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**BALLINCOR WIND FARM  
ENVIRONMENTAL IMPACT ASSESSMENT (EIA)  
SCOPING REPORT**



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## 1.0 INTRODUCTION

### 1.1 BACKGROUND

RWE Renewables Ireland Limited (hereafter referred to as 'RWE') intends to develop the Ballincor Wind Farm near Shinrone in County Offaly and has commenced preparing an Environmental Impact Assessment (EIA) Report in support of a future planning application for same. It is currently proposed that the wind farm will comprise up to 11 no wind turbines. The site location is shown in Figure 1.1 and Figure 1.2 of Section 1.8 in this report.

### 1.2 NEED FOR ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

The Environmental Impact Assessment Directive (Directive 2011/92/EU) (hereafter "EIA Directive") prescribes which activities need to be subjected to an environmental impact assessment. An environmental impact assessment is an assessment of the potential environmental effects of certain projects and activities. The objective of the EIA Directive is to "ensure that, before development consent is given, projects likely to have significant effects on the environment by virtue, inter alia, of their nature, size or location are made subject to a requirement for development consent and an assessment with regard to their effects on the environment".

The obligation to execute an environmental impact assessment exists for those projects which will likely have a significant effect on the environment. The EIA Directive makes a distinction between projects which are assumed to have a definite significant effect, and those which likely, but not necessarily, have a significant effect. Projects falling under the first category are listed under Annex I to the EIA Directive and always need to be subjected to an assessment. For certain activities under Annex I a quantitative threshold is provided. For projects falling under the second category, under Annex II, Member States have the discretion to determine whether a project shall be made subject to an assessment.

In Ireland, the EIA Directive is transposed into Irish planning legislation in the Planning and Development Acts and Regulations 2000-2023. EIA Directive Annexes I and II are broadly transposed into planning legislation by way of Schedule 5 Parts 1 and 2 of the Planning and Development Regulations, 2001, as amended.

The relevant EIA threshold for wind farms is contained in Schedule 5, Part 2, Class 3(i) which states:

*"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 proposed wind farm at Ballincor will exceed the above thresholds and therefore it is necessary that the planning application for this project is supported by an Environmental Impact Assessment Report (EIAR).

### 1.3 PURPOSE OF EIA SCOPING

The purpose of the scoping for EIA is to provide a framework for the approach to be taken for the individual specialist's evaluations, to identify environmental topics for which potential significant environmental impacts may arise, to provide a framework for the consultation process to take place with planning and environmental stakeholders as part of the



environmental assessment work. The scoping report also sets out a structure for the preparation of the EIA Report to be prepared and the information required to be included therein.

The European Commission's, "*Environmental Impact Assessment of Projects - Guidance on Scoping*" (2017) notes the benefits of scoping:

- **Identifies key issues to be addressed:** Scoping helps to ensure that the environmental information used for decision-making provides a comprehensive picture of the Project's important effects, including issues of particular concern to the groups and individuals affected.
- **Saves time and money:** Scoping helps focus resources on the important issues for decision-making and avoids wasted effort on issues of little relevance. In addition, it reduces the risk of delays caused by requests for further information after the submission of the Development Consent application and the provision of environmental information.
- **Stimulates early consultation:** A consultation session about the Project and its environmental impacts is carried out during Scoping, between the Developer and the Competent Authority, as well as with environmental authorities and local and regional authorities, other interested parties, and the public.
- **Sets appropriate time and space boundaries:** Scoping aids in effective planning, management, and with resourcing of the EIA Report. It can identify other legislation or regulatory controls that may be relevant to the Project and can provide opportunities for the necessary assessment work, for different control systems, to be undertaken in parallel, thereby avoiding the duplication of effort and costs for all concerned.
- **Helps to identify preliminary Alternatives and Mitigation Measures:** Scoping should identify preliminary Alternatives to the proposed Project as well as preliminary mitigating measures that ought to be considered by the Developer.

## 1.4 RWE

RWE Renewables ranks among the largest global players in power generation from renewable energy with a total installed generation capacity of 9 Gigawatts (GW) and an additional 2.6 gigawatts under construction. RWE's technology portfolio covers onshore and offshore wind, utility-scale photovoltaic (PV) solar power and energy storage. RWE's 3,600 renewables experts develop, build and operate large renewable energy assets in 15 countries in Europe, the Americas and Asia-Pacific. RWE's goal is to rapidly expand the use of renewable energy with technologies that address the growing concern about energy security, energy affordability, and climate change.

## 1.5 EIA TEAM

RWE has engaged TOBIN to coordinate the Environmental Impact Assessment (EIA) and prepare the EIAR for the proposed development. The relevant specialists included in the Study Team, who are both experienced and competent in their areas of expertise, are noted here:

- TOBIN staff will provide expertise in relation to Project Direction, Project Management, EIAR Production and expertise in relation to the environmental evaluation of the following topics: Planning, Reasonable Alternatives, Biodiversity, Land, Soils & Geology including Slope Stability Assessment, Hydrology & Hydrogeology, Flood Risk



Assessment, Traffic, Population and Human Health, Shadow Flicker, and Air Quality & Climate Impact Assessment;

- Ecology Ireland Wildlife Consultants Ltd. – Ornithology and Ecology support;
- Macro Works – Landscape & Visual Impact Consultants & Production of Photomontages;
- AWN Consultants – Noise & Vibration;
- TLI Group – Substation and Grid Connection Design;
- IAC Archaeology – Cultural Heritage; and
- Ai Bridges – Telecommunications, Electromagnetic Interference & Aviation Assessment.

## 1.6 SCOPING REPORT STRUCTURE

Individual specialists will undertake their evaluations of the environment including evaluation under following topics:

- Reasonable Alternatives
- Policy, Planning and Development Context
- Population and Human Health
- Biodiversity
- Ornithology
- Land, Soils and Geology
- Hydrology and Hydrogeology
- Air Quality and Climate Assessment
- Shadow Flicker
- Material Assets: Aviation, Telecommunications and EMF
- Noise and Vibration
- Landscape and Visual Impact Assessment
- Cultural Heritage
- Traffic and Transport
- Interaction of the Foregoing

## 1.7 PROJECT DESCRIPTION

The Ballincor Wind Farm will consist of the following project components (these details are provisional and subject to review as part of the design and EIA processes):

- Up to 11 wind turbines (including tower sections, nacelle, hub, rotor blades) with an estimated capacity of up to 77 MW and a maximum blade tip height of up to 180m, rotor diameter of up to 155m, hub height of between 102.5 and 105m metres. The proposed turbine envelope and tip height will be confirmed as part of the design and EIA processes.
- The development will also include:
  - Associated hardstanding at each turbine location;
  - Turbine foundations;
  - New access roads and upgrading of existing access roads;
  - Site entrances;
  - Surface water drainage system and sediment control;
  - Borrow pits;
  - Works along the public road for a grid connection to Dallow 110 kV substation;
  - 110kV electricity substation and switch rooms;



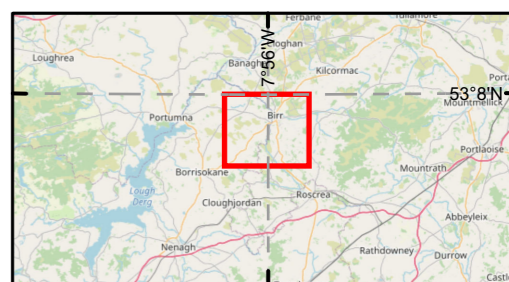
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- Battery energy storage and associated works;
  - Electrical and communication cables, linking the turbines to the proposed grid connection point;
  - Related site works and ancillary works;
  - Works along the public road for a turbine delivery route;
  - Temporary construction compounds; and
  - Permanent meteorological mast.

A site location map and preliminary site layout plan is enclosed with this letter. Further information is provided in the enclosed EIA Scoping Report, and copies of the 1 no. Project Newsletter, which were provided to local residents as part of the ongoing public consultation process.

## 1.8 SITE LOCATION

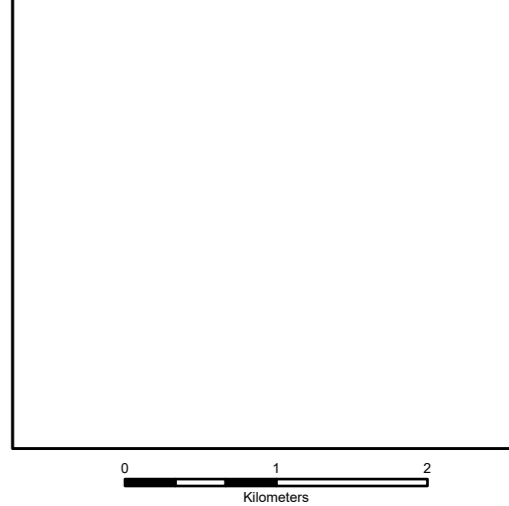
The site of the proposed wind farm is located approximately 7km south of Birr and 4km north of Shinrone in County Offaly, see Figure 1.1 and 1.2 below. The windfarm is located on the border of Tipperary and Offaly County Council.

The site comprises mostly raised bog, cutover bog, wet grassland, mixed broadleaved woodland, oak birch-holy woodland, bog woodland and scrub. There is a relatively high density of one-off residential development in the area surrounding the site. There are no rivers/streams located on site however there are watercourses adjacent to northern and eastern site boundaries. The N62 is located approximately 3km to the east and there is good access to the site via the local road network.



**Legend**

- Site boundary
- Proposed turbine locations
- Proposed grid connection route



- NOTES**
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING\
  2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE\
  3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES\
  4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

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A	28/06/2024	First issue	S.P	S.D

Client:

Project: **Ballincor Wind Farm**

Title: **Figure 1.1 Turbine locations and grid route connection**

Scale @ A3: 1:50,000

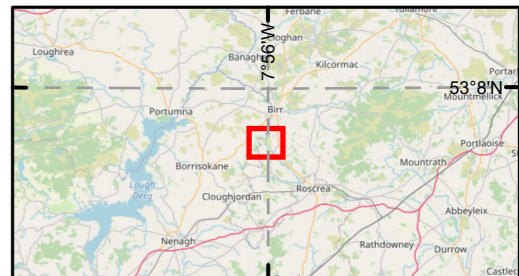
Prepared by: S.Pezzetta      Checked by: J.Dillon      Date: June 2024

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Map Ref: 11333-011-S.BO-TRB-TOB-A      Draft: **A**

World Imagery: Maxar, Microsoft Hybrid Reference Layer: Esri UK, Esri, TomTom, Garmin, Foursquare, GeoTechnologies, Inc, METI/NASA, USGS OpenStreetMap: © OpenStreetMap (and) contributors, CC-BY-SA



- Legend**
- Site boundary
  - Proposed turbine locations



- NOTES**
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING\
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  3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES\
  4. ALL LEVELS RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD

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Client:

Project: **Ballincor Wind Farm**

Title: **Figure 1.2 Turbine locations**

Scale @ A3: 1:20,000

Prepared by: S.Pezzetta      Checked by: J.Dillon      Date: June 2024

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## 1.9 THE PROPOSED DEVELOPMENT

### 1.9.1 INTERNAL ACCESS ROUTE AND TURBINE LOCATIONS

The exact number, siting and scheme layout for the turbines will be decided as part of the design and EIA process.

In addition, the internal access route layout, access route types and construction methodologies will be designed and the location of the proposed entrance to the wind farm site will be confirmed. The initial layout design will be optimised by the design team in consultation with the community and assessment of potential access points through which turbine components and construction related deliveries may be made will commence at that stage.

### 1.9.2 WIND TURBINE SPECIFICATIONS

The exact rating and design of the proposed turbine, subject to completion of the statutory processes, will be subject to a competitive tender and will be detailed by the turbine manufacturer on award of the contract. However, the proposed turbines will be the typical three bladed, horizontal axis type.

Details of the maximum hub height, maximum rotor diameter, maximum tip height and the overall proposed capacity will be decided in the design and EIA process. The initial wind turbine specifications are based on a maximum tip height of 180m. The potential installed capacities for the wind turbines and the wind farm as a whole will be proposed as part of the design process. Based on turbines available at the scale initially considered, the output from the wind farm could be approximately 77 MW.

### 1.9.3 ELECTRICAL/MECHANICAL EQUIPMENT

The main mechanical and electrical components associated with the development include the following:

- Turbine components (tower sections, nacelle, hub, rotor blades);
- 110 kV on-site substation;
- Battery energy storage;
- Electrical cable;
- SCADA cable; and
- Main and assist cranes.

### 1.9.4 GRID CONNECTION

The grid connection is yet to be confirmed but there are different options being considered to Dallow 110 kV substation via a 110kV underground cable system (UGC) based on a maximum export capacity (MEC) of 77MW. Dallow is the recommended grid connection and this substation is located approximately 10km to the north of the wind farm site. Mullan Grid prepared an initial high level review of grid connection options in 2019 and TLI Group have prepared an updated assessment of grid route options in 2023.



