FEHILY TIMONEY

DESIGNING AND DELIVERING A SUSTAINABLE FUTURE

ENVIRONMENTAL IMPACT ASSESSMENT REPORT (EIAR) FOR THE PROPOSED SHANCLOON WIND FARM, CO. GALWAY

VOLUME 2 – MAIN EIAR

CHAPTER 1 - INTRODUCTION

Prepared for:

RWE Renewables Ireland Ltd.

RWE

Date: **August 2025**

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TABLE OF CONTENTS

LIST OF APPENDICES (Volume III)

LIST OF TABLES

1. INTRODUCTION

Fehily Timoney and Company (FT) has prepared this Environmental Impact Assessment Report (EIAR) on behalf of RWE Renewables Ireland Ltd., who intend to apply to An Bord Pleanála for planning permission to construct a wind energy development (the Proposed Development) in County Galway, c. 8.5km north-west of Tuam, County Galway and c. 4km north-east of Shrule, County Mayo (which is the closest settlement to the Proposed Development).

The Proposed Development, for which consent is being sought, as assessed in this EIAR comprises the following elements:

- The wind farm site (referred to in this EIAR as the 'Site') which includes the on-site 110 kV substation and loop-in connection to the existing Cashla-Dalton overhead line;
- The turbine delivery route (referred to in this EIAR as the 'TDR').

An overview of the Proposed Development location is shown in Figure 2.1.

The Site is located within the townlands of Beagh, Beagh More, Cloonbar, Cloonmweelaun, Cloonnaglasha, Cloonteen, Corillaun, Derrymore, Ironpool, Shancloon, Toberroe and Tonacooleen, County Galway. Of these, the on-site substation is located within Corillaun and loop-in connection within neighbouring Tonacooleen.

The TDR will be from Galway Port and will pass through the following townlands along the road network: Airgloony, Annagh, Annagh Beg, Annagh Hill, Ballinphuil, Ballintober, Ballybaan Beg, Ballybackagh, Ballybanagher, Ballybrit, Ballygaddy, Beagh, Brockagh, Bullaun, Caherateemore North, Caherateemore South, Caherbriskaun, Caraunduff, Carnmore, Carnmore West, Castlegrove West, Castlelambert, Cloonascragh, Cloondarone, Cloonkeen North, Cloonkeen South, Cloonmore, Cloonmweelaun, Cloonnavaddoge, Cloonteen, Cloontooa, Coolagh, Doughiska, Fartagar, Garraun North, Garrauncreen, Glenmore, Glennascaul, Ironpool, Killaloonty, Killeelaun, Kilmore, Kilskeagh, Laragh More, Lisheenkyle East, Lisheenkyle West, Mahanagh, Mira, Palmerstown, Pollacorragune, Pollnagroagh, Rathmore, Rathmorrissy, Sheeaunpark, Tobernavean and Townparks.

A full description of the Proposed Development, including the TDR, is provided in Chapter 2 – Development Description of this EIAR which should be read in conjunction with the figures presented in Volume IV of this EIAR, with general layouts presented in Figure 2.2a, Figure 2.2b and Figure 2.2c and TDR in Figure 2.3.

On 28th May 2025 An Bord Pleanála (The Board) (later referred to as An Coimisiún Pleanála)[1] deemed the Proposed Development is eligible as Strategic Infrastructure Development (SID) by way of a notice served under section 37B(4)(a) of the Planning and Development Act 2000 as amended and the application is being made directly to the Board (case ref. ABP-321507-24). The Board are the competent authority for the purposes of the Environmental Impact Assessment (EIA).

[1] NOTE: Part 17, Section 495(3) of the Planning and Development Act 2024 provides that references in any enactment, legal proceedings or document to An Bord Pleanála shall, on and after the commencement of said section, be construed as references to An Coimisiún Pleanála. Part 17, Section 495(3) of the Planning and Development Act 2024 was commenced on 18th June 2025. Any reference to An Bord Pleanála in this EIAR can be construed as meaning An Coimisiún Pleanála where it relates to a time after 18th June 2025.

On 16th December the Applicant made a request to An Bord Pleanála for a design flex opinion (case ref. ABP-321495-24). The Planning and Development, Maritime and Valuation (Amendment) Act 2022, provides for design flexibility in the case of applications for development specified in the Seventh Schedule relating to rapidly changing technology and the potentially long lead-in times between the making of a planning application and the procurement of equipment. Under Section 37CC (1) of the Planning and Development Act 2000 (as amended), it states that a prospective applicant who proposes to make an application for development specified in the Seventh Schedule may request a meeting with the Board for the purpose of Section 37CD as part of consultation referred to in Section 37B (1). Accordingly, RWE Renewables Ireland Limited commenced pre-application consultation under Section 37B (1) seeking the Boards opinion on design flexibility. The Board, on 13th June 2025, provided an opinion under section 37CD of the Planning and Development Act 2000 (as amended) the following details may be confirmed after the proposed application has been made and decided:

- Turbine Dimensions
  a) Turbine tip height
  b) Rotor diameter
  c) Hub height

The proposed application is consistent with the opinion provided by the Board in accordance with section 37CD of the Act. The EIAR has been prepared to reflect the opinion provided by the Board.

The surveys and assessments carried out during the EIA process, coupled with feedback from public consultation and stakeholder engagement, has been used in an iterative manner to influence the design of the Proposed Development to ensure that any likely significant environmental impacts are minimised where possible, or negated completely. The electricity generated by the Proposed Development will be transmitted to the national grid via an onsite 110 kV substation and loop-in grid connection to the existing Cashla-Dalton 110kV overhead line, with all associated electrical and communications cabling laid underground. Connection will be sought under the Enduring Connection Process (ECP) grid access regime. The grid connection is assessed in the Environmental Impact Assessment Report.

The final design reflects the environmental and technical constraints across the Site and aims to create a balance between energy production and environmental and technical issues.

This EIAR assesses the development as a whole, and all direct and indirect effects, the cumulative effects and their interactions, including all relevant ancillary and subsidiary elements of the overall development.

1.1 Applicant

The application for the Proposed Development at Shancloon is being made by RWE Renewables Ireland Ltd. RWE has been operating in Ireland since 2016 and has two offices, one in Kilkenny City and one in Dún Laoghaire, Co Dublin.

RWE has 4 operational projects including an operational wind farm Dromadda Beg in Co Kerry, 2 battery storage facilities in Co Dublin and Co Monaghan and the Airborne Wind Test site in Co Mayo. Projects in development include 2 offshore wind farms, 10 onshore wind farms and a further battery storage facility. RWE are also looking to develop solar projects in the future. RWE's objective is to be a long-term energy partner for Ireland during the country's transition to carbon neutrality. In line with this, RWE is aiming to further expand its portfolio in Ireland and is actively seeking new opportunities to partner and develop renewable energy projects and technologies.

1.2 Brief Description of the Proposed Development

The Proposed Development is an 11 no. turbine wind farm and associated infrastructure including internal access tracks, hard standings, permanent meteorological mast, onsite 110 kV substation, internal electrical and communications cabling, temporary construction compounds, drainage infrastructure, earthworks and spoil management and all associated works related to the construction of the wind farm as well as measures designed to protect and enhance existing habitats and a loop-in grid connection to the National Electricity Grid (NEG).

The Proposed Development for which consent is being sought will consist of the following:

- Construction of 11 no. wind turbines with a ground to blade tip height range of 179.25 m to 180 m. The wind turbines will have a rotor diameter ranging from 149.1 0 m to 155 m and a hub height ranging from 102.5m to 105m.
- Construction of permanent turbine foundations and crane pad hardstanding areas and associated drainage;
- Construction of 13,725 m of internal access tracks and associated drainage infrastructure (of which 1,770 m will be floated road);
- Upgrading of 3,565 m of existing tracks and road and associated drainage infrastructure;
- Construction of 1,180 m of temporary access track to facilitate HDD cable crossing of the Togher River;
- Creation of 1 no. new construction and operation access to the wind farm Site from the L-2234 local road and one road crossing of the L-2220-21 local road;
- All associated drainage and sediment control including interceptor drains, cross drains, settlement ponds and swales;
- Installation of new watercourse crossings including 1 no. 18.5 m single span bridge crossing and 14 new piped culverts;
- All associated excavation, earthworks and spoil management;
- 3 no. temporary construction compounds and associated ancillary infrastructure including parking;
- Construction of 1 no. permanent onsite 110kV electrical substation, associated new access road off of the L-6100 local road, and associated construction compound including:
    - Welfare facilities;
    - Electrical infrastructure;
    - Parking;
    - Wastewater holding tank;
    - Rainwater harvesting tank;
    - Security fencing;
- Works associated with the connection of the wind farm to the national electricity grid, which will be via a loop-in 110 kV underground cable connection 650 m in length to the existing Cashla-Dalton 110 kV overhead line in the townland of Tonacooleen, with two new 16m high steel loop-in lattice tower end masts for loop-in connection at the connection point.
- Installation of 33 kV medium voltage electrical and communication cabling underground between the proposed turbines and the proposed on-site substation and associated ancillary works including Control Building;
- Erection of 1 no. permanent meteorological mast to a height of 110 m above ground level with a 4m lightning pole on top.

