommunications			
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	na
Eir Limited	Scoping response received 22/11/2020 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.	Telecommunications discussed in Chapter 13
RTÉ	Scoping response received 17/11/2020 highlighting that there was a risk of interference to DTT viewers in the Ballingearry area. 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.	Telecommunications discussed in Chapter 13
Tetra Ireland	Scoping response received 09/12/2020 stating no impact from the development was anticipated.	No implications for the EIA/Design	Na
Three Ireland (Hutchison) Limited	No response received	Na	na
Virgin Media Television	Scoping response received 13/11/2020 and stated Virgin Media does not have any record of underground services at this location.	No implications for the EIA/Design	na
Vodafone	Scoping response received 15/02/2021 highlighting links	Telecommunications specialist (AI Bridges) was	Telecommunications

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	that will be effected by the proposed development.	employed to inform the turbine layout to minimise impact to existing links.	discussed in Chapter 13
Other			
Commission for Communications Regulation	No response received	Na	na
Department of Agriculture	No response received	Na	na
Department of Defence	<p>Scoping response received 08/12/2020 and included the following points:</p> <ul style="list-style-type: none"> • In all locations where wind farms are permitted it should be a condition that they meet the following lighting requirements: <ul style="list-style-type: none"> ○ Single turbines or structures, or turbine delineating corners of a wind farm should be illuminated by high intensity obstacle lights. ○ 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. ○ 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. 	All items considered during the design process. No implications for the EIA/Design	Aviation discussed in Chapter 13
Department of Transport, Tourism and Sport	<p>Scoping response received 26/11/2020 and includes the following points:</p> <ul style="list-style-type: none"> • 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. • 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 	All items considered during the design process. No implications for the EIA/Design	Traffic and Transport discussed in Chapter 15

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	including drainage, diversions, relocation of services and road re-instatement.		
Environmental Protection Agency	Acknowledgement of Scoping Receipt (13/11/2021)	Na	na
Fáilte Ireland	<p>Scoping response received 23/11/2020 and includes the following points:</p> <ul style="list-style-type: none"> • 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. • 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. • Baseline assessments should identify any tourism sensitivities in the zone of influence of a development. This zone of influence of a development is highly dependant on its Context, Character, Significance, and Sensitivity, as outlined in the Draft Guidelines. These characteristics apply to both the development and the environment. • 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 quality, significance, extent, probability, type and duration of the effect, with particular descriptors for each. 	All items considered during the design process.	Addressed in Chapters 2-16 – Tourism is addressed specifically in Chapter 4

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	<p>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.</p> <ul style="list-style-type: none"> • 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. • 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. • Negative impacts to Soils and Geology, Air and Climate, Water should be avoided • 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. • 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. • Cultural heritage should be strongly considered in non-tourism developments and the impact upon tourism considered as a potential impact. • Waste and Waste disposal issues can also impact the perception of an unspoiled environment, effecting tourism, which should be considered. • Tourism could be considered a material asset as its impact upon the economy and the infrastructure in place 		

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	<p>to support it is a material consideration in assessing economic impact.</p> <ul style="list-style-type: none"> 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. <p>Major Accident and Natural Disaster 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> <p>Interaction of Effects 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> <p>Mitigation Mitigation should follow the hierarchy of minimisation in descending order of preference- Avoid, Reduce, Remedy. Mitigation measures must be measurable and achievable within the bounds of the project.</p> <p>Cumulative Impact The cumulative impact is that of the project combined with any known likely project which will interact or compound an environmental impact.</p>		

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	<p>Transboundary Impact 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>		
Health Service Executive	<p>A response was received on 10/12/2020 and contains the following points:</p> <ul style="list-style-type: none"> • The Environmental Impact Assessment should examine all likely significant impacts and provide the following information for each: <ul style="list-style-type: none"> a) Description of the receiving environment; b) The nature and scale of the impact; c) An assessment of the significance of the impact; d) Proposed mitigation measures; e) Residual impacts. • Population and Human Health should be adequately assessed. • 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. <p>Public Consultation</p> <ul style="list-style-type: none"> • 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 	All items considered during the design process.	Addressed in chapters 2-16

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	<p>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.</p> <ul style="list-style-type: none"> • 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. • 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 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 • 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. • 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. <p>Decommissioning Phase</p> <ul style="list-style-type: none"> • 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 		