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### 1.9.5 DECOMMISSIONING

The proposed turbine will have a design lifetime of approximately 30 years without replacement of major components. In certain circumstances, RWE may wish to replace turbines prior to the end of the design lifetime. Such a decision would be made on the merits of economic and technical factors at the time of assessment and undertaken in consultation with the local authorities.

Turbine design renders the decommissioning process as a straightforward process. In the decommissioning phase, cranes disassemble each turbine section and remove from the site. The upper sections of the foundations projecting above ground will be removed, and the remainder of the foundations will be covered by soils typical of the surrounding environment and then re-seeded or left to re-vegetate according to ecological requirements. Underground cables will be cut back at the turbine termination points and will either be recycled or left buried in situ (de-energised). It is proposed that site routes would remain to allow access through the site either for further alternative development of the site, for ongoing forestry operations and/or for amenity purposes, as considered appropriate at the time.

Site materials will be recycled where practicable or disposed of in accordance with current waste legislation and best practice guidelines. Based on current commodity prices, principally steel and copper, material returns achieved through recycling may exceed current financial costs associated with site decommissioning.

Decommissioning activities are typically similar to construction activities, having similar type risks and sensitive receptors associated with them. The potential impacts of decommissioning activities will be assessed accordingly in the EIAR.

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## 2.0 ENVIRONMENTAL IMPACT ASSESSMENT

### 2.1 PROJECT SUMMARY

In the case of a wind farm development, the final project which will be subject to a planning application will have gone through a number of iterations during the EIA, including changes to design proposals, numbers of proposed turbines and turbine layouts.

It is proposed that the following EIA guidelines will be followed during the process:

- Advice Notes on Current Practice in the Preparation of Environmental Impact Statements” (EPA, 2003);
- “Draft Advice Notes on Preparing Environmental Impact Statements” (EPA, September 2015);
- Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, May 2022); and
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DoHLGH, 2018).

In addition to the above, the Ballincor Wind Farm EIAR will be prepared with regard to the “Wind Energy Development Guidelines for Planning Authorities (2006)” and the “Draft Revised Wind Energy Development Guidelines (December 2019)”.

An Screening for Appropriate Assessment (AA) and (if necessary) a Natura Impact Statement (NIS) will be prepared for the proposed wind farm. The purpose of the AA/NIS will be to inform the Consenting Planning Authority in its undertaking of an ‘Appropriate Assessment’ of the project, as required under Article 6(3) of the EU Habitats Directive (92/43/EC). This is an assessment of the potential for significant or adverse effects resulting from the project, both individually and in-combination with other activities, plans and projects, on European Site(s) as designated under the EU Habitats Directive and the conservation objectives for their qualifying species and habitats.

### 2.2 THE SCOPING PROCESS

This report will form the basis for the scoping process to be undertaken by RWE with the Consenting Planning Authority and the prescribed Statutory Bodies.

The scoping process will provide all relevant planning and environmental stakeholders with the opportunity to provide information, data or additional guidance to facilitate the iteration of the design and EIA process, to determine what the main potential significant effects might be and what sub-topics the EIAR should focus upon.

### 2.3 BASELINE ASSESSMENT

Following an introduction to the EIAR, the following information will also be presented:

- **Description of the Existing Environment** – a detailed description of the existing environment to allow the baseline conditions to be understood and existing areas of sensitivity to be recorded (as per the EPA EIAR Guidelines 2022).



- **Description of the Proposed Development** - including site layout and infrastructural details, construction procedures and the materials required, the operational and maintenance phases in addition to the decommissioning and rehabilitation phases.
- **Consideration of Reasonable Alternatives** - This provides a detailed assessment of alternatives considered in the selection of site location and site layout.

## 2.4 ASSESSMENT METHODOLOGY

In the case of each of the environmental topics, it is proposed that the following elements will be evaluated, and that the format of the EIAR will follow the standard methodology and be presented in accordance with the above-mentioned legislation and guidelines. Individual chapter topics are discussed further below in this section. The wind farm will be assessed and described within each environmental topic in terms of:

- **Introduction** - includes a background to the assessment and describes the study methodology employed in carrying out the assessment.
- **Existing Environment** - Describes and assesses the existing environment in the context of the relevant environmental categories. This section also takes account of any other proposed and existing developments in the vicinity.
- **Potential Effects** - Provides the description of the potential specific direct, indirect and cumulative effects, associated with the development. This is done with reference to the existing environment and characteristics of the proposed development, while also referring to the magnitude, duration, consequences and significance of the effect associated with the construction and operation and decommissioning of the development. This section also considers cumulative effects with other proposed or permitted developments.
- **Mitigation Measures** - A description of any remedial, or mitigation measures that are either practicable or reasonable having regard to the potential effects. It will also outline, where relevant, monitoring proposals to be carried out should consent be granted in order to demonstrate that the project in practice conforms to the predictions made.
- **Residual Impacts** - Provides the description and assessment of the predicted residual impact associated with the development on the surrounding environment.
- **Conclusion** - Provides a summary of the salient points of the assessment chapter.

## 2.5 ASSESSMENT OF EFFECTS

As stated in the ‘Guidelines on the Information to be contained in Environmental Impact Assessment Reports’ (EPA, May 2022), an assessment of the likely significant effects of a proposed development is a statutory requirement of the EIAR process. The criteria for the presentation of the characteristics of potential significant effects will be described with reference to the magnitude, spatial extent, nature, complexity, probability, duration, frequency, reversibility, cumulative effect and transboundary nature (if applicable) of the effect.

The classification and description of effects in the Ballincor Wind Farm EIAR will follow the terms provided in Table 3.3 of the EPA Guidelines (2022) referenced above (and duplicated in Table 2.1 below for information purposes).

According to the Guidelines, the relevant terms listed in the table below can be used to consistently describe specific effects, but all categories of terms do not need to be used for every effect.



The use of standardised terms for the classification of effects will ensure that the EIAR employs a systematic approach, which can be replicated across all disciplines covered in the EIAR. The consistent application of terminology throughout the EIAR will facilitate the assessment of the proposed development on the receiving environment.



Table 2.1: Descriptions of Effects (as per Table 3.4 of the EPA Guidelines (2022) on the information to be contained in Environmental Impact Assessment Reports).

<b>Quality of Effects</b> It is important to inform the non-specialist reader whether an effect is positive, negative or neutral	<b>Positive Effects</b> A change which improves the quality of the environment (for example, by increasing species diversity; or the improving reproductive capacity of an ecosystem, or by removing nuisances or improving amenities).
	<b>Neutral Effects</b> No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	<b>Negative/adverse Effects</b> A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance).
<b>Describing the Significance of Effects</b> 'Significance' is a concept that can have different meanings for different topics - in the absence of specific definitions for different topics the following definitions may be useful (also see <i>Determining Significance</i> ).	<b>Imperceptible</b> An effect capable of measurement but without significant consequences.
	<b>Not significant</b> An effect which causes noticeable changes in the character of the environment but without significant consequences.
	<b>Slight Effects</b> An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
	<b>Moderate Effects</b> An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
	<b>Significant Effects</b> An effect which, by its character, magnitude, duration or intensity alters a sensitive aspect of the environment.
	<b>Very Significant</b> An effect which, by its character, magnitude, duration or intensity significantly alters most of a sensitive aspect of the environment.
	<b>Profound Effects</b> An effect which obliterates sensitive characteristics.
<b>Describing the Extent and Context of Effects</b> Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced.	<b>Extent</b> Describe the size of the area, the number of sites, and the proportion of a population affected by an effect.
	<b>Context</b> Describe whether the extent, duration, or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?)
<b>Describing the Probability of Effects</b> Descriptions of effects should establish how likely it is that the predicted effects will occur - so that the CA can take a view of the balance of risk over advantage when making a decision.	<b>Likely Effects</b> The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented.
	<b>Unlikely Effects</b> The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented.
<b>Describing the Duration and Frequency of Effects</b>	<b>Momentary Effects</b> Effects lasting from seconds to minutes



<p>'Duration' is a concept that can have different meanings for different topics - in the absence of specific definitions for different topics the following definitions may be useful.</p>	<p><b>Brief Effects</b> Effects lasting less than a day</p>
	<p><b>Temporary Effects</b> Effects lasting less than a year</p>
	<p><b>Short-term Effects</b> Effects lasting one to seven years</p>
	<p><b>Medium-term Effects</b> Effects lasting seven to fifteen years</p>
	<p><b>Long-term Effects</b> Effects lasting fifteen to sixty years</p>
	<p><b>Permanent Effects</b> Effects lasting over sixty years</p>
	<p><b>Reversible Effects</b> Effects that can be undone, for example through remediation or restoration</p>
	<p><b>Frequency of Effects</b> Describe how often the effect will occur. (once, rarely, occasionally, frequently, constantly - or hourly, daily, weekly, monthly, annually)</p>
<p><b>Describing the Types of Effects</b></p>	<p><b>Indirect Effects (a.k.a. Secondary or Off-site Effects)</b> Impacts on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway.</p>
	<p><b>Cumulative Effects</b> The addition of many minor or significant effects, including effects of other projects, to create larger, more significant effects.</p>
	<p><b>'Do-Nothing Effects'</b> The environment as it would be in the future should the subject project not be carried out.</p>
	<p><b>'Worst case' Effects</b> The effects arising from a project in the case where mitigation measures substantially fail.</p>
	<p><b>Indeterminable Effects</b> When the full consequences of a change in the environment cannot be described.</p>
	<p><b>Irreversible Effects</b> When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost.</p>
	<p><b>Residual Effects</b> The degree of environmental change that will occur after the proposed mitigation measures have taken effect.</p>
	<p><b>Synergistic Effects</b> Where the resultant effect is of greater significance than the sum of its constituents, (e.g. combination of SOx and NOx to produce smog).</p>



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## 2.6 POTENTIAL MITIGATION

The strategies for identification of appropriate Mitigation Measures, as detailed in the EPA Guidelines (2022), will be followed in the preparation of the Ballincor Wind Farm EIAR.

There are four established strategies for effects mitigation - avoidance, prevention, reduction and remedy/offsetting. As noted above, following the iteration of the design and EIA process, and following implementation of any design mitigation, the description of any remedial, or mitigation measures that have been incorporated into the design will be included to offset or minimise identified potential adverse impacts.

In accordance with the guidelines, these measures can mitigate impacts:

- *By Avoidance*  
When no impact is caused (often through consideration of alternatives).
- *By Prevention*  
When a potential impact is prevented by a measure to avoid the possibility of the impact occurring.
- *By Reduction*  
When an impact is lessened.
- *By Remedy/Offsetting*  
When an adverse impact is resolved by a remedial action or balanced by a positive impact.

## 2.7 NON-TECHNICAL SUMMARY AND CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

The non-technical summary (NTS) provides an overview and summary of the main EIAR using non-technical language. It is a standalone document which presents a clear and concise summary of the existing environment, characteristics of the proposed development, a clear outline of the potential significant impacts/effects which could result from the proposed development and mitigation measures adopted into the design of the development to minimise impacts on the surrounding environment.

A standalone Construction Environmental Management Plan (CEMP) will also be prepared which will set out the details of proposed construction compounds, construction methodologies, environmental mitigation measures and proposed reinstatement measures. The CEMP will incorporate the relevant construction phase mitigation measures which will have been integrated into the project.



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## 3.0 REASONABLE ALTERNATIVES

As set out in the EIA Directive, the EIAR is required to provide a description of the reasonable alternatives studied by RWE, 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.

### 3.1 ALTERNATIVE SITES

In respect of consideration of alternative sites, the EIAR will set out the reasonable alternative sites available to RWE. Details on the assessments carried out to identify the proposed site location as appropriate for this project will be provided.

### 3.2 ALTERNATIVE DESIGN

In the context of alternative design (incorporating scale and size), this section of the EIAR will set out the processes and assessments that were followed to arrive at the proposed turbine layout, turbine envelope and infrastructure layout. This section will be informed by comprehensive site surveys and ground investigations.

### 3.3 ALTERNATIVE TECHNOLOGY/ ALTERNATIVE PROCESSES

The proposed wind farm will support European and National policy in decarbonising electricity generation and contribute to Ireland's target to generate 80% of the country's electricity from renewable sources by 2030 in accordance with the Climate Action Plan 2023. There are a number of different renewable energy technologies available on the market, however not all will be viable at the proposed development location. This section will consider the various renewable energy alternatives (such as solar) and will assess the alternative wind turbine technologies available.

## 4.0 POLICY, PLANNING AND DEVELOPMENT CONTEXT

The proposed Ballincor Wind Farm has potential to accommodate up to 11no. wind turbines with a total potential electrical output of up to 77 MW. Given the scale of the project, RWE will engage with An Bord Pleanála under the Strategic Infrastructure Development (SID) consultation process to determine the consenting route for the project.