- Turbine Delivery Accommodation works:
  - R332 / L6483 Junction (Beagh Townland) - temporary load bearing surface will be laid and the drainage ditch temporarily culverted. Vegetation will be cleared. One utility pole will be temporarily removed.
  - L6483 (Beagh, Cloonmweelaun and Ironpool Townlands)- temporary load bearing surface will be laid to provide a minimum 4.5 m running width and a 5.5 m clearance width for turbine delivery.
  - L6483 (Ironpool Townland) – temporary load bearing surface will be laid and vegetation will be cleared. Two road signs will be temporarily removed.
- Felling of 0.54 ha of conifer plantation forestry;
- 2,032 m Treeline/hedgerow removal;
- 9.7 ha of Biodiversity Enhancement lands plus 2,457.50 m of hedgerow/treeline planting;

Certain temporary accommodation works associated with the Turbine Delivery are assessed within this EIAR but for which planning consent is not being sought within the current application (Refer to Table 2.6). These works to facilitate the delivery of turbine components and haulage to Site include hedge or tree cutting, relocation of powerlines/poles, lampposts, signage and local road widening. For these locations, works associated with road infrastructure have been identified and assessed in the EIAR, however, permission for these works will be sought separately as necessary.

1.2.1 Wind Turbines

The turbine model will be a conventional three-blade horizontal axis turbine. Schematic drawings of the design parameters accompany the planning application. Wind turbine components will include:

- Blades
- Tower sections
- Nacelles

The final choice of make and model of the turbine that will be developed at the Site will be dictated by a competitive tender process of the various turbines on the market at the time, but will be in accordance with the following design parameters/turbine specification:

- ground to blade tip height range of 179.25 m to 180 m
- rotor diameter ranging from 149.1 m to 155m
- hub height ranging from 102.5m to 105m

The turbine blades for the Proposed Development comprise fibreglass reinforced epoxy, carbon fibres and solid metal tip with the following design parameters/turbine specification:

- Blade length ranging from 72.4m to 76m (rotor length of 74.55m to 77.5m);
- Blade width (maximum chord length) ranging from 4.2m to 4.5m;
- Blade swept area of ranging from 17,460 m^2 to 18,869 m^2.

The turbines will have a cut in wind speed of 3 m/s and cut out speed of between 25 m/s and 27 m/s. Turbine rotor rotation is in a clockwise direction. The turbine begins generating electricity at a wind speed of 3 m/s, with rated power generation at wind speeds of approximately 12 to 14 m/s.

The plans and particulars are precise and provide specific dimensions for the turbine structures which have been used in this assessment.

1.2.2 Site Access and Turbine Delivery

The components will be delivered by specialist transport vehicles and assembled on site. Wind turbine components will be transported to the Proposed Development site via the motorway network, which runs immediately to the west of the Proposed Development. The turbine delivery route has been detailed and assessed in the EIAR as well as the required accommodation works for the delivery of turbine components.

The Proposed Development is located in between the N84 and N17 national roads. The R333 regional road is located c. 4km south of the Site, and the Site will be accessed from the R233. The immediate area is accessed by a network of local roads. The nearest motorway is the M17 which is located approximately 9km to the east.

The Port of Entry (PoE) for the Proposed Development is Galway Port. Turbine delivery is proposed to be via the following route:

- Loads will exit the Galway docks and head northeast on Lough Atalia Road;
- Loads will take a slight right onto College Road / R339. They will then continue to follow R339;
- Loads will turn left at Connolly Avenue;
- Loads will then turn right onto Tuam Road / R336;
- Loads will turn right at the R386 / N6 junction and will proceed eastbound on the N6;
- Loads will continue on the N6 and the M6 eastbound;
- At Junction 18 loads would turn left onto the M17 northbound;
- Loads would follow the Tuam bypass onto the N17;
- Loads will turn left onto the R332;
- Loads will turn left onto the L6483 and continue west to the L-2234-24 and on to the proposed site entrance.

Access to the Substation will be from a new access off of the L-6100 local road.

1.2.3 Permission Period

A 10-year planning permission and 30-year operational life from the date of commissioning of the entire wind farm (including meteorological mast) is being sought. This reflects the lifespan of modern-day turbines. A permanent planning permission is being sought for the Grid Connection and 110 kV substation as these will become an asset of the national grid under the management of EirGrid and will remain in place upon decommissioning of the wind farm.

A 10-year planning permission is considered appropriate for a development of this size to ensure all consents are in place. That is, planning consent for the construction of the development would remain valid for ten years following the grant of permission. We note that the Wind Energy Development Guidelines (2006) and the Draft Revised Wind Energy Development Guidelines (2019) state that:

> *"Planning Authorities may grant permission for a duration longer than 5 years if it is considered appropriate, for example, to ensure that the permission does not expire before a grid connection is granted. It is, however, the responsibility of the applicants in the first instance to request such longer durations in appropriate circumstances".*

The lifespan of wind turbines has been increasing steadily in recent years, and allowing 30-year operational life will improve the overall carbon balance of the development, therefore maximising the amount of fossil fuel usage that will be offset by the wind farm. Leaving the wind turbines in-situ until the end of their useful lifespan would be optimum from an environmental viewpoint, particularly in relation to carbon savings.

Additionally, the civil infrastructure (e.g. foundations) will be designed in accordance with Eurocode 0: Basis of Structural Design and Eurocode 2: Design of Concrete Structures which require a structural reliability / design working life of 50 years.

1.3 Alternatives to the Proposed Development

The requirement in relation to alternatives in the EIA process is set out in Directive 2011/92/EU, amended by Directive 2014/52/EU, in Article 5 (1)(d), which states that an EIAR should include:

> *"a description of the reasonable alternatives studied by the developer, which are relevant to the project and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the project on the environment" Article 5(1)(f) of the EIA Directive requires that the EIAR contains "any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected."*

The reasonable alternatives examined by the Applicant, which are relevant to the Proposed Development and its specific characteristics, including the site selection process, alternative design philosophies, alternative site layouts, the do-nothing alternative are set out in EIAR Chapter 3 - Site Selection and Alternatives Considered.

1.4 Need for the Proposed Development

The Proposed Development is necessary to produce renewable energy for the Irish national grid in order to transition Ireland to a low carbon economy. The Proposed Development will have an Export Capacity ranging from 61.6 MW to 72.6 MW, depending on the power rating employed.

At a strategic level, the need for the Proposed Development is supported by International, European, and National environmental and energy commitments and policies. In Chapter 4 Policy of this EIAR, a detailed analysis of these commitments and policies is outlined. This is in the context of substantial and continuing failure by Ireland in meeting climate targets to date, as copper fastened in the EPA's '*Ireland's Greenhouse Gas Emissions Projections 2023-2050*', as published in May 2024, which clearly indicates that Ireland will fall short of its climate targets. Despite this, increased renewable energy generation, from wind and solar, if delivered as planned in the Climate Action Plan 2024 (CAP25), can reduce Energy Industry emissions by between 57 and 62 per cent over the period 2022 to 2030, with renewable energy generation at the end of the decade projected to range from 69 to 80 per cent of electricity generation as a result of a projected rapid expansion in wind energy and other renewables

CAP25 provides a framework for delivering the Government's target of a 51% reduction (relative to 2018) in greenhouse gas (GHG) emissions by 2030. CAP25 follows the Climate Action and Low Carbon Development (Amendment) Act 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.

1.4.1 Climate Change

The scientific community and governments across the world are in agreement that the global climate is changing at an unnatural rate. This is due to human activities which have significantly contributed to natural climate change through our emissions of greenhouse gases. This interference is resulting in increased air and ocean temperatures, drought, melting ice and snow, rising sea levels, increased rainfall, flooding and other influences.

