

1. INTRODUCTION

1.1 Introduction

This Environmental Impact Assessment Report (EIAR) has been prepared by MKO on behalf of Wingleaf Ltd., as part of an application for planning permission to Cork County Council (CCC) to construct a 3-turbine wind farm and associated infrastructure at the Site of the original 10-turbine wind farm located in the townlands of Derreendonee, Curraglass, Cappaboy Beg, and Inchi More Co. Cork.

The Site is located approximately 6.8km northeast of Kealkill and 3.8km southwest of the village of Ballingearry, with proposed works taking place within the townlands of Derreendonee, Curraglass, Cappaboy Beg, and Inchi More.

The previous wind turbines at the Site were granted planning permission in 2002 and the Site was constructed and became operational in 2006. The turbines were removed in June 2018 as a consequence of a commercial decision by the developer of the wind farm at that time. The previous development consisted of 10 turbines, with a hub height of 50m and a total tip height of 75m. An application was made in 2020 to Cork County Council for a 7-turbine wind farm, which was subsequently refused by An Coimisiún Pleanála (Pl Ref 20/350 / ABP Ref. 308244-20 / ABP Ref. 315656).

Wingleaf Ltd. is now seeking permission for a wind farm comprising 3 turbines with a tip height of up to 156.5 metres. The current proposal will seek to address the concerns raised in the determination of the previous planning application. It is proposed to significantly reduce the scale of the proposed development, utilising the spine road of the original wind farm at this site and connecting directly to the existing on-site 38kV substation. Further detail is outlined in Section 1.4 of this document. The Proposed Development will ensure that it duly captures a percentage of the renewable energy generating potential from the wind resource at this site using modern wind turbine technology in order to contribute to Ireland's ambitious renewable energy generation targets as set out in the Climate Action Plan (CAP) 2025, i.e. 80% renewable energy generation by 2030.

1.1.1 References to Proposed Development and Scope of EIAR

The Proposed Development, which will be known as the 'Curraglass Wind Farm' is being brought forward in response to local, national, regional and European policy regarding Ireland's transition to a low-carbon economy, associated climate change policy objectives and to reduce Ireland's dependence on imported fossil fuels for the production of electricity.

For the purposes of this EIAR:

- The 'Proposed Development' refers to the entirety of the project for the purposes of this EIAR in accordance with the EIA directive. A full description of the Proposed Development is provided in Chapter 4 of this EIAR, and is the subject of the accompanying planning application under Section S34 of the Planning and Development Act 2000, as amended
 - The 'proposed turbines' refers to the 3 no. turbines forming part of the Proposed Development as outlined above.
- The 'Site' refers to the primary study area for the EIAR, as delineated by the EIAR Site Boundary in green as shown in Figure 1-1 of the EIAR and encompasses an area of approximately 270 hectares. This includes a turbine component turning area in the townland of Inchi More approximately 2.2km northeast of the original wind farm entrance.

- The ‘2020 Application’ refers to the previous Curraglass Renewable Energy Development planning application that was submitted by Wingleaf Ltd in the year 2020, comprising no. 7-turbines, under the Planning Reference 20/350 / ABP-308244-20 / ABP-315656-23.
- The ‘Kealkill Wind Farm’ refers to the original 10-turbine wind farm, 38kV substation, and associated infrastructure at the Site which was constructed under *PL04.127297* / ABP Ref. 04.127297.

The detailed planning history of the Site is provided in Section 2.7 in Chapter 2 (Background to the Proposed Development). This EIAR, along with the NIS, will accompany the planning application for the Proposed Development which will be made to CCC. Both the EIAR and NIS contain the information necessary for CCC to complete the Appropriate Assessment and Environmental Impact Assessment as required for this planning application.

The EIAR and NIS take into account the combined impacts identified across the various EIAR disciplines of the Proposed Development.

For clarity in this EIAR, all elements of the Proposed Development will be assessed cumulatively and in combination with other plans and projects to aid the competent authority in carrying out an EIA.

The EIAR Site boundary identifies the primary EIAR study area for the Proposed Development, however, each individual topic, i.e. chapter, has its own study area for assessment purposes relevant to that topic which will be clearly identified in the relevant chapters. The actual planning application site outline (Red Line Boundary) for the purposes of this planning application, occupies a smaller area within the primary EIAR Site boundary. The EIAR Site boundary encompasses an area of approximately 270 hectares. The permanent footprint of the Proposed Development measures approximately 4.7 hectares, which represents approximately 1.7% of the Site.