Within the EIAR, the planning assessment will include a review of relevant European, national and local planning policy documentation, planning legislation, strategies and plans and set the local context of the project.

### 4.1 EU AND NATIONAL POLICY

At a European level, this will include:

- The 1992 United Nations Framework Convention on Climate Change;
- The Kyoto Protocol Targets;
- The Doha Amendment to the Kyoto Protocol;
- The Paris Agreement 2015;
- The European Green Deal 2019;
- Europe 2030 Climate and Energy Framework;
- Renewable Energy Directive 2009/28/EC & Recast Directive 2018/2001/EU;
- REPower EU Plan & Council Regulation (EU) 2022/2577; and
- Council Regulation (EU) 2022/1854 (EU Emergency Regulations)

At a national level the policy review will include:

- Climate Action and Low Carbon Development Act 2015;
- Climate Action and Low Carbon Development (Amendment) Act 2021;
- Climate Action Plan 2024;
- Accelerating Renewable Electricity Taskforce Implementation Plan 2024;
- National Energy and Climate Plan (NECP) 2021-2030;
- Draft National Energy and Climate Plan (NECP) 2021-2030;
- Ireland 2040 - Our Plan (National Planning Framework) [2018];
- National Development Plan 2021-2030;
- Government White Paper – Ireland’s Transition to a Low Carbon Energy Future 2015-2030;
- National Energy Security in Ireland to 2030;
- National Energy Security Framework 2022;
- National Wind Energy Guidance Documents including:
  - Wind Energy Development Guidelines 2006;
  - Draft Revised Wind Energy Development Guidelines – December 2019;
  - Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement (DCCAIE, 2016).

### 4.2 REGIONAL POLICY

At a regional level, the assessment will consider both the Regional Spatial and Economic Strategy (RSES) for the Eastern and Midland Region and the Southern Region. The primary statutory objective of the RSES is to support implementation of the National Planning Framework and National Development Plan. Policies in the RSES which are directly relevant to the proposed Ballincor wind farm include:



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#### 4.2.1 RSES – EASTERN MIDLAND REGIONAL ASSEMBLY (EMRA)

The Eastern and Midland Regional Assembly (EMRA) agreed to make the Regional Spatial and Economic Strategy (RSES) 2019 – 2031 in June 2019. The primary statutory objective of the RSES is to support implementation of the National Planning Framework and National Development Plan. Policies in the RSES which are directly relevant to the proposed Ballincor wind farm include:

- **RPO 3.7** - Local authorities shall have regard to environmental and sustainability considerations for meeting sustainable development targets and climate action commitments, in accordance with the National Adaptation Framework. In order to recognise the potential for impacts on the environment, local authorities shall address the proper site/route selection of any new development and examine environmental constraints including but not limited to biodiversity, flooding, landscape, cultural heritage, material assets, including the capacity of services to serve any new development.
- **RPO 4.8.4** - Support the rural economy and initiatives in relation to diversification, agri-business, rural tourism, and renewable energy so as to sustain the employment opportunities in rural areas.
- **RPO 6.9** - The Regional Assembly supports the Regional Enterprise Plans to ensure that the Midlands is well positioned to address the challenges posed by the transition to a low carbon economy and renewable energy.
- **RPO 7.35** - EMRA shall, in conjunction with local authorities in the Region, identify Strategic Energy Zones as areas suitable for larger energy generating projects, the role of community and micro energy production in urban and rural settings and the potential for renewable energy within industrial areas. The Strategic Energy Zones for the Region will ensure all environmental constraints are addressed in the analysis. A regional landscape strategy could be developed to support delivery of projects within the Strategic Energy Zones.
- **RPO 7.36** - Planning policy at local authority level shall reflect and adhere to the principles and planning guidance set out in Department of Housing, Planning and Local Government publications relating to ‘Wind Energy Development’ and the DCCA Code of Practice for Wind Energy Development in Ireland on Guidelines for Community Engagement and any other relevant guidance which may be issued in relation to sustainable energy provisions.

#### 4.2.2 RSES – SOUTHERN REGIONAL ASSEMBLY (SRA)

The Southern Regional Assembly (EMRA) agreed to make the Regional Spatial and Economic Strategy (RSES) 2019 – 2031 in January 2020. The primary statutory objective of the RSES is to support implementation of the National Planning Framework and National Development Plan. Policies in the RSES which are directly relevant to the proposed Ballincor wind farm include:

- **RPO 87** - Low Carbon Energy Future: The RSES is committed to the implementation of the Government’s policy under Ireland’s Transition to a Low Carbon Energy Future 2015-30 and Climate Action Plan 2019. It is an objective to promote change across business, public and residential sectors to achieve reduced GHG emissions in accordance with current and future national targets, improve energy efficiency and increase the use of renewable energy sources across the key sectors of electricity supply, heating, transport and agriculture.



- **RPO 98 - Regional Renewable Energy Strategy:** It is an objective to support the development of a Regional Renewable Energy Strategy with relevant stakeholders.
- **RPO 99 - Renewable Wind Energy:** It is an objective to support the sustainable development of renewable wind energy (on shore and offshore) at appropriate locations and related grid infrastructure in the Region in compliance with national Wind Energy Guidelines
- **RPO 219 - New Energy Infrastructure:** It is an objective to support the sustainable reinforcement and provision of new energy infrastructure by infrastructure providers (subject to appropriate environmental assessment and the planning process) to ensure the energy needs of future population and economic expansion within designated growth areas and across the Region can be delivered in a sustainable and timely manner and that capacity is available at local and regional scale to meet future needs.

The strategies support an increase in the amount of new renewable energy sources in both regions. This includes the use of wind energy – both onshore and offshore, biomass, and solar photovoltaics and solar thermal.

### 4.3 LOCAL POLICY

At a local level, the Offaly County Development Plan (CDP) 2021-2027 and the Tipperary County Development Plan 2022-2028 are the land use plans applicable to the proposed development as the site is partially located within both county administrative areas.

#### 4.3.1 OFFALY COUNTY DEVELOPMENT PLAN 2021-2027

Table 3.1 of the CDP demonstrates County Offaly’s contribution to realising overall national targets (under the Climate Action Plan 2019) on renewable energy and climate change mitigation, and in particular wind energy production and the potential wind energy resource during the plan period. The wind energy target for 2027 is 466.3MW.

Policies in the CDP which are directly relevant to the proposed Ballincor wind farm include:

#### Renewable Energy

- **CAEP-25** It is Council policy to encourage and facilitate the production of energy from renewable sources, such as from bioenergy, waste material, solar, hydro, geothermal and wind energy, subject to proper planning and environmental considerations.
- **CAEP-26** It is Council policy to encourage developers of proposed large scale renewable energy projects to carry out community consultation in accordance with best practice and to commence the consultation at the commencement of project planning.
- **CAEP-27** It is Council policy to ensure that whenever possible, community benefits are derived from all renewable energy development in the county such as near-neighbour benefit funds and general community benefit funds, which may take the form of contributions in kind to local projects, assets and facilities such as public amenities on the renewable energy site, measures to promote energy efficiency or a local energy discount scheme.
- **CAEP-28** It is Council policy to co-operate if required with the Eastern and Midland Regional Assembly in identifying Strategic Energy Zones as areas suitable for larger energy generating projects, community and micro energy production, whilst ensuring environmental constraints and a regional landscape strategy are considered.



## Wind Energy

- **CAEP-37** It is Council policy to recognise the importance of wind energy as a renewable energy source which can play a vital role in achieving national targets in relation to reductions in fossil fuel dependency and therefore greenhouse gas emissions.
- **CAEP-38** It is Council policy that in assessing planning applications for wind farms, the Council shall:
  - have regard to the provisions of the Wind Energy Development Guidelines 2006, the Interim Guidelines for Planning Authorities on Statutory Plans, Renewable Energy and Climate Change 2017 and the Draft revised Wind Energy Guidelines 2019 which are expected to be finalised in the near future;
  - have regard to 'Areas Open for Consideration for Wind Energy Developments' in the Wind Energy Strategy Designations Map from the County Wind Energy Strategy.

## Electricity Transmission and Distribution

- **CAEP-01** It is Council policy to support and facilitate the development, reinforcement, renewal and expansion of the electricity transmission and distribution grid, including the development of new lines, pylons and substations as required to provide for the future physical and economic development of Offaly
- **CAEP-02** It is Council policy to require that, in all new developments, local services such as medium and low voltage electricity cables shall be undergrounded, with multiple services accommodated in shared strips underground and that access covers are shared, whenever possible.
- **CAEP-05** It is Council policy to support the reinforcement and strengthening of the electricity transmission and distribution network to facilitate planned growth and transmission/ distribution of a renewable energy focused generation across the major demand centres.
  - Facilitating trans-boundary networks into and through the County and Region to ensure the Regional Spatial and Economic Strategy can be delivered in a sustainable and timely manner;
  - Facilitate the delivery of the necessary integration of transmission network requirements to allow linkages of renewable energy proposals to the electricity transmission grid in a sustainable and timely manner; and
  - Support the safeguarding of strategic energy corridors from encroachment by other developments that could compromise the delivery of energy networks.

### 4.3.2 TIPPERARY COUNTY DEVELOPMENT PLAN 2022-2028

The Tipperary CDP 2022-2028 came into effect on the 22nd August 2022. The CDP is a framework for how Tipperary will deliver for communities, through protecting the environment, reducing energy demands, maintaining viability of towns, villages and rural communities and supporting job creation. The CDP aims to build sustainable growth within the county given its national reputation as a leader in renewable energy development and innovation.

Policies in the CDP which are relevant to the proposed Ballincor wind farm include:



## Renewable Energy

- **3-1** - Promote and facilitate renewable energy development, in accordance with the policies and objectives of the Tipperary Renewable Energy Strategy 2016 (and any review thereof), and the Tipperary Climate Adaptation Strategy 2019.
- **3-F** - In accordance with the objective of the Renewable Energy Strategy (and any review thereof), to encourage and support community energy schemes, and ways to incorporate energy efficiency and renewable energy development at the community level, through micro-generation, auto-production and investment in commercial energy production.
- **10-1** - Support and facilitate new development that will produce energy from local renewable sources such as hydro, bioenergy, wind, solar, geothermal and landfill gas, including renewable and non-renewable enabling plant, subject to compliance with normal planning and environmental criteria, in co-operation with statutory and other energy providers. The provisions of the Tipperary Renewable Energy Strategy (and any review thereof) as set out in Volume 3, will apply to new development.
- **10-5** - Support and facilitate the co-location of renewable energy development and technologies to ensure the most efficient use of land identified as suitable for renewable energy generation.
- **10-A** - Support the Climate Action Plan (DECC, 2019) as it relates to renewable energy production, having consideration to the strategic importance and potential benefits of renewable energy investment to rural communities.
- **10-C** - To continue to support renewable energy development and to maintain a positive framework for development through the review of the Renewable Energy Strategy over the lifetime of the Plan.
- **15-E** - Support the sustainable development, maintenance and upgrading of electricity and gas infrastructure, by network providers, to enable the integration of renewable energy sources and enable an energy system that is safe, secure and adaptable.

## Wind Energy

- **10-1** - Support and facilitate new development that will produce energy from local renewable sources such as hydro, bioenergy, wind, solar, geothermal and landfill gas, including renewable and non-renewable enabling plant, subject to compliance with normal planning and environmental criteria, in co-operation with statutory and other energy providers. The provisions of the Tipperary Renewable Energy Strategy (and any review thereof) as set out in Volume 3, will apply to new development.
- **TWIND 1**- It is the policy of the Council to support, in principle and in appropriate locations, the development of wind energy resources in county Tipperary. The Council recognises that there is a need to promote the development of 'green electricity' resources and to reduce fossil fuel dependency and greenhouse gas emissions in order to address the global issue of climate change, and to comply with European and International policies with regards to renewable and sustainable energy resources.
- **TWIND 2** - It is the policy of the Council to ensure that all wind energy development in the county complies with the provisions of all applicable government legislation and guidance on wind energy development and renewable energy resources (and any review thereof).
- **TWIND 3** - It is the policy of the Council that when assessing planning applications for wind energy development, to require compliance with the Wind Energy Development Guidelines, Guidelines for Planning Authorities (DoEHLG) 2006 or any revision thereof, and the policy and objectives of the County Development Plan (as Varied).

## Electricity Transmission and Distribution



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- **15-E** - Support the sustainable development, maintenance and upgrading of electricity and gas infrastructure, by network providers, to enable the integration of renewable energy sources and enable an energy system that is safe, secure and adaptable.
  - **15-F** - Work in partnership with the Department of the Environment, Climate and Communications in line with their 'Policy Statement to Ensure Security of Electricity Supply and Facilitate the Target of up to 80% Renewable Electricity Generation by 2030', and to facilitate additional electricity transmission and distribution grid infrastructure, as well as additional electricity interconnection and electricity storage.