On the launch of the Climate Action and Low Carbon Development (Amendment) Bill (2021), the then sitting Taoiseach, Michéal Martin, remarked that:

> *"The impact of our actions on the planet is undeniable. The science is undisputed. Climate change is happening, and we must act." (Government of Ireland, 2020)*

The current CAP25 sets out actions to cut emissions and make Ireland a zero-carbon economy by 2050. The Climate Action and Low Carbon Development Act 2015 as amended by the Climate Action and Low Carbon Development (Amendment) Act 2021 establishes a legally binding framework with clear targets and commitments set in law, and ensure the necessary structures and processes are embedded on a statutory basis to ensure Ireland achieves its national, EU and international climate goals and obligations in the near and long term through a process of carbon budgeting, with the Irish government committed to "*reducing emissions by 51% over 2018 – 2030*". The Climate Action Plan 2024 seeks a total installation of 9 GW of onshore wind capacity by 2030. The Act provides a governance framework for annual revisions of the Climate Action Plan and the development of a National Long-Term Climate Action Strategy at least once every ten years. As part of this plan, the Government is also committed to reducing emissions by an average 7% per annum by 2030.

The EPA (May 2024) notes with reference to Ireland meeting the ambitious CAP25 targets:

> *"Ireland is not on track to meet the 51 per cent emissions reduction target (by 2030 compared to 2018) based on these projections which include most 2024 Climate Action Plan measures".*

The Proposed Development will have an Export Capacity (MEC) of electricity ranging from 61.6 MW to 72.6 MW depending on the power rating employed. If we use an average of the estimated MW of the Proposed Development (67.1 MW), it would be expected the Proposed Development will result in a reduction in annual emissions in the electricity sector of c. 94.2 tonnes of CO2 per annum, depending on the power rating employed as detailed in EIAR Chapter 7 – Air Quality and Climate.

The proposed Shancloon Wind Farm will provide renewable energy to the national grid, offsetting the need for burning of fossil fuels. This is necessary to meet the challenges of future climate change and meet the CAP25 targets.

The Proposed Development will assist in mitigating the effects of climate breakdown and help Ireland achieve its climate neutral economy by no later than 2050, within the 'National Climate Objectives', as set out in the Climate Action and Low Carbon Development Act 2015 as amended by the Climate Action and Low Carbon Development (Amendment) Act 2021.

1.4.2 EU Renewable Energy Targets and National Policy

As further detailed in Chapter 4 Policy of this EIAR, Ireland has adopted binding agreements to reduce dependency on fossil fuels and increase energy production from sustainable sources, creating a requirement for the nation to transition to a low carbon economy.

This is supported by the latest Programme for Government (2020) 'Our Shared Future' which presents strong climate governance in rapidly reducing climate change in order to protect and improve public health and quality of life. The government are committed to rapid decarbonisation of the energy sector with an aim of providing the necessary actions to deliver national renewable electricity targets.

The European Green Deal, published on 11th December 2019, sets a goal for Europe's economy and society to become climate-neutral by 2050. The RePower EU Plan was published on 18th May 2022 sets out the need for renewable energy to slow down climate change and to phase out reliance on fossil fuels by 2027. Ireland has adopted these goals into the Climate Action Plan (2024) which includes a target to increase electricity generated from renewable sources to 80% by 2030. This will require more than doubling Ireland's production of electricity from renewable sources, which stood at 38.9% in 2022 (SEAI, 2023). The 2030 target sets out the pathway to the goal of net zero greenhouse gas emissions by 2050.

To achieve 80% renewable energy production by 2030, substantial new development will be required, with targets set out as follows which rely heavily on wind energy technology:

- Electricity must reduce emissions somewhere between 62% and 81%, a difference of 19%.
- Increasing the share of electricity demand generated from renewable sources to up to 80% where achievable and cost effective, without compromising security of electricity supply.
- Expand and reinforce the grid – through the addition of lines, substations, and new technologies.

The binding EU targets have been transposed into Irish National Policy in the Climate Action Plan 2023 (CAP 23) which focuses a large amount of future electricity production on the wind energy sector. This demonstrates the significance of wind energy in the Irish energy context and highlights the need for the Proposed Development in reaching both EU and national renewable energy targets.

1.4.3 Energy Security

Secure supplies of energy are essential for Ireland's economy and for maintaining safe and comfortable living conditions. Energy import dependency is a significant indicator of the country's energy security. Ireland is one of the most energy import-dependent countries in the European Union, importing 80% of its fuel in 2021 (SEAI, 2022). The largest share of energy imports in 2021 was oil, accounted for 65.4% of total energy imports, natural gas 24.1%, coal 7.7%, electricity 1.6% and renewables 1.2%. Import dependency has increased steadily since 2018 as the output from the Corrib gas field continues to decline.

Price volatility of fossil fuels may increase as carbon prices escalate in the future. The cost of carbon credits is included in all electricity trade, and the price of electricity generated by coal is particularly vulnerable due to the high carbon emissions per unit of electricity generated. Coal still generates a significant amount of Ireland's electricity with 7.7% of electricity produced by coal in 2021 (SEAI, 2022). However, the previous programme for government called for a review of options to replace coal with low carbon alternatives within a decade as reflected in the CAP (2019). Gas imports have increased due the decline in production of the Corrib gas field, and oil imports have remained steady (SEAI, 2022).

The Energy White Paper, '*Ireland's Transition to a Low Carbon Energy Future 2015-2030*' (DoCENR, 2015) sets out a framework to guide policy and actions that the government intends to take in the energy sector. The paper notes that "*There will be substantial increases in the cost of carbon in the short and medium term, through the EU Emissions Trading Scheme*". The electricity produced by the Proposed Development will reduce dependence on imported fossil fuels and add to financial autonomy and energy stability in Ireland, further emphasising the need for the Proposed Development.

Furthermore, the EU have rewritten the energy policy framework in the Clean Energy for all Europeans Package (2019). Member states must meet new commitments to improve energy efficiency and the take-up of renewables in their energy mix by 2030. For example, the new rules on the electricity market, which have been adopted, will make it easier for renewable energy to be integrated into the grid, encourage more inter-connections and cross-border trade, and ensure that the market provides reliable signals for future investment. This EU policy framework encourages energy security for all EU member states, emphasising a need for renewable energy and a move away from fossil fuels.

The RePowerEU Plan, published on 18th May 2022, states:

> *"Wind energy represents a significant future opportunity: resources are stable, abundant and public acceptance is higher. Europe is the global leader in offshore wind. To further strengthen the EU wind sector's global competitiveness and achieve the REPowerEU ambition with fast wind energy deployment, supply chains need to be strengthened and permitting drastically accelerated."*

The RePowerEU Plan specifically requires that Member States should speed up the green transition and spur massive investment in renewable energy. We will need to enable industry and transport to substitute fossil fuels faster to bring down emissions and dependencies.

1.4.4 Competitiveness of Wind Energy

In addition to helping Ireland reduce environmentally damaging emissions and helping avoid significant fines from the EU, the Proposed Development will also contribute positively to the national and regional economy.

SEAI, in its report '*Energy in Ireland*' (SEAI, 2023), indicated that in 2022:

- 85.7% of renewable energy in Ireland came from wind;
- 38.9% of all electricity came from the renewables market;
- Avoided 6.75 million tonnes of CO2 emissions were avoided through the use of renewable energy.

Additionally, a report published by Barringa in January 2019 states that:

> *"Our analysis indicates that the deployment of 4.1 GW of wind generation capacity in Ireland between 2000 and 2020 will result in a total net cost to consumers, over 20 years, of €0.1bn (€63 million to be exact), which equates to a cost of less than €1 per person per year." (Baringa, 2019).*

Notwithstanding the above financial costs and benefits, the Barringa report outlines that wind generation in Ireland avoids:

> *"33 million tonnes of power sector CO2 emissions. The total carbon emissions from electricity generation in 2017 was 11.7 Mt, so a saving of 33 Mt is equivalent to almost 3 years of total carbon emissions in the electricity sector today. 137 TWh of fossil fuel consumption at a saving of €2.7bn. In comparison, Ireland consumed 44 TWh (3814 ktoe) of fossil fuels for electricity generation in 2017, so a saving of 137 TWh is equivalent to 3 years of current fossil fuel consumption for electricity generation."*

In conclusion, the need for the Proposed Development is a result of the need for action to fight against climate change by reducing consumption of fossil fuels. Ireland has accepted this need in entering into binding renewable energy targets with the European Union with an overall aim to become carbon neutral by 2050. The government has indicated that wind energy will play a key role in providing renewable electricity to the national grid. This will comprise of an increase of 9 GW of onshore wind capacity by 2030 (CAP25). The increase in domestic renewable energy of 61.6 MW to 72.6 MW as a result of the Proposed Development will also assist Ireland in improving resilience in energy security by reducing the requirement for import of fossil fuels.