The Proposed Development is described in detail in Chapter 4 (Description of the Proposed Development) of this EIAR.

1.1.2

Site Location

The Site is located within a rural, agricultural setting in southwest Cork, approximately 6.8km northeast of Kealkill Village and 3.8km southwest of the village of Ballingearry. The approximate location for the centre of the Site is E508999, N562646 (ITM). The Site covers an area of approximately 270 hectares in total, the majority of which is planted with mixed forestry and existing wind farm infrastructure. The Site ranges in elevation from 111 metres above ordnance datum (m OD), in the turbine component area of the Site, to 347m OD in the north of the Site. The Site location context is shown on Figure 1-1. The EIAR Site boundary is presented in Figure 1-2.

The Site is located, almost in its entirety, within Type 15a: Ridged and Peaked Upland (Mullaghanish to Millstreet) Landscape Character Type (LCT) as per the Cork County Development Plan 2022-2028, which typically comprises of a ridged, peaked and forested upland landscape, with rugged and rolling mountainous topography.

The Site is surrounded by several prominent peaks, namely Doughill Mountain (471m), Douce Mountain (476m) and Shehy More (446m) to the east, Foilastookeen Mountain (540m) and Conigar Mountain (566m) to the north/northwest and Knockbreteen Hill (239m) to the southwest of the Site.

The Site falls within the townlands of, Derreendonee, Curraglass, Cappaboy Beg, and Inchi More and is situated on the south-westerly slopes of Doughill Mountain of the Shehy Mountains. The Site is accessed by an existing site entrance, via forestry roads to the northeast that adjoins the R548 Regional Road, entering the Site at its eastern boundary in the townland of Derreendonee. The section of Site that covers the turbine component turning area for turbine delivery, is located in low lying lands along the R584 at the bottom of the northern slopes of the Doughill Mountain. This pocket of the Site contains an existing

private gravel track, with a mix of agricultural grasslands on either side of the track, and the boundary with the R548 Regional Road includes gorse willow hedgerow.

The current available Environmental Protection Agency (EPA) Corine land cover maps describe the Site, as primarily consisting of *mixed forestry*, with portions of *coniferous forestry* and *peat bogs* in the northwest and northeast of the section.

Under the Water Framework Directive (WFD), the Site is located within the Dunmanus-Bantry-Kenmare catchment area (Catchment ID: 21) and the Coomhola_SC_010 sub-catchment. The tributaries of the Owenbeg River flow south directly along the western boundary of the Site. Tributaries of the River Lee also drain northeast within the northeastern portion of the Site, into the River Lee. The Gouganne Barra Lake lies approximately 1.6km north of the Site at its closest point and also drains into the River Lee. Other loughs, namely Lough Nambrackderg approximately 5.3km west, and Lough Lua approximately 4.5km east of the Site respectively at its closest point.

It is intended to connect the proposed turbines to the national grid via the existing onsite 38kV substation located within the Site. The existing onsite 38kV substation connects to an existing 38kV overhead line.

The townlands in which the Proposed Development is located are listed in Table 1-1 below.

Table 1-1 Townlands related to the Proposed Development

Proposed Development	Townlands
<i>3 no. Turbines and associated foundations and hardstanding, and underground cabling connection to existing onsite 38kV substation, borrow pit, temporary construction compound, met mast, peat and spoil management areas, new road, existing road upgrades, site access junction upgrades, turbine component turning area, Tree felling and vegetation removal, biodiversity enhancement measures, Site drainage, operational stage site signage and all associated Site development works, ancillary works and apparatus</i>	Derreendonee, Curraglass, Cappaboy Beg, and Inchi More