The Ballincor wind farm is located within 'Areas Not Deemed Suitable for Wind Energy Developments' and 'Areas Unsuitable for New Development' in both Offaly and Tipperary respectively. However based on initial assessments of environmental impacts RWE is hopeful that the EIA process will demonstrate that environmental impacts associated with the project will not be significant and that the project can demonstrate compliance with all other relevant CDP policies, therefore justifying its acceptability in terms of proper planning and sustainable development.

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## 5.0 POPULATION AND HUMAN HEALTH

### 5.1 INTRODUCTION

A review of the current census data will be completed. The existing local population will be described and the projected change in the population, if any, will be assessed. This section will address, in particular, the effects of the Ballincor Wind Farm on nuisance and residential amenities in the surrounding area. Any impacts on recreational activities as a result of the wind farm will be discussed in this chapter. In addition, the positive economic impacts will be examined, as employment will be created during the construction and operational phase of the wind farm. The wind farm will also generate a community benefit fund and create investment opportunities for the local community. This section will also consider public access, adjacent landowners / dwellings and local services such as existing electricity lines / masts on site. The Human Health assessment will be prepared in accordance with the relevant guidelines produced by the Environmental Protection Agency (EPA), as detailed in Section 5.4. Aspects examined in this section of the chapter will primarily relate to impacts from the wind farm on socio-economic activities, tourism and on local community health.

### 5.2 STUDY AREA

The study area for the “Population and Human Health” assessment will include County level data in relation to Electoral Divisions. In addition, the mapping in relation to residential receptors will include an area within 2km of the proposed wind farm site boundary.

### 5.3 SENSITIVE RECEPTORS

All properties in close proximity to the proposed wind farm will be mapped as potential sensitive receptors. Properties will include residential dwellings, commercial properties, derelict buildings, agricultural buildings and pre-planning infrastructure (including houses submitted for planning permission). All properties will then be reviewed by ground-truthing and further desktop assessment (in the case of planning applications) to identify potential sensitive receptors in the vicinity of the development. In addition, as part of the initial turbine layout design process, a minimum 720m buffer will be extended from the location of any proposed turbines to sensitive receptors. This will inform the turbine layout and for the current proposed turbine tip height of 180m, exceeds the proposed minimum set-back requirement of four times tip height

### 5.4 DESKTOP AND FIELD SURVEYS

The following information sources and references are of relevance in relation to the desktop study for the Population and Human Health assessment;

Relevant Guidelines:

- Department of Housing, Planning and Local Government (DoHPLG), Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018);
- Environmental Protection Agency (EPA), *Guidelines on the Information to be contained in Environmental Impact Assessment Reports* (2022);



- European Commission (EC), Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (2017);
- Department of the Environment, Heritage and Local Government *Wind Energy Development Guidelines* (2006);
- DoHPLG, Draft Revised Wind Energy Development Guidelines (2019); and
- Institute of Public Health Ireland, Health Impact Assessment Guidance: Manual & Technical Guidance (2021).
- IWEA Best Practice Guidelines for the Irish Wind Energy Industry 2012;
- IWEA Best Practise Principles in Community Engagement and Community Commitment 2013;and
- Fáilte Ireland, *EIAR Guidelines for the Consideration of Tourism and Tourism Related Project* (received from Failte Ireland in 2023)

Relevant information sources:

- OSI mapping and Aerial Photography to identify land use and possible amenity sites;
- Offaly County Development Plan 2021-2027;
- Tipperary County Development Plan 2022-2028;
- Central Statistics Office (CSO) information;
- Fáilte Ireland Information in relation to tourism amenity in conjunction with websites of relevant tourism sites and amenities for the area;
- Health Impact Assessment Resource and Tool Compilation (US EPA, 2016);
- Guidelines for Community Noise (WHO,1999);
- Health in Environmental Impact Assessment - A Primer for a Proportionate Approach (IEMA, 2017);
- Health Impact Assessment (Institute of Public Health Ireland, 2009);
- Air Quality Standards Regulations 2011 (S.I. No. 180 of 2011);
- Air Quality Guidelines (WHO, 2005);
- British Standard (BS) 5228-1:2009+A1:2014 – Code of Practice for Noise and Vibration Control on Construction and Open Sites Part 1: Noise;
- Guidance Note for Noise: Licence Applications, Surveys and Assessments in Relation to Scheduled Activities (NG4) (EPA, 2016); and
- WHO Environmental Noise Guidelines for the European Region 2018.

The Population and Human Health impact assessment evaluates the receiving environment/land use and includes analysis of local population patterns. The assessment also includes a review of appropriate demographic documentation and incorporates Census Reports and Electoral Division Information, Land use, Population, Employment and Planning Permissions. In addition, the evaluation will provide details of RWEs Community Benefit proposals and any consultation with regard to the same.

There are separate health profiles available for all local authority areas. The most recent profile published for Offaly will be used to establish a community health profile for the proposed wind farm. The assessment of human health for the proposed development, in terms of health protection, will follow the approach set out in the EPA Guidelines, Guidelines for on the information to be contained in Environmental Impact Assessment Reports (May 2022) and in the Commission’s SEA Implementation Guidance.



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## 5.5 CUMULATIVE EFFECTS

The potential cumulative impact of the proposed wind farm with other relevant projects in the area on the local community and human health will also be addressed. This may include other wind farm developments, other renewable energy projects or any proposed project which could have the potential to have a cumulative impact.



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## 6.0 BIODIVERSITY

### 6.1 INTRODUCTION

Potential impacts on biodiversity from the proposed wind farm project will be addressed in line with the requirements of the Environmental Impact Assessment Directive 2011/92/EU as amended by Directive 2014/52/EU and the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296/2018), which implements EU Directive 2014/52/EU in planning law. Due regard will be had to published guidelines and best practice including:

- EPA EIAR Guidelines (2022);
- CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine;
- DEHLG (2019) Draft Revised Wind Energy Development Guidelines;
- IWEA (2012) Best Practice Guidelines for the Irish Wind Energy Industry; and
- Accepted specific best guidance for assessing wind farm impacts on birds, bats, and other sensitive ecological receptors.

To date, a significant amount of desk study and field survey has been undertaken from Feb 2022 to November 2023 to gather information on the biodiversity of the study area and surrounds. This information will be used to inform the draft design of the wind farm.

### 6.2 STUDY AREA

The study area is the site of the proposed wind farm and the surrounding environs. Where required, the study area has been expanded to take into account sensitive receptors that may be within the zone of influence of the project. The zone of influence depends on the particular sensitivities of receptors and the ecological pathways along which impacts may be transmitted.

### 6.3 DESKTOP SURVEY

Desktop surveys have been carried out, and the results for potentially sensitive receptors have been outlined above. The primary data sources for the desktop surveys were:

- National Biodiversity Data Centre records
- NPWS rare and protected species records
- Irish Wetland Bird Survey site coverage information
- Bat Conservation Ireland database records
- Irish Cave Database
- NPWS designated area boundary data
- NPWS site-specific conservation objectives shapefiles
- National Survey of Native Woodland sites
- National Fen Database sites
- EPA water quality data
- Aerial photography



## 6.4 SENSITIVE RECEPTORS

Several sensitive ecological receptors have been identified by ecological surveys carried out to date within the study area. These include designated areas, habitats, protected mammals, birds, and bat species.

There are no NATURA 2000 sites, i.e., Special Areas of Conservation (SAC) or Special Protection Area (SPA). The nearest Natura Site is the Sharavogue Bog SAC (Site Code: 00585) is located immediately east of to the proposed wind farm and the Little Brosna River. The qualifying interest for Sharavogue Bog includes.

- Active raised bogs [7110]
- Degraded raised bogs still capable of natural regeneration [7120]
- Depressions on peat substrates of the Rhynchosporion [7150]

The Sharavogue Bog is also a proposed Natural Heritage Area (pNHA).

From preliminary studies, three European sites (Natura 2000 network) have been identified three additional SACs within the zone of influence of the project: the Sharavogue Bog SAC and Dovegrove Callows SPA and River Little Brosna Callows SPA.

Two watercourses traverse through the project site boundary; The Little Brosna River and its tributary the Holy Well Clohaskin Stream. The Little Brosna flows northwards towards Birr before turning west. The Little Brosna flows in the River Shannon Callows SAC, approximately 20 km downstream. Potential effects on these four European sites (and any others that may be identified within the zone of influence) will be assessed in an AA Screening report and (if required) a NIS that will accompany the planning application and EIAR.

Ecological field survey has been undertaken. The majority of the bog habitat within the site was walked as part of the initial site visit. The largest area of bog to the north of the site was recorded as Raised Bog (PB1) with other areas, largely to the south but a small section to the north, being recorded as cutover bog (PB4). The raised bog ranged from moderate to good quality, with some areas being drier than others. There are potential areas of active raised bog (ARB) in wetter areas, which occurs at distances furthest away from the bog edges or the areas of cutover bog/turf cutting. The other areas not noted as ARB could possibly be restored if turf cutting was stopped and drain blocking occurred. The exact extent of ARB and areas suitable for restoration will be determined, following a more detailed flora survey during optimal survey season for bog habitat (May to September - ongoing) and results from a hydrological survey of the peat.

During the field surveys evidence of protected mammal species were recorded. These included evidence of bat species. Other observations of note during a badger survey included several signs of badger, including snuffle holes, track, latrines, and setts, these were found across much of the site, with the majority concentrated near woodlands and hedgerows. Additional surveys will take place in July 2024. A possible otter holt was also located in a bank, directly adjacent to a slow flowing stream/drainage ditch. No invasive plant species were recorded during the surveys.

Bird Surveys: VP surveys were carried out on a monthly basis from October 2020 until June 2021 and commenced again in April 2022 to present day (undertaken by Ecology Ireland); During Vantage Point (VP) bird surveys, a number of target bird species were recorded which included; whooper swans (*Cygnus cygnus*), buzzard (*Buteo buteo*), kestrel (*Falco tinnunculus*),



sparrow hawk (*Accipiter nisus*), lesser black-backed gull (*Larus fuscus*) and yellow hammer (*Emberiza citrinella*).

Bat surveys: bat surveys were undertaken during the spring, summer, and autumn months of 2022 and for 2023 (undertaken by Ecology Ireland).

Additional field work that has been programmed includes:

- Bat Spring Mating/Swarming Surveys
- Bat Summer Roost Surveys
- Habitat survey of grid connection route
- Detailed vegetation surveys at proposed turbines and other specific key infrastructure locations
- Detailed protected fauna surveys at proposed turbines and other specific key infrastructure locations

During detailed vegetation surveys, habitat mapping will be updated as needed in line with the CIEEM (2019) Advice Note on the Lifespan of Ecological Reports and Surveys.

The need for additional survey work to address any information gaps has been and will be reviewed on an ongoing basis.

## 6.5 CUMULATIVE EFFECTS

Cumulative impacts with other developments, including but not limited to other wind farms, will be assessed for all sensitive receptors. Interactions with other environmental disciplines, especially hydrology and climate, will also be assessed as set out in Section 17.

## 6.6 APPROPRIATE ASSESSMENT

An AA Screening Report and (if required) a NIS will be prepared and submitted to assess potential effects on the integrity of European sites within the zone of influence of the project. The NIS will be prepared with due regard to the European Commission's (2018) *Managing Natura 2000 Sites - The provisions of Article 6 of the Habitats Directive 92/43/EEC* and the European Commission's (2010) guidelines on *Wind Energy Developments and Natura 2000*. In line with best practice, the NIS will be a separate standalone document to the EIAR.

Given that the nearest European Site is the Sharavogue Bog Special Area Conservation (SAC) (Site Code: 000585) which is located immediately adjacent to the eastern site boundary it is considered likely that an Appropriate Assessment will be required and a Natura Impact Statement will be completed. This will consider any identified impacts as a result of the project on the integrity of the European site, either alone or in-combination with other projects or plans, with respect to the site's structure and function and its conservation objectives. Where potential adverse effects are identified; mitigation of the potential impacts will be required, and detailed, to reduce the effects to an insignificant level. The Natura Impact Statement is required to inform the Appropriate Assessment process which is conducted by the competent authority.

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## 7.0 LAND, SOILS AND GEOLOGY

### 7.1 INTRODUCTION

The principal objectives of the Soils, Geology and Hydrogeology Chapter of the EIAR will be to identify and mitigate potential issues of the proposed wind farm to ensure that the impact on the environment is minimised.

A desk study shall be undertaken to acquire all available topographic, geological, geotechnical and hydrogeological data (including geotechnical and site stability data) for the proposed wind farm and surrounding area. The desk study will include a geotechnical risk assessment to identify and mitigate potential issues that may arise during the construction stage (including geohazard, geomorphology features). The land cover of the main proposed development site comprises mostly improved grassland with cutover bog, wet grassland, mixed broadleaved woodland, oak birch-holy woodland, bog woodland and scrub. There is one stream crossing required with all turbines set back >50m from streams.