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	<p>wind farm site at the end of the planning permission period.</p> <p>Siting, Location and details of Turbines</p> <ul style="list-style-type: none"> • The EIAR should include a map and a description of the proposed location of each of the proposed wind turbines. • 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. • Details of turbine foundation structures, including depth, quantity and material to be used should be included in the EIAR. <p>Opportunity for Health Gain</p> <ul style="list-style-type: none"> • 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. <p>Assessment of Consideration of Alternatives</p> <ul style="list-style-type: none"> • 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. <p>Noise & Vibration</p> <ul style="list-style-type: none"> • 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. • A baseline noise monitoring survey should be undertaken to establish the existing background noise 		

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	<p>levels. Noise from any existing turbines in the area should not be included as part of the back ground levels.</p> <ul style="list-style-type: none"> 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. 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. <p>Shadow Flicker</p> <ul style="list-style-type: none"> 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 occupied properties and any existing or proposed properties for which planning consent has been granted for construction or refurbishment. 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. <p>Air Quality</p> <ul style="list-style-type: none"> 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"> Sweeping of hard road surfaces Provision of a water bowser on site, regular spraying 		

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>of haul roads</p> <ul style="list-style-type: none"> - Wheel washing facilities at site exit - Restrict speed on site - Provide covers to all delivery trucks to minimise dust generation - Inspect and clean public roads in the vicinity if necessary - Material stockpiling provided with adequate protection from the wind - Dust monitoring at the site boundary - Truck inspection and maintenance plan - 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. <p>Surface and Ground Water Quality</p> <ul style="list-style-type: none"> • 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. • 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>Geological impacts</p>		

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<ul style="list-style-type: none"> • 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. • Reference is made to a peat slide which occurred near Ballybofey in Co. Donegal on November 13th 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. • 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). <p>Ancillary Facilities</p> <ul style="list-style-type: none"> • 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. <p>Cumulative Impacts</p> <ul style="list-style-type: none"> • 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 		

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>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.</p> <ul style="list-style-type: none"> The EIAR should state clearly if there is any future proposal to further extend the proposed Gortyrähilly Wind Farm. 		
Irish Water	<p>Scoping response received 15/09/2021 and included the following points:</p> <ul style="list-style-type: none"> Where the development proposal has the potential to impact an Irish Water (IW) Drinking Water Source the applicant shall provide details of measures to be taken to ensure that there will be no negative impacts to IWs Drinking Water Source during construction and operational phases of the development. It is a requirement of the Water Framework Directive that waters used for the abstraction of drinking water are protected so as to avoid deterioration in quality. The waste sampling strategy for the proposed development shall ensure the material is inert. Mitigation is proposed for any potential negative impacts on any water source(s), in proximity including the environmental management plan and incident response. Any and all potential impacts on the nearby reservoir as public water supply water source is assessed, including any impact on hydrogeology and any groundwater/surface water interactions. 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 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) to IW to determine the 	<p>All items considered during the design process. No implications for the EIA/Design</p>	<p>Hydrology addressed in Chapter 9</p> <p>Soils and Geology addressed in Chapter 8</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>feasibility of connection to the Irish Water network. All pre-connection enquiry forms are available from https://www.water.ie/connections/get-connected/</p> <p>Please note that the COF from IW, to the applicant, should be issued prior to applying for planning permission. Irish Water will not accept new surface water discharges to combined sewer networks.</p> <ul style="list-style-type: none"> • Any up-grading of water services infrastructure that would be required to accommodate the development. • 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. • In relation to the management of surface water; the potential impact of surface water discharges to combined sewer networks & potential measures to minimise/stop surface waters from combined sewers. • Any physical impact on IW assets – reservoir, drinking water source, treatment works, pipes, pumping stations, discharges outfalls etc. Including any relocation of assets. • 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 datarequests@water.ie. 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. • Any potential impacts on the assimilative capacity of receiving waters in relation to IW discharge outfalls 		

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>including changes in dispersion/circulation characterises.</p> <ul style="list-style-type: none"> 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. Where a development proposes to connect to an IW network and that network either abstracts water from or discharges wastewater to a "protected"/sensitive area, consideration as to whether the integrity of the site/conservation objectives of the site would be compromised. Mitigation measures in relation to any of the above ensuring zero risk to any IW drinking water sources (Surface and Ground water). <p>This is not an exhaustive list.</p>		
Minister for Environment, Climate and Communications	<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>Geoheritage The road section containing the trace fossils (Gortnabinna, Co. Cork (GR 116250,71200)) should not be damaged or integrity impacted or reduced in any manner due to the proposed development. Where this is not possible, mitigation measures should be put in place to minimise or mitigate potential impacts. Where the integrity cannot be preserved, careful consideration should be given in the design to accommodate the preservation of the road section faces and access to the site during construction to record the exposures to strengthen our knowledge and datasets. We would ask that the design of any future development considers the use of information panels as appropriate to highlight the significance of the impacted County Geological</p>	All items considered during the design process.	<p>Hydrology addressed in Chapter 9</p> <p>Soils and Geology addressed in Chapter 8</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>Sites (CGS).</p> <p>Groundwater 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>Geological Mapping We encourage the use of the Geological Survey Ireland datasets in assessments.</p> <p>Geohazards 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>Natural Resources (Minerals/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.</p>		