Map Legend

 EIAR Site Boundary

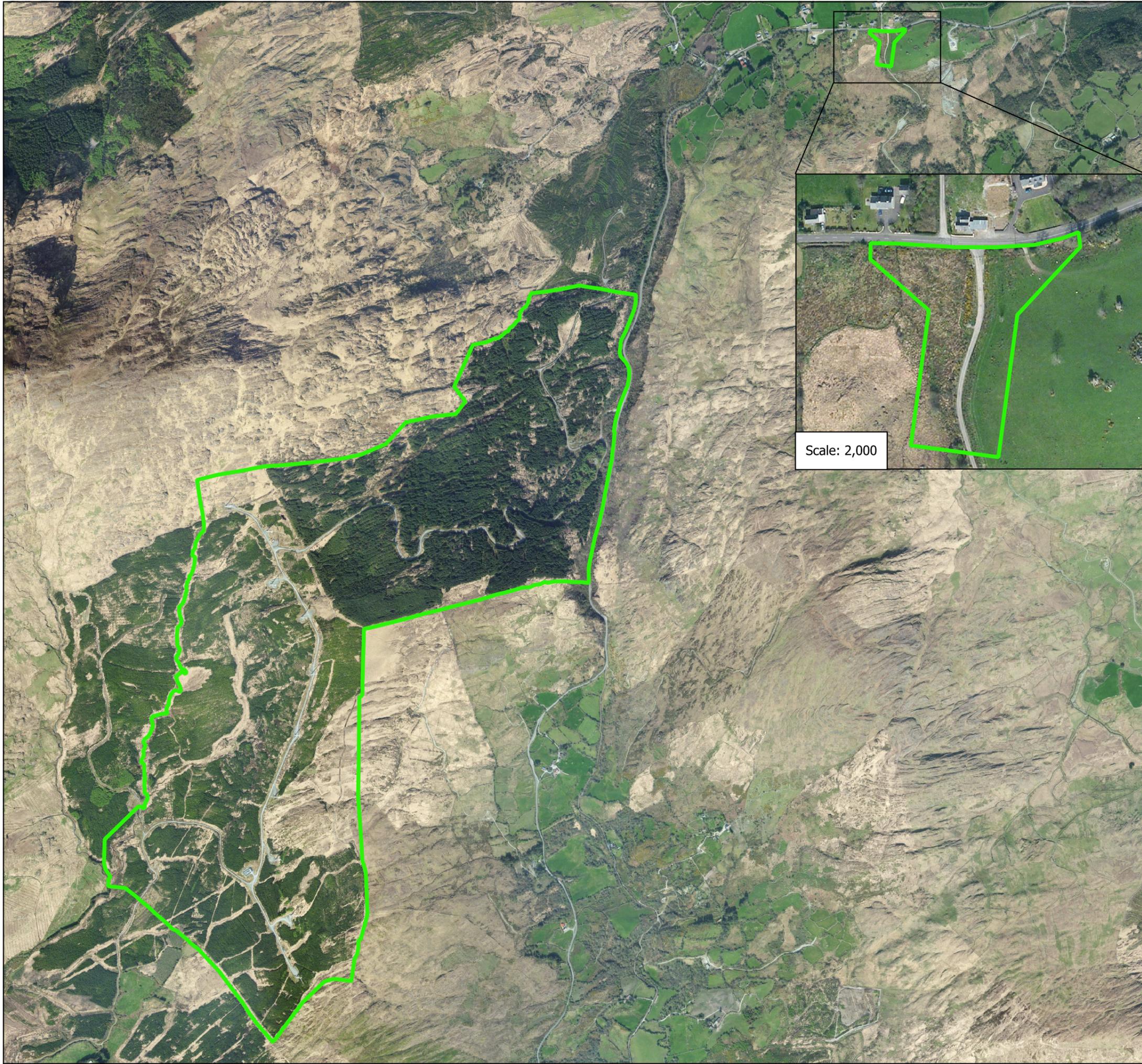
Site Location

Project Title
Curraglass Wind Farm, Co. Cork

Drawn By EM	Checked By SC
Project No. 240614	Drawing No. Figure 1-1
Scale 1:45,000	Date 2025-07-17

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Map Legend

 EIA Site Boundary



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Ireland/Government of Ireland

Drawing Title

Site Location - Aerial

Project Title

Curralgass Wind Farm, Co. Cork

Drawn By

EM

Checked By

EC

Project No.

240614

Drawing No.

Figure 1-2

Scale

1:15,000

Date

2025-08-26



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1.2

Legislative Context of Environmental Impact Assessment

The consolidated European Union Directive 2011/92/EU on the assessment of the effects of certain public and private projects on the environment as amended by the EIA Directive 2014/52/EU (the 'EIA Directive'), has been transposed into Irish planning legislation primarily by the Planning and Development Acts 2000 as amended and the Planning and Development Regulations 2001 as amended.

This EIAR complies with the EIA Directive and its transposing legislation.