### 7.2 STUDY AREA

The EIAR study area of the soils, geology and hydrogeology will primarily focus on the wind farm site. In addition, the assessment will consider the lands adjacent to the site boundary, environs downstream of the site area to an appropriate extent as well as proposed forestry replacement lands off-site.

### 7.3 SENSITIVE RECEPTORS

An initial geological field survey has been undertaken and confirmed the presence of extensive peatland within the site.

The largest area of bog to the north of the site was recorded as Raised Bog (PB1) with other areas, largely to the south but a small section to the north, being recorded as cutover bog (PB4). The raised bog ranged from moderate to good quality, with some areas being drier than others. There are potential areas of active raised bog (ARB) in wetter areas, which occurs at distances furthest away from the bog edges or the areas of cutover bog/turf cutting. The other areas not noted as ARB could possibly be restored if turf cutting was stopped and drain blocking occurred. The exact extent of ARB and areas suitable for restoration will need to be determined at a later date, following a more detailed flora survey during optimal survey season for bog habitat (May to September) and results from a hydrological survey of the peat.

The site of the proposed wind farm is separated from Sharavogue Bog SAC by the little Brosna River. The SAC is in two sections with the closest section including 137 ha of uncut raised bog and 86.43 ha of surrounding areas which include cutover bog, wet grassland, semi-natural woodland, and an area of wet lagg vegetation in the cutover along the eastern margin of the bog. The eastern edge is bounded by a disused railway embankment, and the western edge by the river.

### 7.4 DESKTOP AND FIELD SURVEY

A desk study shall be undertaken to acquire all available topographic, geological, geotechnical and hydrogeological data (including geotechnical and site stability data) for the proposed wind



farm and surrounding area. The desk study will include a geotechnical risk assessment to identify and mitigate potential issues that may arise during the construction stage.

Consultations will be undertaken and feedback requested from a number of statutory bodies, including:

- The Geological Survey of Ireland (GSI). Well data will be sourced and information on proposed Natural Heritage Areas (pNHAs), County Geological Sites (CGS) and any recorded Landslide Events (from the historical landslide database) in the region of the study area will be requested;
- Irish Peatland Conservation Council;
- Inland Fisheries Ireland (IFI);
- The Environmental Protection Agency (EPA);
- The Local Authority (Offaly) Environment Officer; and
- Scoping of geotechnical aspects of the EIA for peat sites will be agreed in conjunction with the multidisciplinary team, including but not limited to Geotechnical Engineer, Hydrogeologist, Hydrologist, Ecologist and the requirements of any and all of the design team as necessary e.g., Engineering designers deciding on access route types and construction methodologies.

The evaluation will include:

- Desk study of soils, subsoils, bedrock, geological, groundwater vulnerability, groundwater resources maps and aerial photography;
- Geomorphology assessment and mapping will be undertaken of geomorphological features;
- Aquifer assessment, in terms of the underlying aquifer and shallow groundwater system within the peat;
- Impact assessment on water schemes/ water supplies within 2km radius;
- Surface water and groundwater interaction (if existent);
- Desk top assessment for the identification of potential karst features or landforms;
- Development of Geotechnical Risk register;
- Design of appropriate erosion and sediment control measures; development of erosion and sediment control procedures for implementation on site;
- Conduct preliminary geotechnical site investigations to inform the following:
  - Identify the depth of peat across the site & any required specialist peat parameters e.g., shear vane strength etc;
  - Access routes construction methodology;
  - Cable route construction methodology;
  - Foundation construction methodology;
  - Borrow Pits / quarry potential;
  - Earthworks and Material Balance calculations (rock won on site in relation to rock fill required during construction of roads, hardstands, crane pads etc.);
  - Peat Management Works;
  - Groundwater management, as required;
  - Drainage Design;
  - Overburden (Soils/Peat) Storage and management;
  - Temporary works design; and
  - Site Reinstatement, to be aligned with the existing site rehabilitation plan (including erosion control).



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- Geohazard Mapping & Risk Assessment, verifying landslide hazards and associated risk if identified; and
  - Interpretation and reporting of all geological, hydrogeological & geotechnical data collected from preliminary site investigations, with reference to data within the Geotechnical & Soil Stability Report.

## 7.5 CUMULATIVE EFFECTS

Based on the site investigation findings and the likely impacts and risks that may be anticipated, and the potential cumulative effects that may arise, guidance will be provided towards the mitigation of these impacts and minimisation of the associated risks during construction, operation and decommissioning of the proposed wind farm.



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## 8.0 HYDROLOGY AND HYDROGEOLOGY

### 8.1 INTRODUCTION

The principal objectives of the Hydrology and Hydrogeology Chapter of the EIA will be to identify and mitigate potential issues of the proposed wind farm to ensure that the impact on surface water and groundwater is minimised.

### 8.2 STUDY AREA

The EIA study area of the Hydrology and Hydrogeology assessment will extend outside the final site boundary and will include watercourses which will receive surface water from within the proposed wind farm site.

### 8.3 SENSITIVE RECEPTORS

The site is located in the Lower Shannon catchment and the Little Brosna\_SC\_020 sub-catchment. There are no rivers/streams located on site. However, there are a number of rivers/stream adjacent to northern and eastern site boundaries including the Little Brosna which flows in a south to north direction. Water quality is classified as 'Good' in terms of the Water Framework Directive status. The site is underlain by an aquifer which is classed as a 'Locally Important Aquifer' classed as Bedrock which is moderately productive only in local zones'.

### 8.4 DESKTOP AND FIELD SURVEYS

A desk study shall be undertaken to acquire all published hydrological data for the proposed wind farm and surrounding area, including flood data and surface water quality data.

Consultations will be carried out with a number of statutory bodies including:

- The Geological Survey of Ireland (GSI). Well data will be sourced and information on Natural Heritage Areas (NHAs), County Geological Sites (CGS) and any recorded Landslide Events (from the historical landslide database) in the region of the study area will be requested;
- The Local Authority Environment Officer;
- Inland Fisheries Ireland (IFI); and the
- Environmental Protection Agency (EPA).

### 8.5 HYDROLOGICAL ASSESSMENT

As part of the EIA, TOBIN will establish baseline/existing hydrological conditions, identify potential impacts and propose appropriate mitigation measures. TOBIN will also:

- Identify the existing surface water drainage characteristics of the wind farm (including any natural or man-made drainage). A surface water feature survey/catchment assessment of the study area will be carried out to record all streams, rivers and lakes within the wind farm boundary and surrounding area; and
- Establish baseline water quality across the wind farm site. Any historical water quality for this area will be reviewed and existing EPA water quality data will also be examined



as part of the study including any available data relating to the river catchments in this area. Where required, surface water samples will be collected in order to provide a baseline set of water quality results for the area. Biological assessments of the rivers will also be carried out, if required.

TOBIN will also assess the potential for siltation as a result of the proposed wind farm, particularly during the construction phase and propose mitigation measures for associated pollution control. Any existing siltation management practices will be reviewed as part of this assessment.

## 8.6 WATER QUALITY ASSESSMENT

TOBIN will complete the following as part of the EIAR:

- Conduct water sampling (surface water and groundwater where possible) in accordance with industry standards;
- Interpret and identify surface and groundwater linkages through specific water quality parameters;
- Establish baseline/existing conditions, identify potential impacts and propose appropriate mitigation measures.

## 8.7 FLOOD RISK ASSESSMENT

The Flood Risk Assessment for this project will include the following works:

- Review of available information, planning guidelines and historical flooding records;
- Topographical survey of site, including survey of smaller water courses;
- Assessment of hydrometric data (water levels and flows) for adjacent water bodies; and
- Assessment to take cognisance of climate change and the 1 in 100 year to 1 in 1000-year flood events.

The Flood Risk Assessment will be completed as part of the EIAR. This assessment shall include undertaking the following tasks:

1. A visual Inspection of site and watercourses by hydrologist;
2. Site Topographical Survey;
3. Site survey of watercourses for hydraulic modelling;
4. A review of existing information and planning guidelines;
5. An assessment of historical flooding;
6. Estimation of the 100 and 1000 MRFS (Mid-Range Future Scenario) design flood events at the proposed win dram site, as recommended by *'The Planning System and Flood Risk Management Guidelines'* (OPW, 2009). The hydrological assessment of the site may include:
  - i. Statistical estimation of design flood flow from available hydrometric data;
  - ii. Analysis of watercourses using the OPW's Flood Studies Update Portal; and



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- iii. Estimation of design flood flow from catchment descriptors and rainfall.
  7. Hydraulic Modelling, using HEC-RAS or similar, of watercourses for the 100- and 1000-year design flood events. Where possible, the model shall be calibrated against historical and gauged flow data if available from the OPW and EPA hydrometric station network in the vicinity of the site;

## 8.8 CUMULATIVE EFFECTS

Based on the evaluation findings and the likely impacts and risks that may be anticipated, and the potential cumulative effects that may arise, guidance will be provided towards the mitigation of these impacts and minimisation of the associated risks during construction of the proposed wind farm.

## 9.0 AIR QUALITY AND CLIMATE

### 9.1 INTRODUCTION

The purpose of this section of the Environmental Scoping Report is to describe the scope of work and methods to be applied in the identification and assessment of air quality and climate impacts associated with the proposed Ballincor Wind Farm. A high-level overview of the baseline conditions is included, together with a review of relevant sensitive receptors, policy, and the study area.

#### 9.1.1 POLICY AND PLAN CONTEXT - AIR QUALITY

The assessment of Air Quality will be conducted with consideration of the relevant legislation and guidance including the following EPA guidelines:

- *Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)* (EPA, 2003);
- *Draft Advice Notes for Preparing Environmental Impact Statements* (EPA 2015a); and
- The EPA EIAR Guidelines (2022).

In order to reduce the risk to health from poor air quality, National and European statutory bodies have set limit values in ambient air for a range of air pollutants. These limit values or “Air Quality Standards” are health or environmental-based levels for which additional factors may be considered. For example, natural background levels, environmental conditions and socio-economic factors may all play a part in the limit value which is set. The statutory ambient air quality standards in Ireland are outlined in S.I. No. 180 of 2011 Air Quality Standards Regulations 2011 (hereafter referred to as the ‘Air Quality Regulations’), which incorporate the ambient air quality limits set out in Directive 2008/50/EC of the European Parliament and of the Council of 21 May 2008 on ambient air quality and cleaner air for Europe (hereafter referred to as ‘the CAFE Directive’), for a range of air pollutants.

The assessment of air quality will be conducted with consideration of the relevant legislation and guidance including:

- *Guidance on the Assessment of Dust from Demolition and Construction V1*. (IAQM, 2016);
- *A Guide To The Assessment Of Air Quality Impacts On Designated Nature Conservation Sites* (Version 1.1) (IAQM, 2020);
- *The TII Air Quality Guidelines* (TII, 2011);
- German VDI (2002) *Technical Guidelines on Air Quality Control - TA Luft*;
- *Guidelines for Assessment of Ecological Impacts of National Roads Schemes* (hereafter referred to as the ‘TII Ecological Guidelines’) (TII, 2009);
- *Environmental Impact Assessment of Projects - Guidance on the preparation of the Environmental Impact Assessment Report* (European Commission, 2017);
- United Kingdom (UK) Department of Environment Food and Rural Affairs (DEFRA) Part IV of the Environment Act 1995: *Local Air Quality Management Policy Guidance (PG16)* (hereafter referred to as LAQM (PG16)) (DEFRA, 2016);
- Part IV of the Environment Act 1995: *Local Air Quality Management Technical Guidance (TG16)* (hereafter referred to as LAQM (TG16)) (DEFRA, 2018);
- UK Highways Agency (Highways England) *Design Manual for Roads and Bridges (DMRB) - LA 105 Air Quality* (hereafter referred to as ‘LA 105 Air Quality’) (Highways England, 2019);



- World Health Organization (WHO) *Air Quality Guidelines for Particulate Matter, Ozone, Nitrogen Dioxide and Sulphur Dioxide Global* (Update 2021) (hereafter referred to as the 'WHO Air Quality Guidelines') (WHO, 2021); and
- Local Authority air quality and planning guidance.

### 9.1.2 POLICY AND PLAN CONTEXT – CLIMATE

In order to reduce the risk due to climate change, National and European statutory bodies have set targets for future greenhouse gas (GHG) emissions. Ireland has signed up to the Climate Action Plan 2021, which commits Ireland to a legally binding target of net-zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030. This plan specifically targets delivery of up to 80% renewable electricity by 2030.

The assessment of Climate will be conducted with consideration of the relevant legislation and guidance relating to climate which are set out in the following sections. In addition to specific climate guidance documents, the following guidelines were considered and consulted in the preparation of this Chapter:

- *Advice Notes on Current Practice (in the preparation of Environmental Impact Statements)* (EPA, 2003);
- *Draft Advice Notes for Preparing Environmental Impact Statements* (EPA, 2015); and
- The EPA EIAR Guidelines (EPA, 2022).