1.4.5 Community Benefit

RWE Renewables Ireland Ltd. will set up a community benefit fund which will allocate funds from the Proposed Development to community groups in the area should the wind farm be granted planning permission and be successful under the Government's RESS support programme. The community fund will be calculated in accordance with the Renewable Electricity Support Scheme (RESS) Terms and Conditions at €2 per MW/h of electricity produced by the Proposed Development. This is to be made available to the local community for the duration of the RESS (15 years). The average capacity factor of wind energy projects in Ireland is 35% (RESS 2 Terms and Conditions pg. 57, October 2021),). Assuming this efficiency, and a capacity of c. 61.6MW, the community benefit fund would amount to an average of almost €378,000 per annum. The actual fund will vary around this average from year to year, depending on each year's wind conditions.

Within the terms and conditions of RESS, an annual payment of €1,000 is to be provided to each household within 1km of any proposed turbine. 40% of the fund will be allocated to not-for-profit community enterprises, with an emphasis on low carbon initiatives. Up to 10% of the Fund is to be allocated for an independent Administrator to administer the Funds. The remainder of the fund will be directed towards local clubs, societies and other initiatives. It is envisaged that the communities nearest the Proposed Development will benefit most from the Community Fund.

1.5 Requirement for EIAR

Under Section 37E(1) of the Planning and Development Act 2000 (as amended), an application for permission for development for which a notice has been served under Section 37B(4)(a) confirming that the development is a strategic infrastructure development must be accompanied by an EIAR. Therefore, an EIAR has been prepared in accordance with the Planning and Development Act 2000 (as amended) and Planning and Development Regulations 2001 (as amended) and Directive 2011/92/EU as amended by Directive 2014/52/EU.

The European Union Directive 2011/92/EU (the EIA Directive) as amended by Directive 2014/52/EU on the assessment of the effects of certain public and private projects on the environment, requires Member States to ensure that a competent authority (in this instance An Bord Pleanála) carries out an appraisal of the environmental impacts of certain types of project, as listed in the Directive, prior to development consent being given for the Proposed Development.

1.5.1 Strategic Infrastructure Development

In relation to projects that may be deemed to be Strategic Infrastructure Development (SID), Part 1 of the Seventh Schedule of the Planning and Development Act 2000 (Act), as amended, specifies, inter alia, the following classes of development: "An installation for the harnessing of wind power for energy production (a wind farm) with more than 25 turbines or having a total output greater than 50 megawatts." Once an SID determination request is made by a prospective applicant, An Bord Pleanála (the Board) must satisfy itself that the development meets one or more of the conditions set out in section 37A(2) of the Planning and Development Act 2000 as amended, namely:

- the development would be of strategic economic or social importance to the State or the region in which it would be situate,
- the development would contribute substantially to the fulfilment of any of the objectives in the National Planning Framework or in any regional spatial and economic strategy in force in respect of the area or areas in which it would be situate,
- the development would have a significant effect on the area of more than one planning authority.

Background

On 28th May 2025 An Bord Pleanála (The Board) (later referred to as An Coimisiún Pleanála)[2] deemed the Proposed Development is eligible as Strategic Infrastructure Development (SID) by way of a notice served under section 37B(4)(a) of the Planning and Development Act 2000 as amended and the application is being made directly to the Board (case ref. ABP-321507-24). The Board are the competent authority for the purposes of the Environmental Impact Assessment (EIA).

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  e) Rotor diameter
  f) Hub height

The proposed application is consistent with the opinion provided by the Board in accordance with section 37CD of the Act. The EIAR has been prepared to reflect the opinion provided by the Board.

Copies of correspondence and meeting minutes are included in Appendix 1.1 Volume III.

1.6 EIAR Methodology and Structure

The Environmental Impact Assessment Report (EIAR) is a report of the effects, if any, which a Proposed Development, if carried out, would have on the environment. The EIAR provides the Competent Authority and the public with a comprehensive understanding of the development, the existing environment, the significant impacts of the development on the environment and the mitigation measures proposed.

Article 3 of the EIA Directive as amended states that an "*environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors:*

"(a) population and human health;

(b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC;

(c) land, soil, water, air and climate;

(d) material assets, cultural heritage and the landscape;

(e) the interaction between the factors referred to in points (a) to (d)"

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

1.6.1 EIAR Methodology

The EIAR has been prepared in accordance with the EIA Directive. Schedule 6 of the Planning and Development Regulations 2001 (as amended) and Article 5 of the EIA Directive set out the information to be contained in an EIAR.

Consultation with the relevant private and public agencies ensured that likely significant effects were addressed. Details of the consultation carried out are outlined in Chapter 5: EIA Scoping and Consultation.

Schedule 6 of the Planning and Development Regulations 2001 (as amended) describes the information to be contained in an EIAR:

1.
   a) A description of the Proposed Development comprising information on the site, design, size and other relevant features of the Proposed Development;
   b) A description of the likely significant effects on the environment of the Proposed Development;
   c) A description of the features, if any, of the Proposed Development and the measures, if any, envisaged to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment of the development;
   d) A description of the reasonable alternatives studied by the person or persons who prepared the EIAR, which are relevant to the Proposed Development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the Proposed Development on the environment.

2. Additional information, relevant to the specific characteristics of the development or type of development concerned and to the environmental features likely to be affected, on the following matters, by way of explanation or amplification of the information referred to in paragraph 1:
   a) A description of the Proposed Development, including in particular –
      i. A description of the location of the Proposed Development;
      ii. A description of the physical characteristics of the whole Proposed Development, including, where relevant, requisite demolition works, and the land-use requirements during the construction and operational phases;
      iii. A description of the main characteristics of the operational phase of the Proposed Development (in particular any production process), for instance, energy demand and energy used, nature and quantity of the materials and natural resources (including water, land, soil and biodiversity) used; and;
      iv. An estimate, by type and quantity, of expected residues and emissions (such as water, air, soil and subsoil pollution, noise, vibration, light, heat, radiation) and quantities and types of waste produced during construction and operation phases.
   b) A description of the reasonable alternatives (for example in terms of project design, technology, location, size and scale) studied by the person or persons who prepared the EIAR, which are relevant to the Proposed Development and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects;
   c) A description of the relevant aspects of the current state of the environment (baseline scenario) and an outline of the likely evolution thereof without the development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge;

d) A description of the factors specified in paragraph (b)(i) (I) to (V) of the definition of 'environmental impact assessment' in section 171A of the Act likely to be significantly affected by the Proposed Development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape;

I. a description of the likely significant effects on the environment of the Proposed Development resulting from, among other things-

i. the construction and existence of the Proposed Development, including, where relevant, demolition works,
ii. the use of natural resources, in particular land, soil, water and biodiversity, considering as far as possible the sustainable availability of these resources,
iii. the emission of pollutants, noise, vibration, light, heat and radiation, the creation of nuisances, and the disposal and recovery of waste,
iv. the risks to human health, cultural heritage or the environment (for example due to accidents or disasters),
v. the cumulation of effects with other existing or approved developments, or both, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources,
vi. the impact of the Proposed Development on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the Proposed Development to climate change, and;
vii. the technologies and the substances used, and;

II. the description of the likely significant effects of the factors specified in paragraph (b)(i)(I) to (V) of the definition of 'environmental impact assessment' in section 171A of the Act should cover the direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative effects of the Proposed Development, taking into account the environmental protection objectives established at European Union level or by a Member State of the European Union which are relevant to the Proposed Development.

e) A description of the forecasting methods or evidence used to identify and assess the significant effects on the environment, including details of difficulties (for example technical deficiencies or lack of knowledge) encountered compiling the required information, and the main uncertainties involved;

f) A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of an analysis after completion of the development), explaining the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset during both the construction and operational phases of the development;

g) A description of the expected significant adverse effects on the environment of the Proposed Development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it. Relevant information available and obtained through risk assessments pursuant to European Union legislation such as the Seveso III Directive or the Nuclear Safety Directive or relevant assessments carried out pursuant to national legislation may be used for this purpose, provided that the requirements of the Environmental Impact Assessment Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for, and proposed response to, emergencies arising from such events.