Proposed Development. The Environmental Impact Assessment (EIA) will be undertaken by Cork County Council as the competent authority.

Article 5 of the EIA Directive provides that where an EIA is required, the developer shall prepare and submit an environmental impact assessment report (EIAR). The information to be provided by the developer shall include at least:

- a) *description of the project comprising information on the Site, design, size and other relevant features of the project;*
- b) *a description of the likely significant effects of the project on the environment;*
- c) *a description of the features of the project and/or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;*
- d) *a description of the reasonable alternatives studied by the developer, which are relevant to the 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;*
- e) *non-technical summary of the information referred to in points (a) to (d); and*
- f) *any additional information specified in Annex IV relevant to the specific characteristics of a particular project or type of project and to the environmental features likely to be affected.*

In addition, Article 94 of the Planning and Development Regulations 2001 (as amended) sets out the information to be contained in an EIAR, with which this EIAR complies.

MKO was appointed as environmental consultant on the Proposed Development and commissioned to prepare this EIAR in accordance with the requirements of the EIA Directive 2011/92/EU as amended by Directive 2014/52/EU.

Part 2 of Schedule 5 of the Planning and Development Regulations 2001, as amended identifies classes and scales of development that require Environmental Impact Assessment (EIA). The relevant class of development in this case relates to “*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*”, as per Item 3(i) of the Schedule. The Proposed Development does not exceed 5 turbines, however, does exceed 5 Megawatts in scale, and therefore is subject to EIA.

The EIAR provides information on the receiving environment and assesses the likely significant effects of the project and proposes mitigation measures to avoid or reduce these effects. The function of the EIAR is to provide information to allow the competent authority to conduct the Environmental Impact Assessment (EIA) of the Proposed Development.

All elements of the Proposed Development, (including the wind turbines and associated infrastructure, proposed tree felling and replanting and turbine delivery route) have been assessed as part of this EIAR.

1.2.1 EIAR Guidance

The Environmental Protection Agency (EPA) published its '*Guidelines on the Information to be Contained in Environmental Impact Assessment Reports*' (EPA, 2022) in May 2022, (which is intended to guide practitioners preparing an EIAR in line with the requirements set out in the European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018)). This guidance has been followed.

In preparing this EIAR regard has also been taken of the provisions of the '*Guidelines for Planning Authorities and An Bord Pleanála on Carrying out Environmental Impact Assessment*', published by the Department of Housing, Planning and Local Government (DHPLG) in August 2018.

The European Commission also published a number of guidance documents in December 2017 in relation to Environmental Impact Assessment of Projects (Directive 2011/92/EU as amended by 2014/52/EU) including '*Guidance on Screening*', '*Guidance on Scoping*' and '*Guidance on the preparation of the Environmental Impact Assessment Report*'. MKO has prepared the EIAR with regard to these guidelines.

1.2.2 Wind Energy Development Guidelines for Planning Authorities

The relevant considerations under the '*Wind Energy Development Guidelines for Planning Authorities*' (Department of the Environment, Heritage and Local Government (DOEHLG, 2006) have been taken into account during the preparation of this EIAR.

The '*Wind Energy Development Guidelines for Planning Authorities*' (hereafter referred to as the Guidelines (DoEHLG, 2006)) were the subject of a targeted review. The proposed changes to the assessment of impacts associated with onshore wind energy developments were outlined in the document Draft Wind Energy Development Guidelines (hereafter referred to as the Draft Guidelines (DoHPLG, 2019)). A consultation process in relation to the Draft Guidelines (DoHPLG, 2019) closed on 19th February 2020. The proposed changes presented in the draft Guidelines (DoHPLG, 2019) give certain focus on the setback distance from sensitive receptors (four times the proposed maximum tip height), along with shadow flicker and noise requirements relative to sensitive receptors.