The assessment of climate will be conducted with consideration of the relevant legislation and guidance including:

- Climate Action and Low Carbon Development Act (Act. No. 46 of 2015) (hereafter referred to as the "Climate Act");
- Department of Communications, Climate Action & Environment (DCCAE) *National Mitigation Plan* (DCCAE, 2017a);
- Climate Action Plan 2023 (hereafter referred to as the CAP) (DECC 2022);
- Department of Transport, Tourism and Sport (DTTAS) *Transport – Climate Change Sectoral Adaptation Plan* (DTTAS, 2019);
- *Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment* (European Commission, 2013);
- General Scheme of the Climate Action (Amendment) Bill 2019 (hereafter referred to as the General Scheme) (DECC, 2021);
- *European Commission 2030 Climate and Energy Policy Framework* (European Commission, 2014);
- Transport Infrastructure Ireland (TII) *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes* (TII, 2011);
- Design Manual for Roads and Bridges (DMRB): LA 114 – *Climate* (UKHA, 2019);
- Institute of Environmental Management & Assessment (IEMA) *Assessing GHG Emissions and Evaluating their Significance* (IEMA, 2022);
- *IEMA EIA Guide to: Climate Change Resilience and Adaptation* (IEMA, 2020a);
- *IEMA GHG Management Hierarchy* (IEMA, 2020b);
- *Technical guidance on the climate proofing of infrastructure in the period 2021-2027* (European Commission, 2021a);
- *Forging a climate-resilient Europe - the new EU Strategy on Adaptation to Climate Change* (European Commission, 2021b);



- Climate Action and Low Carbon Development (Amendment) Act 2021 (No. 32 of 2021) (hereafter referred to as the “2021 Climate Act”); and
- Local Authority’s climate and planning guidance.

## 9.2 STUDY AREA

The Ballincor Wind Farm will be sited in County Tipperary and Offaly. The surrounding landscape is largely agricultural with areas of coniferous forestry and peatland occurring.

The land use in the immediate vicinity of the proposed Ballincor Wind Farm is rural. There are areas of forestry in proximity to the proposed wind farm.

It is determined that the scheme will require appropriate assessment of the degree of sensitivity of the siting and design (i.e., sensitivity of surroundings) of proposed infrastructure associated with the proposed development. It is expected that there will be sensitive residential receptors located within 200 m of grid connection options and construction traffic routes for the wind farm.

The construction phase study area is focused on potential impacts generally due to dust. These impacts usually occur within 350 m of the dust generating activity as dust particles fall out of suspension in the air. Dust impacts during the construction phase due to material handling activities, including excavation and backfill, on site may typically emit dust. Deposition typically occurs in close proximity to each site and therefore the study area is limited to a 350 m radius from any dust generating activities and up to 500 m along haul routes from the site entrance.

The study area with respect to impacts to air quality due to emissions from vehicle and HGV movements is limited to sensitive receptors less than 200 m from road links which are affected by significant changes in traffic volume (i.e., above 5%). This study area is the same for designated areas of conservation (either Irish or European designation) with respect to ecology as the potential impact is highest within 200 m of the road links and when significant changes in AADT (>5%) occur.

There are no EPA Industrial Emissions Licence (IEL) holders or Waste licenced facilities within 2 km of the proposed development. Due to the nature of climatic effects, if significant emissions occur, they will have the potential to impact Ireland’s commitments and targets under various EU Climate Agreements and other international agreements. Therefore, the study area can be classed as Ireland.

## 9.3 SENSITIVE RECEPTORS

The assessment will take account of sensitive receptors relevant to the proposed development. Sensitive receptors include locations where people spend significant periods of time, such as domestic properties. Examples of these sensitive receptors include:

- Residential dwellings;
- Industrial or commercial uses sensitive to dust;
- Recreational areas and sports grounds;
- Schools and other educational establishments;
- Buildings of religious sensitivity;
- Designated ecological area of conservation (either Irish or European designation);
- Hospitals and nursing homes; and



- Offices or Shops.

Due to the location of the site, the receptors with the greatest potential for impact are considered to be nearby residential dwellings.

Ireland declared a climate and biodiversity emergency in May 2019 and in November 2019 European Parliament approval of a resolution declaring a climate and environment emergency in Europe, in addition to Ireland's current failure to meet its EU binding targets under Regulation (European Union, 2018). This results in changes in GHG emissions either beneficial or adverse are of more significance than previously considered prior to these declarations. Climate is therefore considered a highly sensitive receptor.

## 9.4 DESKTOP AND FIELD SURVEYS

### 9.4.1 AIR QUALITY

A desktop review of available baseline air quality data within the study area will be undertaken.

Assessment criteria for the impact of dust during the construction phase are set out in the TII guidelines (TII, 2011) and the Institute of Air Quality Management (IAQM) guidelines (IAQM, 2014). These are used to assess the impact of dust emissions from construction and demolition activities based on the scale and nature of the works and the sensitivity of the area to dust impacts. It is important to note that the predicted impacts associated with the earthworks and construction phases of the proposed development are short term and temporary in nature.

The following data sources will be referred to during the air quality assessment:

- EPA National Ambient Air Quality Monitoring Data Archive;
- EPA Air Quality in Ireland 2021 Report and previous reports (1997 – 2020);
- EPA Geo Portal Data and Mapping; and
- EPA Integrated Pollution Control Licences.

Air quality monitoring programs have been undertaken in recent years by the EPA and Local Authorities. The most recent annual report on air quality, the *Air Quality Monitoring Annual Report 2021* (EPA, 2022), details the range and scope of monitoring undertaken throughout Ireland. A review of existing baseline levels of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> based on extensive long-term data from the EPA are well below ambient air quality limit values in the vicinity of the proposed wind farm.

### 9.4.2 CLIMATE

Climate is defined as the average weather over a period of time, whilst climate change is a significant change to the average weather. Climate change is a natural phenomenon but in recent years human activities, through the release of GHGs, have impacted on the climate (Intergovernmental Panel on Climate Change (IPCC), 2022). The release of anthropogenic GHGs is altering the Earth's atmosphere resulting in a 'Greenhouse Effect'. This effect is causing an increase in the atmosphere's heat trapping abilities resulting in increased average global temperatures over the past number of decades. The release of CO<sub>2</sub> as a result of burning fossil fuels, has been one of the leading factors in the creation of this 'Greenhouse Effect'. The most significant GHGs are CO<sub>2</sub>, methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).



For the purposes of this assessment, the definition outlined in Council Directive 2009/28/EC on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (European Union 2009) for GHGs has been used. In 'Annex V, C. Methodology Point 5' the relevant GHGs are defined as CO<sub>2</sub>, CH<sub>4</sub> and N<sub>2</sub>O. CO<sub>2</sub> accounted for 60.9% of total GHG emissions in Ireland in 20120 while CH<sub>4</sub> and N<sub>2</sub>O combined accounted for 37.7%. The main source of CH<sub>4</sub> and N<sub>2</sub>O is from the agriculture (~93%) sector (EPA, 2022).

GHGs have different efficiencies in retaining solar energy in the atmosphere and different lifetimes in the atmosphere. In order to compare different GHGs, emissions are calculated on the basis of their Global Warming Potential (GWPs) over a 100-year period, giving a measure of their relative heating effect in the atmosphere. The IPCC Sixth Assessment Report (AR6) (IPCC, 2021) sets out the global warming potential for 100-year time period (GWP100) for CO<sub>2</sub> as the basic unit (GWP = 1) whereas methane gas (CH<sub>4</sub>) has a global warming potential equivalent to 27-30 units of CO<sub>2</sub> and N<sub>2</sub>O has a GWP100 of 273.

Data published in 2022 (EPA, 2022) predicts that Ireland exceeded its 2020 annual limit set under EU's Effort Sharing Decision (ESD) No 406/2009/EC by 6.75 million tonnes CO<sub>2</sub> equivalent (Mt CO<sub>2</sub>eq). The sector with the highest emissions is agriculture at 37.1% of the total, followed by transport at 17.6%. GHG emissions from the transport sector reduced by 15.7% in 2020. Due to COVID-19 lockdowns 2020 may be considered an atypical year with respect emissions.

### 9.4.3 CONSULTATION

Consultation is important in order to ensure that a sufficiently robust environmental baseline is established for the proposed development and its surroundings. It helps to identify specific concerns and issues relating to air quality and climate early on in the process. Public consultation will be carried out along with consultation with the EPA and NPWS.

## 9.5 CUMULATIVE EFFECTS

Cumulative impacts on air quality due to unmitigated dust have the greatest potential for significant impacts however with mitigation measures in place the potential for cumulative impacts is insignificant.

The cumulative impact, during the operational phase with respect to local air quality are predicted to be imperceptible and climate impacts are predicted to be beneficial over the long term during the operational phase of the proposed wind farm.

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## 10.0 MATERIAL ASSETS: SHADOW FLICKER

### 10.1 INTRODUCTION

The purpose of the Shadow Flicker assessment will be to assess the potential impacts of the proposed wind farm to sensitive receptors in the surrounding environment.

### 10.2 STUDY AREA

The study area will incorporate all sensitive receptors which have the potential to be impacted by shadow flicker from the proposed wind farm.

The shadow flicker assessment will be carried out using windPRO modelling software and in accordance with the guidelines set out in the 2006 Wind Energy Guidelines as well as the Draft Revised Wind Energy Guidelines (December 2019). Consideration will also be given to relevant UK guidance including "*Update of UK Shadow Flicker Evidence Base*" carried out by Parsons Brinckerhoff in 2011.

### 10.3 SENSITIVE RECEPTORS

The envelope within which sensitive receptors will be evaluated will be determined by the size, scale and layout of the final wind farm. The current Wind Energy Guidelines (2006) outline that at distances greater than ten rotor diameters from a turbine, the potential for shadow flicker is very low, therefore the assessment will initially consider all sensitive receptors within 2km of the proposed turbines. This will be revised as necessary to identify all potential receptors. The design will also consider the Draft Revised Wind Energy Development Guidelines (December 2019) and any subsequent updates.

### 10.4 DESKTOP AND FIELD SURVEY

The extent and impact of Shadow Cast Analysis and Shadow Flicker depends on the relative positions and orientation of nearby houses and wind turbines, the presence of windows facing on to the proposed wind farm, the absence/presence of vegetation or other obstructions between the houses and the wind farm etc. This will be assessed as part of the EIA.

WindPRO Computer Modelling software will be employed, for this element of the assessment, through the use of the shadow module. This facilitates calculation and documentation of flickering effects in terms of hours per year during which a specific receptor or an area would be exposed to flickering from nearby turbine rotors.

For each receptor identified, maximum minutes of potential shadow flicker per day are calculated. The software can calculate the worst-case results (sun always shining in daytime, turbines always rotating and wind direction "worst case") or the "real expected values", based on assumptions on solar statistics and operating hours divided by wind direction. Typically, calculations are made in a worst-case scenario assuming that each sensitive receptor location has windows on all sides (i.e., glasshouse effect) but can also allow for user defined windows on properties.

Results will be presented in the form of calendars, cumulated hours with flicker or, for the area calculation, as maps of flicker hour isolines.



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## 10.5 CUMULATIVE EFFECTS

Cumulative impacts of shadow flicker from existing operational or consented wind farms will also be included in the assessment. The configuration of existing or consented wind farms can be added to the model and is particularly relevant to consider properties which may experience low levels of shadow flicker from one or more wind farms on their own but may be significantly impacted by adjacent wind farms.



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## 11.0 MATERIAL ASSETS: AVIATION, TELECOMMUNICATIONS & ELECTROMAGNETIC INTERFERENCE

### 11.1 INTRODUCTION

This chapter will detail the telecommunications baseline environment of the proposed development site and identify the possibility of interference occurring to telecommunications and radio transmissions as a result of the wind turbine installations as well as potential impacts for commercial/private aviation authorities and associated communications.

### 11.2 STUDY AREA

The operators of telecommunications and aviation assets in the vicinity of the proposed development will be identified, and through consultation with them, it will be determined whether there is any potential interaction or interference with the assets within the study area as a result of the potential development.

### 11.3 SENSITIVE RECEPTORS

As part of the study of potential impact to telecommunications and aviation operators by the Ballyfasy Wind Farm, identified stakeholders will be approached with project details and asked to revert with any potential impacts on their communications and flight management infrastructure. An initial list of telecommunications consultees has been prepared and will be added to as necessary throughout the project.

### 11.4 DESKTOP AND FIELD SURVEY

The Television and Radio Impact Assessment will include:

- Identification of sources of local TV and radio reception;
- Identification of local telecommunications transmitters;
- Site surveying of telecommunications infrastructure including a microwave link survey;
- Determining if the turbines are in the path between the receptors and transmitter;
- Liaison with RTÉ as required to assess impacts and address any queries or issues should they arise;
- Carrying out a baseline interference assessment; and
- Providing recommendations for pre and post construction monitoring.