The assessment of environmental impacts has been conducted in accordance with the guidance set out in the following documents:

- *Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report (EC, 2017)*
- *Guidelines on the Information to be contained in Environmental Impact Assessment Reports (EPA, 2022)*
- *Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (DoHPLG, 2018)*
- *Wind Energy Development Guidelines for Planning Authorities (DoEHLG, 2006)*
- *European Commission Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment, EU 2013*
- *European Commission notice: Guidance document on wind energy developments and EU nature legislation (2020).*

The EIAR firstly sets out the planning context, the background to the Proposed Development, the need for the development, a description of the evolution of the Proposed Development through the alternatives considered and a description of the Proposed Development. This sets the reader in context as to the practical and dynamic process undertaken, in order to arrive at the layout and design of the Proposed Development that will cause least impact on the environment.

Subsequent chapters deal with specific environmental topics for example, traffic & transportation, air quality & climate change, hydrology & water quality, noise, etc. These assessments involve specialist studies and evaluations. The methodology applied during these specific environmental assessments is a systematic analysis of the Proposed Development in relation to the existing environment. The broad methodology framework for these assessments is outlined below and is designed to be clear, concise and allow the reader to logically follow the assessment process through each environmental topic.

In some instances, more specific topic related methodologies are outlined in the relevant chapters of the EIAR.

The broad methodology framework used in all chapters includes:

- Introduction;
- Methodology;
- Existing Environment;
- Potential Effects;
- Mitigation Measures;
- Residual Impacts.

Introduction

This section generally introduces the environmental topic to be assessed and the areas to be examined in the assessment.

Methodology

Specific topic related methodologies are outlined in this section. This will include the methodology used in describing the existing environment and undertaking the impact assessment. It is important that the methodology is documented so that the reader understands how the assessment was undertaken. This can also be used as a reference if future studies are required.

Existing Environment

An accurate description of the existing environment (and future evolution thereof) is necessary to predict the likely significant impacts of a Proposed Development. Existing baseline environmental monitoring data can also be used as a valuable reference for the assessment of actual impacts from a development once it is in operation.

To describe the existing environment, desktop reviews of existing data sources were undertaken for each specialist area. This literature review relied on published reference reports and datasets to ensure the objectivity of the assessment.

Desktop studies were also supplemented by specialised field walkovers or studies in order to confirm the accuracy of the desktop study or to gather more baseline environmental information for incorporation into the EIAR.

Potential Effects

In this section, individual specialists predict how the receiving environment will interact with the Proposed Development. The full extent of the Proposed Development's potential effects and emissions before the proposed mitigation measures are introduced is outlined here. Potential impacts from the construction, operational and decommissioning phases of the Proposed Development are outlined. Interactions and cumulative impacts with other environmental topics are also included in this evaluation.

The evaluation of the significance of the impact is also undertaken. Where possible, pre-existing standardised criteria for the significance of impacts will be used.

Such criteria can include Irish legislation, international standards, European Commission and Environmental Protection Agency (EPA) guidelines or good practice guidelines. Where appropriate criteria do not exist the assessment methodology section states the criteria used to evaluate the significance.

Mitigation Measures

If significant impacts are anticipated mitigation measures are proposed to avoid, reduce or offset as appropriate the potential impacts on the environment.

Residual Effects

The assessment identifies the likely effects that will occur after the proposed mitigation measures have been put in place. These are described in detail and assessment of their significance undertaken.

1.6.2 EIAR Structure

The EIAR has been prepared using the "grouped format structure" as outlined in EPA guidance document (EPA, 2022). Using this structure there is a separate chapter for each topic, e.g. air quality and climate, biodiversity, hydrology. The description of the existing environment, the Proposed Development and the potential effects, mitigation measures and residual effects are grouped in the chapter. The grouped format makes it easy to investigate topics of interest and facilitates cross-reference to specialist studies.

The EIAR is structured as follows:

- Volume 1 – Non-Technical Summary (NTS);
- Volume 2 – Main EIAR;
- Volume 3 – Appendices to the Main EIAR;
- Volume 4 – Figures and Photomontages.

The EIAR consists of the following chapters:

- Chapter 1 – Introduction;
- Chapter 2 - Development Description;
- Chapter 3 - Site Selection and Alternatives Considered;
- Chapter 4 – Policy;
- Chapter 5 - Scoping and Consultation;
- Chapter 6 - Population and Human Health;
- Chapter 7 - Air Quality and Climate;
- Chapter 8 - Noise and Vibration;
- Chapter 9 – Biodiversity;
- Chapter 10 – Ornithology;
- Chapter 11 – Soils, Geology and Hydrogeology;
- Chapter 12 – Hydrology and Water Quality & FRA;
- Chapter 13 - Shadow Flicker;
- Chapter 14 - Traffic and Transportation;
- Chapter 15 - Archaeology, Architectural and Cultural Heritage;
- Chapter 16 - Landscape and Visual Impact;

- Chapter 17 - Material Assets, Telecommunications and Aviation;
- Chapter 18 - Interactions of the Foregoing.

The application is also supported by Planning Drawings.

1.6.3 Cumulative Effects

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

The cumulative assessment has three principal aims:

1. To establish the range and nature of existing projects within the cumulative effects study area of the Project (which will be topic-specific, e.g. for effects on hydrology the projects located within the same waterbody catchment are considered, for shadow flicker, projects which could have an effect within 10 rotor diameters of the Proposed Development are considered).
2. To identify the relevant projects which have a potential to create cumulative effects.
3. To establish anticipated significant cumulative effects. Detailed cumulative impact appraisals are included in each relevant section of the EIAR.

The geographic extent of the cumulative assessment is considered on a case-by-case basis, in line with the Guidelines for the *Assessment of Indirect and Cumulative Impacts as well as Impact Interactions* (European Commission, 1999).

The material for the cumulative assessment was gathered through a search of relevant County Councils' Online Planning Registers, An Bord Pleanála's website and the EIA Portal. Relevant EIA documents, planning application details and planning drawings were reviewed, which served to identify the locations of existing and approved projects and projects pending a decision from the planning authority, or An Bórd Pleanála. The relevance of the projects was considered on a case-by-case basis in each chapter as necessary depending on the interaction and likelihood of in combination impacts.

1.7 Scoping and Consultation

The scoping and consultation process was carried out in accordance with the EIA Directive and in accordance with the Guidelines on the information to be contained in Environmental Impact Assessment Reports (EPA, 2022). Further details are contained in Chapter 5 - Scoping and Consultation.

1.8 Competent Experts and Quality of the EIAR

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

The EPA (2022) '*Guidelines on the information to be contained in Environmental Impact Assessment Reports*' notes that the amended Directive does not offer a definition of what would be considered competent expertise, and that the assessment may often require a range of experts to cover the full range of the complexity of an environmental factor.

The list of the experts who have contributed to an EIAR, showing which parts of the EIAR they have worked on, their qualifications and experience is presented hereunder in order to allow an assessment of the competency of the team that prepared the EIAR.

1.8.1 Contributors to the EIAR

The EIAR project team comprises a multidisciplinary team of experts with extensive experience in the assessment of wind energy developments and in their relevant area of expertise.

Table 1-1: Contributors to the EIAR

Consultant / Company	Field Of Expertise	Contribution to EIAR
RWE Renewables Ireland Ltd. (RWE)	RWE is a leading company in the field of renewable energy with an ambition for Net zero by 2040. They invest in green technologies, making a significant contribution to the success of the energy transition and the decarbonisation of the energy system.	Wind Farm layout optimisation within the identified buildable area. Community Consultation
Fehily Timoney (FT)	Fehily Timoney and Company (FT) is a consultancy based in Cork, specialising in civil and environmental engineering and environmental science. FT is well established as a leading consultancy in wind farm development in Ireland. The company has established a professional team specialising in wind farm development. This team has the support of many in-house engineers, scientists and planners.	Project Managers responsible for the coordination of the environmental assessment (EIAR) for the Proposed Development, as well as the preparation of the application for consent for submission to An Bord Pleanála which included a Natura Impact Statement. Managed site investigations and baseline surveys. Carried out Civil Project Design and Drainage Design for the Proposed Development. Conducted scoping consultation for the EIA.
Woodrow Environmental Consultants (part of the APEM group)	Environmental Consultancy offering a full suite of ecological services from field surveys through to impact assessment. Woodrow has particular specialism in the provision of ecological surveys for windfarms.	Ornithology survey Bat Survey