At time of writing, the Draft Guidelines (DoHPLG, 2019) have not yet been adopted, and the relevant guidelines for the purposes of section 28 of the Planning and Development Act 2000, as amended, remain to be the Guidelines. Notwithstanding this, however, due to the timelines associated with the planning process for renewable energy projects and the commitment within the Climate Action Plan 2024 (CAP24) to publish new draft guidelines (refer to Section 1.5.1 below), it is possible that the Draft Guidelines (DoHPLG, 2019) may be adopted during the consideration period for the current planning application. Please note, the Climate Action Plan 2025 (CAP25) was published in April 2025, however it does not provide an update on the commitments published in CAP24 relating to the publication timeline of the Draft Guidelines (DoHPLG, 2019). Should the Draft Guidelines (DoHPLG, 2019) be adopted in advance of a planning decision being made on this application, the Proposed Development will be capable adhering to the relevant noise and shadow flicker standards. While the final updated guidelines have not yet been published it should be noted that Noise and Shadow Flicker are entirely controllable and are discussed further in Chapter 12 (Noise and Vibration) and Chapter 5 (Population & Human Health), respectively. The Proposed Development achieves the recommended distance of 4 times turbine tip height from proposed turbines to third party sensitive receptors, which has become a recognised standard for the purposes of protecting residential visual amenity, as currently outlined in the Draft Guidelines (DoHPLG, 2019).

1.3 The Applicant

The applicant for the Proposed Development, Wingleaf Ltd, is an associate company of Enerco Energy Ltd., which is an Irish-owned, Cork-based company with extensive experience in the design, construction and operation of wind energy developments throughout Ireland, with projects currently operating or in construction in Counties Cork, Kerry, Limerick, Clare, Galway, Mayo and Donegal.

By Q3 2025, Enerco associated companies had over 925 Megawatts (MW) of generating capacity in commercial operation or under construction and have a further c.400MW of projects at various stages in its portfolio to assist in meeting Ireland's renewable energy targets.

1.4 Brief Description of the Proposed Development

The Proposed Development will comprise 3 no. wind turbines, access roads and entrance, borrow pit and peat and spoil management areas, biodiversity enhancement measures, tree felling and vegetation removal, underground cabling, continued use of the existing onsite 38kV substation and associated 38kV underground cabling, temporary construction compound, a permanent meteorological mast, turbine component turning area, site drainage, operational stage signage and all associated Site development works, ancillary works and apparatus. It is proposed to utilise the existing wind farm infrastructure at the Site where feasible. The proposed turbines will have a maximum blade tip height of 156.5m. The full description of the Proposed Development is detailed in Chapter 4 of this EIAR.

In this regard, it is intended to submit the planning permission application to Cork County Council, the consenting authority.

The development description for the current planning application as appears in the public notices, is as follows:

The proposed development will consist of the provision of;

- i. 3 no. wind turbines with an overall turbine tip height of 156.5 metres; a rotor blade diameter of 133 metres; and hub height of 90 metres, and associated foundations, hard-standing and assembly areas;
- ii. Continued use of the existing onsite 38kV substation and associated 38kV underground cabling (built under Cork County Council Ref. No. 00/6590 / An Coimisiún Pleanála Ref. No. 04.127297);
- iii. A meteorological mast with a height of 30 metres above ground and associated foundation and hard-standing area;
- iv. All associated underground electrical and communications cabling connecting the wind turbines and meteorological mast to the existing onsite 38kV substation;
- v. A temporary construction compound (including 2 no. site offices and staff facilities (with a combined floor area of 60 sq.m));
- vi. A borrow pit;
- vii. Peat and spoil management;
- viii. Upgrade of existing site tracks/ roads and provision of new site access roads, junctions and hardstand areas;
- ix. Temporary improvements and modifications to the existing site access junction off the R584 to facilitate delivery of turbine components;
- x. Upgrade of an existing access track off the R584, including temporary improvements and modifications to facilitate a turbine component turning area;
- xi. Tree Felling and Vegetation Removal;

- xii. Biodiversity Enhancement measures (Kerry Slug habitat enhancement, peatland habitat enhancement, and riparian planting of native broadleaf trees);
- xiii. Site Drainage;
- xiv. Operational Stage site signage; and
- xv. All associated site development works, ancillary works and apparatus.

This application is seeking a ten-year permission and 35-year operational life from the date of commissioning of the wind farm.

The Site was previously an operational wind farm. The existing onsite 38kV substation is a live node on the national electricity grid and is connected to an existing 38kV overhead. The planning application for the Proposed Development includes for internal underground cabling which amalgamates the electricity generated by the proposed turbines at the existing onsite 38kV substation.

Current and future wind turbine generator technology will ensure that the wind turbine model, chosen for the Proposed Development, will have an operational lifespan greater than the 35-year operational life that is being sought as part of this application.