The Radar, Telecommunications and Aviation Impact Assessment will include:

- Identification of local telecommunications and aviation microwave links;
- Desktop assessment of all identified aviation infrastructure and aviation routes which could potentially be impacted by the proposed development;
- Liaison with all relevant Radar, Telecommunications and Aviation operators to assess impacts and address any queries or issues should they arise;
- Determining if the turbines are in the path between the receptors and transmitter;
- Examining the interference scenario;
- Identification of predicted impacts;
- Mitigation Studies;



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- Measurement of existing electromagnetic environment and statement regarding future compliance to relevant regulations; and
  - Providing recommendations for pre and post construction monitoring.

## 11.5 CUMULATIVE EFFECTS

The potential for cumulative impacts is low because the interference that is generated from a wind turbine is directly related to the presence of that turbine in the path of television or communication link signal and less likely to be generated from multiple cumulative reflections. However, consideration will be given to other wind farm developments and relevant infrastructure as part of this assessment.

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## 12.0 NOISE AND VIBRATION

The Noise and Vibration chapter of the EIAR will assess the potential impacts of the proposed development on sensitive receptors in the surrounding environment during the construction, operational and decommissioning phases. The principal objectives of the Noise and Vibration assessment will be to specify appropriate limit values and mitigation measures to ensure that the specific limits can be achieved and to minimise impact on the noise sensitive receptors where possible.

The assessment of wind turbine noise will be undertaken with reference to the most appropriate guidance documents relating to environmental noise and vibration, such as the Institute of Acoustics (IOA) publication, *A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise* (May 2013), and the *Wind Energy Development Guidelines* (2006) or more recent revision (if applicable).

In addition to these specific guidance documents for the assessment of noise and vibration, the EPA EIAR Guidelines (2022) will be followed when preparing the EIAR chapter.

### 12.1 STUDY AREA

The study area for the operational phase will cover at least the area predicted to exceed 35 dB  $L_{A90}$  when all existing and proposed turbines are at their maximum output noise level and will include all identified Noise Sensitive Locations (NSLs) that are within this area.

For the construction phase, properties within 500 m of the proposed construction activities or the nearest NSL if greater than 500 m will be considered in the assessment.

### 12.2 RECEIVING ENVIRONMENT

#### 12.2.1 BACKGROUND NOISE SURVEY

A background noise monitoring survey will be completed at several NSL's in the vicinity of the proposed development site and within the defined study area.

All measurements will be conducted in accordance with the IOA document *A Good Practice Guide to the Application of ETSU-R-97 for The Assessment and Rating of Wind Turbine Noise*(IOA GPG) and the associated supplementary guidance notes.

The results of the background noise survey will be used to identify appropriate noise criteria for the various phases of the proposed development with reference to the appropriate guidance documents.

### 12.3 ASSESSMENT OF IMPACTS

The noise survey work will characterise the existing noise environment in the area and facilitate the quantification of potential noise impact which may arise from the proposed development. The potential noise and vibration impacts will be considered for the following phases:

- Construction Phase;
- Operational Phase; and
- Decommissioning Phase.



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A cumulative assessment that includes existing and consented wind farms, and other relevant developments, will be undertaken in accordance with best practice guidance.

### 12.3.1 CONSTRUCTION PHASE

Typical construction noise levels associated with various elements of the proposed development will be predicted at the facades of the closest noise-sensitive locations in the vicinity of the development through calculations. All noise prediction calculation will be conducted in accordance with the guidance contained in ISO 9613:1996: *Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation*. Source noise levels will be obtained from BS 5228 2009 +A1 2014 *Code of practice for noise and vibration control on construction and open sites*.

Vibration during construction will also be considered regarding the potential impact of residential amenity and potential structural damage to buildings.

### 12.3.2 OPERATIONAL PHASE

Noise levels at all the identified noise sensitive locations will be predicted using a proprietary noise modelling package. All predictions will be done in accordance with ISO 9613: *Acoustics – Attenuation of Sound Outdoors, Part 2: General Method of Calculation* (ISO, 1996) using the recommended calculation settings outlined in the IOA GPG. The use of a computer-based noise model lends itself to ongoing evaluation of design changes and provides output that is detailed and extensive. Noise contour maps will be generated for the site noise models illustrating turbine noise levels in the study area.

The results obtained from the prediction calculations will be used to assess the likely noise impact from the operation of the proposed turbines. This will include the assessments at various noise sensitive locations with consideration of various wind direction sectors. Where necessary, noise control measures will be considered.

Discussion of other issues will be undertaken where appropriate (e.g., tonality, low frequency noise/Infrasound, amplitude modulation etc.).

The potential noise impact associated with road traffic movements and other ancillary parts of the development including the substation and any other permanent source of noise will be assessed and included as part of the noise chapter.

## 12.4 CUMULATIVE EFFECTS

A cumulative assessment considering existing and permitted and proposed windfarms will be undertaken.



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## 13.0 LANDSCAPE AND VISUAL IMPACT ASSESSMENT

### 13.1 INTRODUCTION

The purpose of this section of the Scoping Report is to describe the scope of work and methods to be applied in the identification and assessment of landscape and visual impacts associated with the proposed Ballincor Wind Farm.

### 13.2 STUDY AREA

The current 2006 Wind Energy Development Guidelines specify different radii for examining the Zone of Theoretical Visibility of proposed wind farm projects ('ZTV'). The extent of this study area is influenced by turbine height as follows:

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

In the case of this project, the blade tips will be over 100 high and, thus, the minimum ZTV radius required is 20 km from the outermost turbines of the proposed development.

Consideration will also be given to the guidelines set out in the Draft Revised Wind Energy Guidelines (December 2019) and various Scottish Natural Heritage (known as NatureScot) wind farm guidelines in respect of landscape and visual impact.

### 13.3 SENSITIVE RECEPTORS

The Ballincor site is not located in an area of High Amenity. The majority of the site is located in an area classified as a "Moderate Landscape Sensitivity" in the Offaly CDP.

Table 4.19 of the CDP states that Moderate sensitivity areas can accommodate development pressure but with limitations in the scale and magnitude. In this category of sensitivity, elements of the landscape can accept some changes while others are more vulnerable to change. It also states that "*cutaway bogs may be appropriate for other sensitively designed and located developments including renewable energy (wind farms, biomass crops) and/or industrial use*". Whilst this statement is to be welcomed it must also be understood in the context of planning risk as discussed in Section 5.5.

There are no key scenic views, prospects or key amenity routes located close to the site.

Whilst the development is wholly located in County Offaly, it is important to consider wind energy policy/designations in the adjoining counties, as the proposed development may have the potential to influence these landscapes areas.

Visual receptors will be selected from the following categories;

- Designated scenic routes / views (CDP)
- Local Community views (roads and residences within approximately 5km)
- Centres of Population
- Major Transport Routes
- Amenity, Heritage and Tourism locations



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## 13.4 SURVEY METHODS

### 13.4.1 DESKTOP AND FIELD SURVEY

The desktop study will comprise of the following:

- Prepare and review of Zone of Theoretical Visibility (ZTV) maps, which indicates areas from which the development is potentially visible in relation to terrain within the Study Area;
- Review of relevant County Development Plans, particularly with regard to sensitive landscape and scenic view/route designations;
- Selection of potential Viewshed Reference Points (VRPs) from key visual receptors to be investigated during fieldwork for actual visibility and sensitivity; and
- Preparation of an initial VRP selection report and associated map for consultation purposes (Planning Authorities).

Fieldwork will consist of:

- Select a refined set of VRP's for assessment.
- Record a description of the landscape elements and characteristics within the Study Area generally and also within view from each VRP.
- Capture high quality base photography from which to prepare photomontages of the proposal.

## 13.5 IMPACT ASSESSMENT

The assessment of landscape effects involves establishing the landscape baseline. This includes consideration of the geographic location and landscape context of the proposed wind farm as well as the essential landscape character and salient features of the wider Study Area and is discussed with respect to; landform and drainage and; vegetation and land use. The visual baseline is more population based, but still overlaps with elements of the landscape baseline. The visual baseline is discussed in relation to; centres of population and houses; transport routes and; public amenities and facilities. Once the baseline environment is established an assessment of the potential significant effects associated with the proposed development will be carried out. In accordance with the Guidelines for Landscape and Visual Impact Assessment (2013), the method for estimating the significance of landscape impacts and visual impacts is very similar. This is summarised in the diagram below.



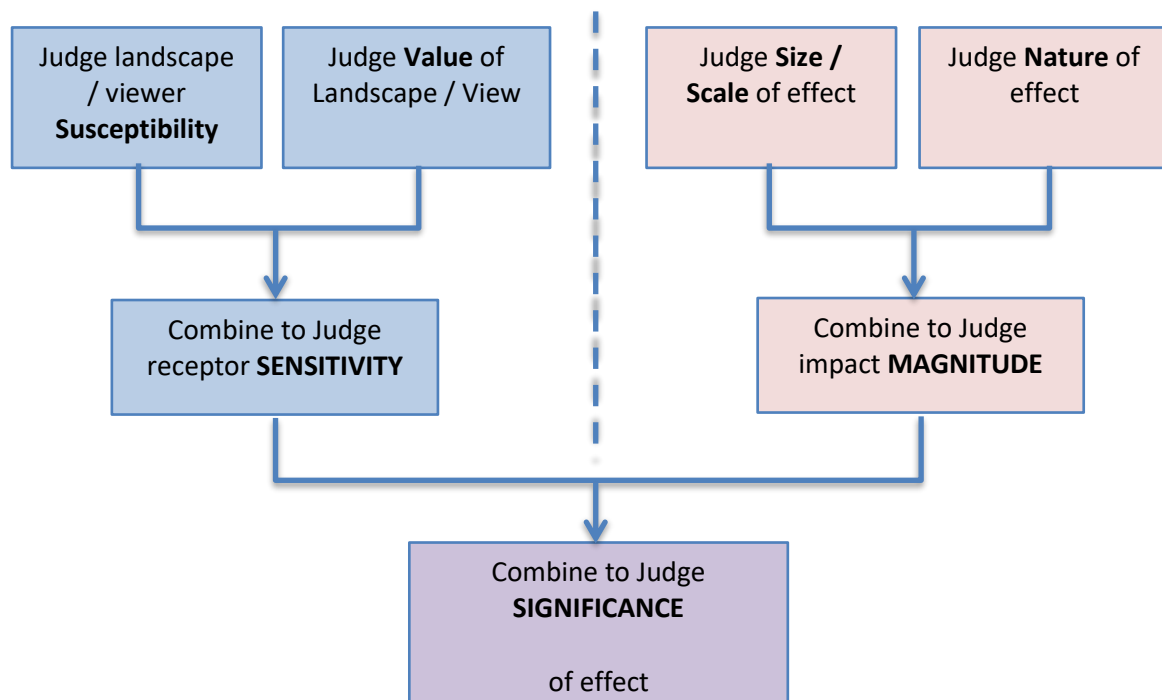


Figure 13.1-- Method for assessing Landscape Impact significance and Visual Impact significance (based on GLVIA - 2013)

### 13.5.1 LVIA ASSESSMENT TOOLS / TECHNIQUES

The following assessment tools and techniques will be considered for this project and applied as appropriate and beneficial to the assessment.

#### Photomontages:

Photomontages are photo-realistic depictions of the proposed development superimposed on baseline photography at selected receptor/viewpoint locations. The photomontages will be fully compliant with the most recent SNH guidelines (2014).

In the case of the Ballincor Wind Farm, it is anticipated that approximately 25 no. viewpoints will be required overall. It is imperative that base photography is captured in the clearest of viewing conditions, especially where existing turbines are contained within the view.

#### Route Screening Analysis (RSA):

The project team landscape specialist has developed a 360° vehicle mounted photo-capture unit to gather imagery every second (approximately 15m intervals). The images are then synchronised with a 3D model of the proposed development for rapid analysis of screening levels. When used in vegetated lowland landscapes, RSA has shown actual visibility to be much less than indicated by traditional Zone of Theoretical Visibility (ZTV) maps.

#### Theoretical Visual Intensity (TVI) Mapping:



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Because traditional ZTV maps are of limited value in illustrating likely comparative visual prominence over distance, a more advanced form of visibility mapping will also be utilised, which takes into account both the scale in relation to distance of the proposed development and the degree to which it is visible within the 'bare-ground' terrain context. TVI mapping will highlight, at the baseline stage, those areas that have the most potential to be significantly affected by views of the proposed development as well as areas where visual impacts are not likely to be significant.

#### 360° On-line Photomontage Viewer:

This is principally a design team collaboration tool but can be used for consultation purposes also. All viewpoint photography will be captured in 360° and early-stage design iterations will be presented on an on-line photomontage viewer, which is calibrated to a 24-inch screen allowing the viewer to pan around the image as if turning their head. This resource allows the project team to efficiently compare design options and discuss potential impacts / design solutions.