Consultant / Company	Field Of Expertise	Contribution to EIAR
IE Consulting	IE Consulting is a water, environmental and civil engineering consultancy specialising in the provision of water, environmental and civil engineering consultancy services, in particular, Flood Risk Assessment, Hydrogeology, Nature Based Solutions / SuDS and Environmental Assessment.	Flood Model Flood Risk Assessment
Macro Works (part of the APEM group)	Macro Works is a leading landscape consultancy firm specialising in Landscape and Visual Impact Assessment (LVIA). Macro Works, provide a full suite of LVIA related tools and skills for a broad spectrum of energy, infrastructure and commercial developments including photomontage, visibility analysis and visual simulations.	LVIA Assessment and associated field survey and photomontages
John Cronin and Associates	John Cronin and Associates is a multidisciplinary archaeological consultancy committed to the conservation, interpretation and management of cultural resources and the historic built environment. The staff members are highly trained professionals in the realm of archaeology, building conservation, heritage management historic landscapes, and urban and regional planning.	Cultural heritage and archaeology assessment and associated field survey.
Flynn Furney	Flynn Furney are Environmental Consultants providing ecological solutions in the aquatic and terrestrial environments.	Baseline Aquatic Ecology Assessment
Pell Frischmann	Pell Frischmann is a specialist advisory and technical consultancy operating across the built and natural environment, with specialism in engineering and land management, which includes transport planning and transport modelling.	Turbine delivery route assessment analysis.
Ai Bridges	Ai Bridges has been supplying telecommunications and aviation assessment solutions to the wind farm industry throughout the Republic of Ireland, Northern Ireland and the UK since 2007. The Ai Bridges Engineering Department has in excess of 200 plus years of experience in the delivery of Aviation, Telecommunications\EMI, Broadcast & EMF\EMC projects.	Telecoms and Aviation Impact Studies.

Consultant / Company	Field Of Expertise	Contribution to EIAR
TLI	TLI delivers utility solutions from power and renewable energy to smart energy services and world-class telecommunication networks.	110 kV infrastructure (Substation and Grid Connection) design including 110 kV construction methodology and planning drawings.
TNEI	TNEI is a specialist energy consultancy providing technical, strategic, environmental and consenting advice to organisations operating within the conventional and renewable energy sectors.	Shadow Flicker assessment.

Specialist and competent experts that contributed to and are responsible for each EIAR chapter/topic are outlined in Table 1-1. Curricula Vitae of contributors are presented in Appendix 1.2 of Volume III of this EIAR wherein the competence, experience and relevant qualification(s) for each expert is detailed.

Table 1-2: EIAR Multidisciplinary Teams

EIAR Topic	Company	Name and Qualifications
Chapter 1 – Introduction	FT	Anthony Ryan, Dip.Hort, BA Heritage Studies, MPlan (Author) Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Reviewer)
Chapter 2 – Description of the Development	FT	Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Author) Jim Hughes, BA, EIA/SEA Dip, MSc (Reviewer)
Chapter 3 – Site Selection and Alternatives Considered	FT	Anthony Ryan, Dip.Hort, BA Heritage Studies, MPlan (Author) Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Reviewer)
Chapter 4 – Policy	FT	Anthony Ryan, Dip.Hort, BA Heritage Studies, MPlan (Author) Jim Hughes, BA, EIA/SEA Dip, MSc (Reviewer) (Reviewer)
Chapter 5 – Scoping and Consultation	FT RWE	Anthony Ryan, Dip.Hort, BA Heritage Studies, MPlan (Author) Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Reviewer) Kieran O'Byrne B.A. Mod. Natural Science, M.A. (Zoology) - Stakeholder Engagement / Communications

EIAR Topic	Company	Name and Qualifications
Chapter 6 – Population and Human Health	FT	Anthony Ryan, Dip.Hort, BA Heritage Studies, MPlan (Author) Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Reviewer)
Chapter 7 – Air Quality and Climate	FT	Brian Cronin, BSc, MSc, MIEI (Author) Trevor Byrne, BSc, MSc, MIEI (Reviewer) Jim Hughes, BA, EIA/SEA Dip, MSc (Reviewer)
Chapter 8 – Noise and Vibration	FT	Maureen Marsden, Meng (Author) John Cullen BAgrSc, Dip. Acoustics and Noise Control, Dip.n Environmental Engineering (Reviewer) Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Reviewer)
Chapter 9 – Biodiversity	FT Flynn Furney Woodrow	Daniel Weldon, BSc. Environmental Science (Author) Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Reviewer) <u>Surveyors – Terrestrial Ecology</u> Daniel Weldon BSc. Environmental Science Andrew Torsney PhD, Ecotourism and visitor Behaviour Analysis, MRes Biodiversity and Conservation (Hons) BSc Zoology <u>Surveyor – Aquatic Ecology</u> Jason Nash, BSc (Zoology), Diploma in Fisheries Management <u>Surveyors - Bats</u> Jason Guile BSc, Marine Biology Oisín O'Sullivan, BSc (Hons) Ecology and Environmental Biology Philip Doddy, PhD in Aquatic Sciences, BSc (Hons) in Applied Freshwater & Marine Biology, Diploma in Amenity Horticulture Juliane Kohlstruck BSc and MSc. Landscape Ecology Louise Gannon, BSc (Hons) Environmental Science Rachel Irwin BSc. (Ecology) Aoife Moroney BSc. Eng., M.Sc. – Env Eng.

EIAR Topic	Company	Name and Qualifications
		Frederico Hintze BSc. (Biology/Geology), MSc (Ecology) Patrick Power, BSc Forestry, BSc (Hons) Land Management in Forestry
Chapter 10 - Ornithology	FT Woodrow	Eimear Stephenson, BSc, MSc (Co-Author) Kate O'Regan MSc Marine Biology, BSc. Zoology (Co-Author) Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Reviewer) <u>Ornithology Baseline Reports</u> Aoife Moroney, M.Sc. – Environmental Engineering (specialising in Environmental Management), B.Sc. – Engineering, Post-graduate Certificate – Ecological Survey (Author) Maeve Maher-McWilliams, MSc Evolutionary and Behavioural Ecology, BSc (Hons) Biological Sciences (Reviewer) <u>Ornithology Surveys</u> Mikee Hoit B.Sc.- Ecology Joe Kelly B.Sc. – Wildlife Biology & Environmental Science Daelyn Purcell B.Sc. – Wildlife Biology & Environmental Science Ken Westman Diploma – Field Ecology Mike Trewby B.Sc.- Zoology & Botany, PGDip - Environmental Studies <u>CRM</u> Julieta Pedrana, PhD Conservation Biology, BSc Biological Sciences (Author) Maeve Maher-McWilliams, MSc Evolutionary and Behavioural Ecology, BSc (Hons) Biological Sciences (Reviewer)
Chapter 11 – Soils, Geology and Hydrogeology	FT	Aaron Clark, BSc, MSc (Lead Author) Gnanasai Chandramoorthy, Bachelor of Engineering in Civil Engineering, Master of Engineering in Soil Mechanics & Foundation Engineering (Co Author) Doireann Tarrant, MSc Structural and Geotechnical Engineering, BEng Civil, Structural and Environmental Engineering (Co Author)

EIAR Topic	Company	Name and Qualifications
		Julian Borlado, Master of Science Degree, Geological Engineering (Co Author) Tom Clayton MEng. (Distinction) Civil Engineering (Reviewer) Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Reviewer) Ian Higgins BSC. Engineering Geology, MSc. Geotechnical Engineering (Reviewer)
Chapter 12 – Hydrology and Water Quality & FRA	FT IE Consulting	Pablo Delgado, CEng MIEI, BE Civil Engineering, PGDip Project Management, PGDip Hydraulic Networks, PGDip Environment Infrastructures, Hdip Hydraulic Transient Analysis. (Co Author) Brian Cronin, BSc, MSc, MIEI (Co Author) Micheal O' Flatherta, B.Sc. (Hons) Earth and Ocean Sciences, MSc Hydrology – flood and model (Author Flood Risk Assessment) Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Reviewer)
Chapter 13 – Shadow Flicker	TNEI Services Ltd	Mark Tideswell, BSc, Dip, AMIOA (Co-author) Jim Singleton, BSc, Dip, AMIOA (Co-author, Reviewer)
Chapter 14 - Traffic and Transportation	FT Pell Frischmann	Leigh Doyle, MEng (Author) Trevor Byrne, BSc, MSc, MIEI (Author) <u>Turbine Route Assessment</u> Gordon Buchan, BEng (Hons) Civil & Transport Engineering, MSc Transport Engineering
Chapter 15 - Archaeology, Architectural and Cultural Heritage	John Cronin & Associates	Tony Cummins, BA, MA (Author) John Cronin, BA, MRUP, MUBC (Reviewer)
Chapter 16 - Landscape and Visual Impact	Macro Works	Rory Curtis (BA BEng GDip A MILI) (Author) Richard Barker BA PG Dip MLA (Co-author and Reviewer)
Chapter 17 - Material Assets, Telecommunications and Aviation	FT Ai Bridges	Anthony Ryan, Dip.Hort, BA, MPlan (Author) Jim Hughes, BA, EIA/SEA Dip, MSc (Reviewer) <u>Telecoms and Aviation Assessment</u> Kevin Hayes B.Eng Hons. in Electronic & Communications Engineer, M. Eng. Hons in Communications & Software Engineering

EIAR Topic	Company	Name and Qualifications
Chapter 18 – Interactions of the Foregoing	FT	Anthony Ryan, Dip.Hort, BA Heritage Studies, MPlan (Author) Rita Mansfield, BSc. Applied Ecology; H. Dip Environmental Protection and Pollution Control (Reviewer)

1.9 Difficulties Encountered

Where difficulties have been encountered within this EIAR, these have been detailed in the relevant Chapters.