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>Other Comments 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>		
Transport Infrastructure Ireland	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 response to planning applications referred to it, given its status and duties as a statutory consultee under the Planning Acts.	No implications for the EIA/Design	Na
OPW	<p>Scoping response received 22/09/2021 and included the following points:</p> <ul style="list-style-type: none"> • If any new culverts or bridges (or modifications to any existing culverts or bridges) are required to cross watercourses as part of the development or on proposed or existing access roads to serve or access the development, you should be aware that these require consent from the Commissioners of Public Works. This is a requirement of Section 50 of the Arterial Drainage Act of 1945 as amended. • With regard to the proposed Grid Connection Route, it is possible that this route will cross several watercourses. If the cable and ducting are to be buried in the road, as they cross bridges over the watercourses, and there is no interference with the opening in the bridge spanning the watercourse, then there is no issue. On the other hand, if it is proposed to pass the cable in its ducting through the opening of any bridge or culvert, this would be considered to be a modification of a bridge and it 	All items considered during the design process. No implications for the EIA/Design	<p>Selected Grid Connection assessed in Chapters 5-15</p> <p>Hydrology addressed in Chapter 9 Flood Risk Assessment in Appendix 9.13</p>

Consultee Organisation	Response Received	Implications for the EIA/Design	EIAR Chapter/Section where comments have been addressed
	<p>would require the consent of the Commissioners under Section 50 as mentioned above. Similarly, if it is proposed to carry the cable in its ducting across watercourses on new support structures spanning the watercourses, these should be treated as if they are bridges, and the consent of the commissioners under Section 50 should be obtained. If the cable and ducting is to be buried under the natural bed of the watercourses being crossed, Section 50 would not apply, and we would recommend that the duct be buried a sufficient distance below the natural bed to allow for erosion and mobility of the streambed.</p> <p>We would recommend that a flood risk assessment be carried out with regard to the proposed development and its construction. This should consider all sources, pathways and receptors of flood risk. This should be carried out in accordance with the principles set out in the guideline document "The Planning System and Flood Risk Management" as published by the Minister for the Environment, Heritage and Local Government and the Office of Public Works. Please be aware that this is a separate issue from the requirement to obtain Section 50 consent as mentioned above.</p>		
The Heritage Council	No response received	na	Na
The Arts Council	No response received	na	Na
Údarás na Gaeltachta	Acknowledgement of Scoping Receipt (13/11/2021) No response received	na	Na

1.11 STRATEGIC INFRASTRUCTURE DEVELOPMENT (SID) PRE-APPLICATION CONSULTATION PROCESS

A pre-planning meeting was held with An Bord Pleanála as part of the SID pre-application process to determine if the Development was a SID.

On the 16th of August 2022, JOD was notified by the Board that this Development constitutes a SID in accordance with the 7th Schedule of the Planning and Development Act 2000 (as amended). The planning application for the Development will therefore be made to An Bord Pleanála under Section 37E of the Planning and Development Act 2000 (as amended).

1.12 AVAILABILITY OF INFORMATION

The EIAR may be viewed online on the dedicated project SID website (www.gortyrahillyplanning.ie).

A paper copy of the EIAR can be viewed/purchased, during office opening hours at the following addresses:

1. An Bord Pleanála, 64 Marlborough Street, St. Rotunda, Dublin 1, D01 V902.
2. The Offices of Cork County Council, Ground Floor, County Hall, Carrigrohane Road, Cork, T12 R2NC.
3. The Offices of Kerry County Council, County Buildings, Ratass, Tralee, Co. Kerry, V92 H7VT.
4. Jennings O'Donovan & Partners Limited, Consulting Engineers, Finisklin Business Park, Co. Sligo, F91 RHH9.

Paper copies can be provided at the cost of printing, by writing to:
Jennings O'Donovan & Partners Limited at the above address.

Electronic copies are available via email (info@jodireland.com).

1.13 GLOSSARY OF COMMON ACRONYMS

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