### 13.6 CUMULATIVE EFFECTS

Cumulative impacts will be assessed in accordance with the SNH guidance note for 'Assessing the cumulative impact of onshore wind energy developments' (2012) taking account of 'Combined Views' 'Succession Views' and 'Sequential Views'. The landscape specialist will use their own on-line viewer (see detailed description above) to compare 360° photography against corresponding 360° cumulative Wireframe images to aid the cumulative impact assessment.

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## 14.0 CULTURAL HERITAGE

### 14.1 INTRODUCTION

The principle aim of the Cultural Heritage Assessment is to anticipate and avoid impacts on the cultural heritage resource. Detailed constraints mapping in GIS will form the basis of this work, followed by further analysis of sites that will potentially be impacted upon, and field surveys to ground truth the results of the desk-based assessment and ascertain the significance of any potential impacts.

### 14.2 STUDY AREA

IAC Archaeology will map the Study Area in GIS and identify the cultural heritage resource within the broader area. The various data sources (including but not limited to OSI mapping and historic mapping, aerial photography, archaeological sites, architectural sites and other cultural heritage sites) will be presented as GIS datasets which will be combined with desktop data.

### 14.3 SENSITIVE RECEPTORS

The archaeological and architectural sites noted above will be reviewed in GIS to ascertain whether there is a potential for direct or indirect impacts or for impacts on the setting of cultural heritage sites. Where sites are in visually prominent locations and may be susceptible to impacts on their setting from visually prominent development in the wider area these will also be mapped. Sensitive receptors within and in the vicinity of the study area of the proposed Ballincor Wind Farm will be identified as part of the scoping, constraints and EIAR process. Initial analysis has indicated that there are no recorded monuments located on the proposed wind farm site. The Recorded Monuments located closest to the site within approximately 800m of the site boundaries include-- Enclosures; Children burial ground; Ecclesiastical enclosure; Ringforth; House; House - fortified house There are also several buildings designated as part of the National Inventory of Architectural Heritage (NIAH) including farm houses and country houses.

### 14.4 DESKTOP AND FIELD SURVEYS

All cultural heritage work will be cognisant of best current practice. IAC Archaeology will undertake preliminary windscreen surveys to ensure that any potentially significant cultural heritage constraints are noted as early as possible. Along with analysis of the density of cultural heritage sites within and in the vicinity of the proposed development, this will form the basis of the initial scoping report. IAC Archaeology will produce written studies identifying cultural heritage constraints (including sites where there is potential for impact on setting). This initial scoping document will comprise a high-level report outlining the relevant legislation and what the designated and undesignated cultural heritage sites that could be impacted on by the proposed development are. It will include a review of County Development Plans, Heritage Plans, Landscape Conservation Areas, other heritage studies such as industrial heritage surveys and relevant Policies and Objectives. A report will be produced that provides written description of data including how and when it was obtained and outlining the various degrees of legislative protection and importance.



Cultural heritage sites located in the immediate vicinity of the proposed development which could be subject to direct physical impacts during the construction phase will be highlighted for review of design to avoid impacts where possible. We will also undertake a review of the data to highlight sites with particular sensitivity to impacts on setting that are located within the surrounding landscape. IAC Archaeology will assist the lead consultant in the layout optimisation process as necessary, providing specialist feedback in relation to cultural heritage issues. A review of cartographic sources and aerial photography will be carried out at this stage, and any anomalies observed will be mapped and recorded. Any issues arising will be flagged at this stage for further investigation.

A second phase of field inspection will be carried out to investigate any identified anomalies and ground truth the desktop analysis. This will, where possible, involve viewing sites from nearby roads or field visits. A survey of the proposed cable and haul routes will also be carried out. The survey team allocated to this task will note, record and locate vernacular features which could be impacted upon by the proposed works. This will include Protected Structures, bridges, street furniture etc. and other cultural heritage features as well as other cultural heritage features in the vicinity of these proposed routes.

Upon completion of a final design of access routes, haul roads, substations, connections and location of turbines etc., IAC Archaeology will undertake the preparation of the Cultural Heritage Chapter of the EIAR. This work will be completed to the highest standards of professional best practice and cognisant of EPA guidelines, relevant County Development Plans, Best Practice Guidelines and legislative protection afforded to the archaeological, architectural and cultural heritage resource. IAC Archaeology will ensure that the scope and extent of the cultural heritage chapter are appropriate to form the basis of the EIAR to be submitted with the application. Following completion of the preliminary baseline study and preliminary assessment of impacts, and, subsequent to freezing of site layout, a final programme of fieldwork will be undertaken to ground truth the results of the desk-based work and ascertain the likely potential significance of the impacts that the proposed development may have on the cultural heritage resource. Sites that may experience impacts from the proposed development will be visited and the potential impacts qualified and quantified in line with EPA guidelines.

IAC Archaeology will work closely with the landscape consultant in highlighting the most important archaeological and architectural sites and coordinate with them in the production of photomontages from the most sensitive archaeological and architectural receptors.

A detailed assessment will be carried out on any potential impacts that the proposed development may have on the cultural heritage resource, based on analysis of the data sources listed above and elsewhere herein. Any potential impacts identified will be discussed with the project team and amendments made to the proposed design where possible to eliminate or minimise the potential impact.

## 14.5 CUMULATIVE EFFECTS

Based on the findings and the likely impacts and risks that may be anticipated, and the potential cumulative effects that may arise, guidance will be provided towards the mitigation of these impacts and minimisation of the associated risks during construction.



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## 15.0 TRAFFIC AND TRANSPORT

### 15.1 INTRODUCTION

The purpose of the traffic and transportation assessment will be to assess the potential impacts of the proposed wind farm on the surrounding roads and potential sensitive receptors. The potential requirement for a preliminary construction stage traffic management will be assessed as part of the EIAR process.

### 15.2 STUDY AREA

The national road, the N62, is approximately 3km from the proposed Ballincor Wind Farm. The R492 is located in the vicinity of the proposed wind farm and there is good local access.

### 15.3 SENSITIVE RECEPTORS

As detailed in Section 5, sensitive receptors in the vicinity of the proposed wind farm will be identified as part of the scoping and EIAR process.

### 15.4 DESKTOP AND FIELD SURVEY

The primary traffic related impact caused by a wind farm generally occurs during the construction stage of the project. As such, the traffic assessment within the EIAR will focus on the impacts that will be associated with the construction of the wind farm. From the site investigation works, the quality of the materials that will be arising from excavations will be considered and peat/overburden will be side cast or deposited elsewhere on the site for beneficial reuse.

The extent of rock, sand and gravel on-site will be identified, and it is expected that if present that this will be exploited in order to minimise traffic movements to and from the site. The wind farm will also be designed such that all surplus excavated materials will be used on-site for landscaping purposes thereby minimising the volume of materials leaving the site, reducing the cost of disposal and minimising the construction traffic.

Using aerial photography and mapping, haul routes will be identified for the construction process. These haul routes will be originally assessed by undertaking a site visit and driving the proposed haul routes. A qualitative assessment of the proposed haul routes will be carried out identifying pinch points, tight bends, steep elevations, poor pavement conditions, road structures, watercourse crossings etc. and the haul routes will be revised where necessary. Swept path analysis will be undertaken at identified constraints by the traffic specialists to inform the assessment. Early engagement with third party landowners will be undertaken where details of external road improvements are proposed and these will be included in the EIA as appropriate.

The traffic team will also look at traffic access to the site from the public road network, including sightlines and advise on any limitations. They will consider if the existing site access is appropriate for construction and work vehicles to enter and exit the site in a safe manner. Due to the location and existing land use, steep gradients are envisaged on existing access roads. Longitudinal profiles and sections shall be undertaken in accordance with the TII



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Publication Rural Road Link Design (DN-GEO-03031 June 2017) to develop suitable road levels.

Using information on the project construction methodology, an estimate of the number of vehicles (both light and heavy good vehicles) that would be generated by the construction phase, will be produced. These estimates can be used to assess the impact on the road network in numerical terms and will also feed into other EIAR chapters such as noise and air quality. The Road / Traffic Section of Offaly County Council will be consulted, and the relevant information will be taken into consideration in accordance with the Traffic and Transportation Assessment Guidelines, May 2014 (PE-PAV-02045).

The Traffic Chapter of the EIAR will be completed, taking into consideration the information generated during the processes described above, identifying impacts and proposing mitigation measures where appropriate. A separate report, a Traffic and Transportation Assessment Report, will be appended to the EIAR.

Typically, wind farms are located in rural areas and this poses challenges for the delivery of abnormal load turbine components to site. The proposed Wind Farm are no different in this respect and so one of the key roads and traffic issues will be identifying a suitable haul route for the successful and safe delivery of turbine components to site.

A preliminary Construction Traffic Management Plan will be prepared for the Haul Route for the construction traffic and the abnormal load haul route, outlining

- Objectives
- Existing site conditions
- Proposed Construction (Traffic volumes, staffing levels, construction equipment and Abnormal Loads)
- Proposed Traffic Management Plan (Accesses, Signage, Vehicle Routing, Material Deliveries, Construction Speed Limits, Road Cleaning and CTMP Enforcement); an
- Proposed Emergency Procedures for the Construction Stage

The requirement for the preparation of a Stage 1 Road Safety Audit (RSA) will be considered and discussed with the traffic department in Offaly County Council. Where required, this will be completed by a suitably qualified traffic expert and included in the EIAR.

## 15.5 CUMULATIVE EFFECTS

Based on the site investigation findings and the likely impacts and risks that may be anticipated, and the potential cumulative effects that may arise, guidance will be provided towards the mitigation of these impacts and minimisation of the associated risks during construction, operation and decommissioning.



## 16.0 INTERACTION OF THE FOREGOING

A section of the EIAR entitled “Interaction of the Foregoing” will summarise the primary interrelationships of aspects of the various environmental topics with the potential for significant effects as a result of the proposed development.

## 17.0 SCHEDULE OF MITIGATION MEASURES

A summary chapter collating all of the mitigation measures relevant to the proposed development will be included in a standalone section of the EIAR i.e., a Schedule of Mitigation Measures.

## 18.0 CONSULTATION

### 18.1 SCOPING CONSULTATION

Following the preliminary design of the Ballincor Wind Farm layout and turbine locations, it is proposed that the project team will commence consultation initially with the bodies listed below, in order to allow sufficient time for receipt of meaningful feedback.

Table 18.1: EIAR Consultees

Aeronautical Information Service - AirNav Ireland	Department for Defence
Astronomical Observations of Ireland / Irish Astronomical Society	Department for Enterprise, Trade and Employment
An Garda National Roads Policing Bureau	Department for Health
An Taisce - The National Trust for Ireland	Department for Housing, Local Government and Heritage
Bat Conservation Ireland	Department for Rural and Community Development
BirdWatch Ireland	Department for the Environment, Climate and Communications
Birr Aerodrome	Department for Tourism, Culture, Arts, Gaeltacht, Sport and Media
Birr Castle Demesne	Department for Transport
Broadcasting Authority of Ireland	Electric Ireland
Clonbullogue Aerodrome	ESBN,
Commission for Regulation of Utilities (CRU)	ESB Telecoms,
Córas Iompair Éireann (CIÉ)	Gas Networks Ireland
Eastern and Midland Regional Assembly	Mountaineering Ireland
EirGrid Group	Moneygall Aerodrome*
EIR,	Moyne Aerodrome
Environmental Protection Agency (EPA)	National Parks and Wildlife Services
Fáilte Ireland	National Transport Authority (NTA)
Geological Survey of Ireland (GSI)	
Health & Safety Authority (HSA)	



Health Service Executive (HSE) South	Offaly County Council
Imagine Networks Services	Office of Public Works (OPW)
Inland Fisheries Ireland (IFI)	Ormand Flying Club
Irish Aviation Authority (IAA)	RTE NL/2RN
Irish Hang Gliding and Paragliding Association	Shannon Airport
Irish Peatland Conservation Council	Southern Regional Assembly
Irish Raptor Study Group	Sport Ireland
Irish Red Grouse Conservation Trust	Sustainable Energy Authority of Ireland (SEAI)
Irish Trails - Sport Ireland	Teagasc
Irish Wildlife Trust (IWT)	The Arts Council (An Chomhairle Ealaíon)
Killenaule Airfield	The Heritage Council
Kilkenny Airport	Three Ireland
Met Éireann	Tipperary County Council
Department for Agriculture, Food and the Marine	Transport Infrastructure Ireland (TII)
	Uisce Éireann
	Virgin Media
	Waterways Ireland

Additional consultees will be contacted throughout the preparation of the EIAR.

## 18.2 PUBLIC CONSULTATION

The Community Engagement Strategy for the Project is based around engaging with the local community in an open, honest and transparent manner with the aim to not only provide clear and understandable information but also to gain feedback to understand the views of the local community. This feedback and information will be used to inform the design process, thereby allowing the local community an opportunity to have an influence on the project design. Consultation with the local community is ongoing.

TOBIN and the project team will be providing assistance to the RWE Engagement Team where needed, particularly in areas where technical specialist knowledge is required.