1.10 Availability of Information

A copy of the EIAR may be viewed online on the dedicated Proposed Development information portal website; www.shancloonwindfarm.ie

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

An Bord Pleanála, 64 Marlborough Street, St. Rotunda, Dublin 1, D01 V902.

The Offices of:

- **Galway City and County Council, Áras an Chontae, Prospect Hill, H91 H6KX, Galway.**
- **Áras an Chontae, The Mall, Castlebar, F23 WF90, Co. Mayo.**

Paper copies can be provided at the cost of printing, by writing to:

RWE Renewables Ireland Ltd., Unit 5, Desart House, Lower New Street, R95 H488, Kilkenny.

Table 1-3: Glossary of Key Terms

Key Terms	Definition
The Applicant	RWE Renewables Ireland Ltd.
Baseline	Existing status (and likely evolution thereof) of the receiving environment within the Study Area.
Blue Line Boundary	Denotes one or more areas of land within the ownership or control of The Applicant for the Proposed Development.
Borrow Pit	An area of excavation which is used to extract rock for the purposes of construction.
Chartered Institute of Ecology and Environmental Management (CIEEM)	The Chartered Institute of Ecology and Environmental Management is the professional membership body representing and supporting Ecologists and Environmental professionals in the UK, Ireland and abroad. Previously known as Institute of Ecology and Environmental Management (IEEM).
Collision Risk Modelling (CRM)	Method used to predict the potential number of bird collisions that might be caused by the operation of a wind farm.
Community Benefit Scheme	A fund that is unique to the Proposed Development and whose design is typically driven by the community that administer and avail of it. It can include for example: • Contributing to the improvement of local recreational amenities • Supporting local projects that benefit the wider community; • Engaging with local communities in enhancing sustainable energy awareness, use and efficiency.
Competent Authority	Organisation that has the obligation to carry out Appropriate Assessment and or Environmental Impact Assessment. In this case, An Bord Pleanála.
Construction Compound	Strategically located construction hubs within the Site which will be the core location for project management (engineering, planning and construction delivery) during the construction phase of the Proposed Development. 3 no. temporary construction compounds will be used: • Main compound (east of Site) 12,400 m^2 in area, • Secondary Compound (west of Site) 3,600m^2 in area, • 110 kV Substation compound 2,500 m^2 in area.
Construction Phase	The period during which infrastructure is being installed.
The Council	Refers to Galway County Council and Mayo County Council.
Decommissioning Phase	The period during which project infrastructure is being removed at the end of the operational lifetime of the Proposed Development.
Department for Transport, Tourism and Sport (DTTAS)	The Irish government department responsible for Transport, Tourism and Sport with a mission to support economic growth and social progress.
Department of Agriculture, Food and the Marine (DAFM)	The Irish government department responsible for agriculture, food and the marine.
Department of Communications, Climate	The Irish government department responsible for communications, climate action, environment, broadcasting, energy, natural resources and postal

Key Terms	Definition
Action and Environment (DCCAE)	services. The department must ensure that all of its policies are in line with EU and global obligations.
Department of Communications, Marine and Natural Resources (DCMNR)	Previous name of the Department of Communications, Climate Action and Environment.
Department of Housing, Planning, and Local Government (DHPLG)	The Irish government department responsible for housing, planning and local government.
Design Parameters	Set of parameters by which Proposed Development is defined, and which will be used to form the basis of assessments in the EIAR.
Development Consent	Planning permission from An Bord Pleanála for the development to proceed.
Development Phase	This relates to the development of the Proposed Development through commercial, environmental, technical and engineering consideration prior to construction.
EIAR Scoping Report	The EIAR Scoping Report sets out the proposed scope of work and methods to be applied in the development of the Environmental Impact Assessment Report (EIAR).
EirGrid	State-owned electric power Transmission System Operator (TSO) in Ireland
Electricity Supply Board Networks (ESBN)	Licensed owner and operator of the electricity distribution system and onshore transmission asset owner in the Republic of Ireland, responsible for carrying out operations, maintenance, repairs and construction on the national electricity grid.
Electromagnetic Field (EMF)	This is a property of space caused by the motion of an electric charge. A stationary charge will produce only an electric field in the surrounding space. If the charge is moving, a magnetic field is also produced. An electric field can be produced also by a changing magnetic field.
Environmental Impact Assessment (EIA)	A systematic means of assessing a development's likely significant effects undertaken in accordance with the EIA Directive (Directive 2011/92/EU as amended by Directive 2014/52/EU). It is an assessment carried out by the Competent Authority.
Environmental Impact Assessment Report (EIAR)	A report prepared by the Applicant to describe the likely significant effects of a project and submitted with an application for Development Consent.
Environmental Protection Agency (EPA)	National agency responsible for protecting and improving the environment of Ireland.
European Commission (EC)	The executive body of the European Union responsible for proposing legislation, enforcing European law, setting objectives and priorities for action, negotiating trade agreements and managing implementing European Union policies and the budget.
Fehily Timoney and Company (FT)	Planning and Environmental Consultants responsible for leading preparation of the EIAR for the Proposed Development
Felling Licence	A licence granted by the Minister for Agriculture, Food and the Marine provides authority under the Forestry Act 2014 to fell or otherwise remove a tree or trees.

Key Terms	Definition
Geographical Information System (GIS)	A digital system that captures, stores, analyses, manages and presents data linked to geographic location. It links spatial information to a digital database.
High Voltage Direct Current (HVDC)	A High Voltage Direct Current (HVDC) electric power transmission system (also called a power superhighway or an electrical superhighway) uses Direct Current for the bulk transmission of electrical power. For long-distance cables, HVDC systems are preferred as being less expensive and suffering lower electrical losses. For underwater power transmission, HVDC avoids the need to charge and discharge the cable capacitance each cycle. HVDC typically uses voltages between 100 kV and 1,500 kV.
Landscape and Visual Impact Assessment	A tool used to identify and assess the likely significant effects of change resulting from the Proposed Development on the landscape as an environmental resource in its own right and on views and Visual Amenity experienced by human & other receptors.
Maximum Export Capacity (MEC)	The Maximum Export Capacity (MEC) is the value (in MW, MVA, kW and/or kVA) provided in accordance with the User's Grid Connection Agreement or DSO Demand Customer's DSO Connection Agreement. This is the maximum capacity that can be exported to the Electricity Transmission/Distribution System by a project.
National Parks and Wildlife Service (NPWS)	The National Parks and Wildlife Service manages the Irish State's nature conservation responsibilities. The activities of the NPWS include the designation and protection of Natural Heritage Areas, Special Areas of Conservation and Special Protection Areas.
Natura Impact Statement (NIS)	This is a report prepared to inform Appropriate Assessment (AA) of Natura 2000 sites as required under the EU Habitats Directive which presents information on the assessment and the process of collating data on a project and its potential significant effects on Natura 2000 site(s).
Natura 2000 sites	Sites both onshore and offshore which are designated for conservation and protection under the EU Habitats Directive and Bird Directive.
Permanent Met Mast	Refers to a proposed 110 m high lattice steel Meteorological mast with a shallow concrete foundation, which includes a 4m lightning rod which will extend above the mast structure.
On-Site Substation and Loop-in	A substation is a part of an electrical generation, transmission, and distribution system. Substations transform voltage from high to low, or the reverse. A 110 kV substation will be constructed which will be the interface between the Proposed Development and the national electricity grid. The connection of the Proposed Development to the national grid will be via a Loop-in connection to Cashla-Dalton 110kV overhead line.
Operations and Maintenance (O&M)	O&M is the activity that follows commissioning to ensure the safe and economic running of the Proposed Development. The objective of this activity is to make sure the Proposed Development achieves the best balance between running cost and electricity output.
Operational Phase	The period over which the wind farm is generating, and any works are for maintenance purposes.
Prescribed Bodies	A public body or institution declared by the Minister as set out in the Planning & Development Act 2000 (as amended). These are bodies that should be