Modern wind turbine generators typically have an output in the 4 and 7 MW range, with the generating capacity continuing to evolve upwards as technology improvements are achieved by the turbine manufacturers. For the purposes of this EIAR, a wind turbine model with a rated output of 4.8MW has been chosen as this is considered to be representative of the typical turbine capacity currently available. Therefore, based on 3 no. wind turbines, the proposed turbines will have an estimated combined output of 14.4MW. The actual turbine procured as part of a competitive tender process may have a power output that is marginally lower or greater than the 4.8MW turbine described in the EIAR. Irrespective of the power output of the actual turbine procured, the conclusions of the EIAR will not be materially affected.

The layout of the Proposed Development has been led by consideration of constraints and facilitators, thereby avoiding the environmentally sensitive parts of the Site. The roads layout for the Proposed Development makes use of the existing access roads and tracks where possible, with approximately 4km of existing roadway/tracks required, approximately 2.6km of which will require upgrading and approximately 1.5km of new access road to be constructed.

The closest inhabitable property is located approximately 1,001 metres from the nearest proposed turbine location (T3). There is no property located within one kilometre of the proposed turbine locations.

All elements of the Proposed Development have been assessed as part of this EIAR.

As part of Cork County Development Plan (CDP) 2022-2028, the Wind Energy Strategy (WES) which identifies, in broad strategic terms, three categories of 'Wind Deployment Area' for large scale commercial wind energy developments. These categories are "Acceptable in Principle", "Open to Consideration" and "Normally Discouraged".

All 3 no. proposed turbines are within an area designated as "Open to Consideration" for wind energy development by the CDP. The CDP states that this category has been applied to areas with some capacity to absorb wind development, but which are sensitive enough to require a site-by-site appraisal to ascertain the suitability of the area for development. The use of the Site for wind energy generation has previously been established as there was an operational wind farm on the Site between 2006 and 2018.

1.5 Need for the Proposed Development

1.5.1 Overview

In July 2021, the Climate Action and Low Carbon Development (Amendment) Act 2021 was signed into law, committing Ireland to reach a legally binding target of net-zero emissions no later than 2050, and a cut of 51% by 2030 (compared to 2018 levels)¹. On this pathway to decarbonisation, the Government published the CAP 2025² reaffirming the renewable electricity target of 80% by 2030, without compromising security of energy supply. The Proposed Development is expected to be operational before 2030 and would therefore contribute to this 2030 target.

In July 2024 the EPA published ‘Ireland’s Provisional Greenhouse Gas Emissions 1990-2024’³ which stated a provisional total of national greenhouse gas emissions (excluding Land Use, Land Use Change and Forestry (LULUCF)) for 2024 to be 53.75 million tonnes carbon dioxide equivalent (MtCO₂eq) which is 2.0% lower than emissions in 2023 (60.76 MtCO₂eq). For the second year in succession, Ireland’s emissions are below the 1990 baseline.

The EPA report noted that *“The large share of renewables combined with the increase in imported electricity from interconnectors caused emissions intensity of power generation to decrease by 11.0%, from 254 g CO₂/kWh in 2023 to a historic low of 226 g CO₂/kWh in 2024. In 2024, the energy industries, transport and agriculture sectors accounted for 73% of total GHG emissions. Agriculture is the single largest contributor to the overall emissions, at 38%. Transport, energy industries and the residential sector are the next largest contributors, at 21.7%, 13.3% and 10.4%, respectively. The report also states that there was an annual reduction of 2.3% in total fuel used for electricity generation with a reduction of 49.0% in coal, an increase of 165.7% in oil and no change in natural gas use in 2024. The report highlights that whilst emissions are beginning to reduce, transformative measures will be needed to meet National Climate ambitions.*

Despite the progress in 2024 noted above, Ireland continues to face highly complex climate challenges, as detailed in a more recent EPA publication from July 2024 titled ‘Ireland’s State of the Environment Report 2024’⁴. This report states that *“Ireland has set a national objective to transition by 2050 to a climate-resilient, biodiversity-rich, environmentally sustainable and climate-neutral economy. Achieving this multifaceted objective will be the most complex and interconnected societal challenge for the next 25 years, and each step towards its achievement will present opportunities and challenges. Efficiencies will not get us there. Incrementalism will not get us there. Collectively we must shift our society to a sustainable trajectory.”* The report further notes that the overall current assessment for climate in Ireland is ‘poor’ and *“largely not on track to meet policy objectives and targets”* and urges the full implementation of actions set out in the CAP25, in addition to various other actions, for Ireland to have any chance of meeting its 2030 and 2050 climate targets. According to a SEAI report⁵ published in November 2024, there are significant projected gaps to all legally binding targets in Ireland, including national carbon budgets and sectoral emissions ceilings, and EU obligations on renewable energy, energy efficiency and greenhouse gas emissions. The report highlights the risks faced over the delayed achievement of the majority of CAP targets, including renewable electricity, and that *“actions to address these risks are critically important”*.

As such, the Proposed Development is critical to helping Ireland address these challenges as well as addressing the country’s over-dependence on imported fossil fuels.

¹ Government of Ireland 2021 Climate Action and Low Carbon Development (Amendment) Act 2021 <<https://www.irishstatutebook.ie/eli/2021/act/32/section/1.5/enacted/en/html>>

² Department of Environment, Climate and Communications (2025) Climate Action Plan 2025

³ Ireland’s Provisional Greenhouse Gas Emissions (1990-2024) < <https://www.epa.ie/publications/monitoring-assessment/climate-change/air-emissions/EPA-Provisional-1990-2024-GHG-Report-1716.pdf>

⁴ <https://www.epa.ie/publications/monitoring-assessment/assessment/state-of-the-environment/EPA-SOE-Report-2024-BOOK-LOWRES-FINALfor-WEB.pdf>

⁵ <https://www.seai.ie/sites/default/files/publications/National-Energy-Projections-Report-2024.pdf>

The need for the Proposed Development is driven by the following factors:

1. *A legal commitment from Ireland to limit greenhouse gas emissions under the Kyoto protocol to reduce global warming;*
2. *A requirement to increase Ireland's national energy security as set out in Ireland's Transition to a Low Carbon Energy Future 2015-2030.*
3. *A requirement to diversify Irelands energy sources, with a view to achievement of national renewable energy targets and an avoidance of significant fines from the EU (the EU Renewables Directive);*
4. *CAP 2025 which aims to ensure that Ireland achieves its legally binding target (the Climate Action and Low Carbon Development (Amendment) Act 2021) of net-zero greenhouse gas emissions no later than 2050, and a reduction of 51% by 2030;*
5. *Increasing energy price stability in Ireland through reducing an over reliance on imported fossil fuels;*
6. *Provision of cost-effective power production for Ireland which would deliver local benefits; and*
7. *To facilitate the Government in meeting its ambitious 80% renewable energy target by 2030.*

These factors are addressed in further detail below. Section 2.1 in Chapter 2 (Background to the Proposed Development) of this EIAR, presents a full description of the international and national renewable energy policy context for the Proposed Development. Section 2.2 addresses climate change, including Ireland's current status with regard to meeting greenhouse gas emission reduction targets.

In March 2025, the World Meteorological Organisation (WMO) published the State of the Global Climate 2024 Report⁶. The report provides a summary on the state of the climate indicators in 2024 with sections on key climate indicators, extreme events and impacts. The key messages in the report include:

- Greenhouse gases reached record observed levels in 2023. Real time data indicate that they continued to rise in 2024.
- January – September 2024 global mean surface air temperature was $1.54 \pm 0.13^{\circ}\text{C}$ above the pre-industrial average.
- Glacier mass loss from 2021/2022 to 2023/2024 represents the most negative three-year glacier mass balance on record, and seven of the ten most negative annual glacier mass balances since 1950 have occurred since 2016.
- The strong 2023/2024 El Niño followed three consecutive years of La Niña from late 2020 to early 2023.
 - El Niño conditions were established by mid-2023, became strong by the end of 2023 and dissipated by the second quarter of 2024
- Extreme weather continued to lead to severe socio-economic impacts. Extreme heat affected many parts of the world.
- Food security, population displacement and impacts on vulnerable populations continue to be of mounting concern in 2024, with weather and climate hazards exacerbating the situation in many parts of the world.