Key Terms	Definition
	notified by a Planning Authority or Competent Authority of applications for Consent that may fall within their remit.
The Proposed Development	Refers to all elements of the application for planning permission for the Proposed Development (Shancloon Wind Farm), the details of which are set out within Chapter 2: Development Description. These elements include the wind turbines, all site infrastructure (access tracks, substation(s), temporary construction / storage compounds, permanent meteorological mast, accommodation works and connection to the national grid.
Ramsar site	A wetland site designated to be of international importance under the Convention on Wetlands, known as the Ramsar Convention.
Receptor	Environmental component that may be affected, adversely or beneficially, by the Proposed Development.
Red Line Boundary	Refers to the land which is the subject of this application for Development Consent for the Proposed Development as shown on Figure 2.1.
Renewable Energy Support Scheme (RESS)	Set up by Department of the Environment, Climate and Communications (DECC), the RESS aims to promote the generation of electricity from renewable sources by providing financial support to renewable energy projects in Ireland.
River Basin Management Plan	A national plan that sets out the actions (Programme of Measures and Areas for Action) that Ireland will take to improve water quality and achieve 'good' ecological status.
Special Area of Conservation (SAC)	Areas defined in the European Union's Habitats Directive (92/43/EEC) for protection of one or more special habitats and/or species terrestrial or marine.
Special Protection Area (SPA)	Sites classified in accordance with Article 4 of the EC Birds Directive (2009/147/EC). They are classified for rare and vulnerable birds (as listed on Annex 1 of the Directive), and for regularly occurring migratory species.
Species	A group of interbreeding organisms that seldom or never interbreed with individuals in other such groups, under natural conditions; most species are made up of subspecies or populations.
Study Area	The physical area defined for each EIAR topic includes the potential spatial and temporal considerations of the effects on relevant receptors. The Study Area for each EIAR topic is intended to cover the area within which an effect can be reasonably expected relative to that topic.
Turbine Delivery Route (TDR)	The proposed turbine delivery route (TDR) from Galway Port to the Proposed Development site.
Water body	A discrete and significant element of surface water such as a lake, a reservoir, a stream, river or canal, part of a stream, river or canal, a transitional water or a stretch of coastal water, designated for the purposes of implementing the Water Framework Directive (WFD).
Wind Turbine Generator (WTG)	Wind Turbine Generators (WTG) or "WTGs" are unit(s) generating electricity from wind. These electricity generating machines typically comprise a tower, rotor with three blades connected at the hub, nacelle and ancillary electrical and other equipment.
Zone of Influence (ZOI)	The area of the receiving environment which may experience both positive and negative effects as a result of a project.

Key Terms	Definition
Zone of Theoretical Visibility (ZTV)	A map, digitally produced, showing areas of land and or sea within which different elements of a project is theoretically visible.

Table 1-4: Glossary of Abbreviations

Abbreviation	Term in Full
AA	Appropriate Assessment
CA	Competent Authority
CAA	Civil Aviation Authority
CAP	Climate Action Plan
CAS	Controlled Airspace
CDP	County Development Plan
CEMP	Construction Environmental Management Plan
CIA	Cumulative Impact Assessment
CIEEM	Chartered Institute of Ecology and Environmental Management
cSAC	candidate Special Areas of Conservation
DAFM	Department of Agriculture, Food and the Marine
dB	decibel
DECC	Department of the Environment, Climate and Communications, formerly Department of Communications, Climate Action and Environment (DCCAE)
DoHLGH	Department of Housing, Local Government and Heritage, formerly Department of Housing, Planning, and Local Government (DHPLG).
DoT	Department of Transport
DoD	Department of Defence
EC	European Commission
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EIS	Environmental Impact Statement
EMF	Electromagnetic Field
EPA	Environmental Protection Agency
ESB	Electricity Supply Board
ESBN	Electricity Supply Board Networks
EU	European Union
EU DCF	EU Data Collection Framework
EUNIS	European Nature Information System
FT	Fehily Timoney and Company

Abbreviation	Term in Full
FWPM	Freshwater pearl mussel
GIS	Geographic Information System
GLVIA3	Guidelines for Landscape and Visual Impact Assessment, Third Edition
GPS	Global Positioning Systems
GSI	Geological Survey Ireland
GW	Gigawatt
HDD	Horizontal Directional Drilling
HGV	Heavy Goods Vehicles
HV	High Voltage
IAA	Irish Aviation Authority
IAC	Irish Air Corps
ICAO	International Civil Aviation Organisation
IEEM	Institute of Ecology and Environmental Management
IEMA	Institute of Environmental Management and Assessment
IFI	Inland Fisheries Ireland
INNS	Invasive and Non-Native Species
IROPI	Imperative Reasons of Overriding Public Interest
IWeBs	Irish Wetland Bird Survey
IWT	Irish Wildlife Trust
JNCC	Joint Nature Conservation Committee
km	Kilometre
kV	KiloVolts
LSE	Likely Significant Effects
LVIA	Landscape and Visual Impact Assessment
MCC	Mayo County Council
MEC	Maximum Export Capacity
MW	Megawatts
NATS	National Air Traffic Service
NBDC	National Biodiversity Data Centre
NDP	Project Ireland 2040: National Development Plan 2018 – 2027
NECP	Ireland's National Energy and Climate Plan
NGO	Non-government Organisation
NHA	Natural Heritage Areas
NIAH	National Inventory of Architectural Heritage

Abbreviation	Term in Full
NIS	Natura Impact Statement
NMI	National Museum of Ireland
NMS	National Monuments Service
NPF	National Planning Framework
NPWS	National Parks and Wildlife Services
NREAP	National Renewable Energy Action Plan
O&M	Operation and Maintenance
OPW	Office of Public Works
P&D	Planning and Development Act 2000
pNHA	proposed Natural Heritage Areas
SAC	Special Area of Conservation
SNH	Scottish Natural Heritage
SPA	Special Protection Area
SPM	Suspended Particulate Matter
TII	Transport Infrastructure Ireland
VP	Vantage Point
GCCC	Galway City and County Council
WFD	Water Framework Directive
WTG	Wind Turbine Generator
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility

2. REFERENCES

An Bord Pleanála (2024) Online Planning Search.

Available at: http://www.pleanala.ie/.

European Commission (1999), Guidelines for the Assessment of Indirect and Cumulative Impacts as well as Impact Interactions.

Available at: https://ec.europa.eu/environment/archives/eia/eia-studies-and-reports/pdf/guidel.pdf

European Commission (2017), Environmental Impact Assessment of Projects – Guidance on the preparation of the Environmental Impact Assessment Report.

Available at: https://ec.europa.eu/environment/eia/pdf/EIA_guidance_EIA_report_final.pdf

EPA (June 2023) Greenhouse Gas Emissions Projections 2022-2040

EPA (2017), Guidelines on the Information to be contained in Environmental Impact Assessment Reports. Available from: https://www.epa.ie/

EPA (2015), Advice Notes for Preparing Environmental Impact Statements. Available at: https://www.epa.ie/

Department of Environment, Heritage and Local Government (2006), Wind Energy Development Guidelines. Available at: https://www.gov.ie

Department of Housing, Local Government and Heritage (2017), EIA Portal.Available at: https://www.housing.gov.ie/planning/environmental-assessment/environmental-impact-assessment-eia/eia-portal

Department of Housing, Planning and Local Government (2018), Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment. Available at: https://www.opr.ie/wp-content/uploads/2019/08/2018-Environmental-Impact-Assessment-1.pdf

Department of Housing, Planning and Local Government (2019), Draft Revised Wind Energy Development Guidelines. Available at: https://www.gov.ie

European Commission (2013), Guidance on Integrating Climate Change and Biodiversity into Environmental Impact Assessment.Available at: https://ec.europa.eu/environment/eia/pdf/EIA%20Guidance.pdf

Government of Ireland (2000-2021), Planning and Development Acts 2000-2020. Available at: http://revisedacts.lawreform.ie/eli/2000/act/30/revised/en/html

Government of Ireland (2001-2021), Planning and Development Regulations 2001-2020. Available at: http://www.irishstatutebook.ie

SEAI (December 2023), Energy in Ireland 2023 Report. Available at https://www.seai.ie/publications/Energy-in-Ireland-2023.pdf

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