There has been a substantial worldwide energy transition, with renewable capacity additions increasing by nearly 60% from 2022, totalling 565 gigawatts (GW).⁷ This growth represents the highest rate observed in the past two decades, signalling a significant momentum toward achieving the clean energy goal set at the United Nations Framework Convention on Climate Change (UNFCCC) 28th Conference of the Parties (COP28) meeting in 2023, and reiterated at the 29th Conference of the Parties (COP29) in Azerbaijan in 2024, to triple renewable energy capacity globally to 11,000 GW by 2030. Considering existing policies and market conditions, the International Energy Agency (IEA) predicts that there will be approximately 5,500GW of new renewable capacity becoming operational by 2030. This implies

⁶ World Meteorological Organisation (2025) State of the Global Climate 2024 <<https://library.wmo.int/records/item/68835-state-of-the-global-climate-2023>>

⁷ IEA (2024), Renewables 2023, IEA, Paris <<https://www.iea.org/reports/renewables-2023>>

that global renewable capacity additions will continue to increase every year, reaching almost 940GW annually by 2030 – 70% more than the record level achieved last year. Solar PV and wind together account for 95% of all renewable capacity growth through the end of this decade due their growing economic attractiveness in almost all countries.

The recent joint publication of WMO and International Renewable Energy Agency on Climate-driven Global Renewable Energy Potential Resources and Energy Demand in 2023⁸ underscores the inherent links between renewable energy resources and weather and climate conditions. It calls for better integration of climate variability considerations into energy resource operation, management, and planning to enhance effectiveness and sustainability in these regions.

It should be noted that the UNFCCC 29th Conference of the Parties (COP29) reaffirmed the goal of tripling global renewable energy capacity by 2030, following progress made in 2023, where investments in renewable energy hit a record €545 billion. The Global Renewable Alliance (GRA) call to action at COP 29 called on governments to address critical trade barriers that limit the expansion of renewable energy markets and challenge meeting the goal of tripling renewable energy capacity by 2030. COP29 also saw a new £240 billion annual climate finance agreement being reached. The COP29 Green Energy Pledge: Green Energy Zones and Corridors pledge aims at tripling the previous pledge to support developing nations in transitioning to clean energy and enhancing climate resilience. This funding aims to bridge the disparity in renewable energy investment, particularly in emerging economies.

1.5.2

Climate Change and Greenhouse Gas Emissions

At the Paris climate conference (COP21) in December 2015, 195 countries adopted the first-ever universal, legally binding global climate deal. The Paris Agreement sets out a global action plan to avoid dangerous climate change by limiting global warming to well below 2°C above pre-industrial levels. Under the agreement, Governments also agreed on the need for global emissions to peak as soon as possible, recognising that this will take longer for developing countries and to undertake rapid reductions thereafter in accordance with the best available science. The most recent climate conference (COP28) in December 2023 in Dubai resulted in the first agreement explicitly calling for the transition away from fossil fuels, the United Arab Emirates (UAE) Consensus. This text raised concerns over the achievement of limiting warming below 1.5°C, as the text to ‘phase out as soon as possible inefficient fossil fuel subsidies’ does not address energy poverty or the just transition. The UAE Consensus further calls for more explicit near-term goals in the lead up to 2050, calling for the world to cut greenhouse gas emissions by 43% as compared to 2019 levels.

The International Panel on Climate Change (IPCC) has put forward its clear assessment that the window for action on climate change is rapidly closing and that renewable energy sources such as wind will have to grow from 30% of global electricity at present to 80% by 2050 if we are to limit global warming to below 2 degrees⁹ and in accordance with the COP 21 agreement to limit global warming to well below 2°C above pre-industrial levels. Former Minister Kelly remarked in 2015 that “*As a nation we must do everything in our power to curb our emissions*”.

In February 2022, the International Panel on Climate Change (IPCC) released the report ‘Working Group II-Climate Change 2022: Impacts, Adaptation and Vulnerability’ regarding the impacts of climate change on nature and human activity. The report states that global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO₂ and other greenhouse gas emissions occur in the coming decades. The report identifies four key risks for Europe, with most becoming more severe at 2 °C global warming levels (GWL) compared with 1.5 °C GWL. From 3°C GWL, severe risks remain for many sectors in Europe. The four key risks identified are:

⁸ International Renewable Energy Agency + WMO (2024) 2023 Year in Review: Climate-driven Global Renewable Energy Potential Resources and Energy Demand <<https://wmo.int/publication-series/2023-year-review-climate-driven-global-renewable-energy-potential-resources-and-energy-demand>>

⁹ IPCC Fifth Assessment Synthesis Report, Intergovernmental Panel on Climate Change AR5 Report

- Key Risk 1: Mortality and morbidity of people and changes in ecosystems due to heat.
- Key Risk 2: Heat and drought stress on crops.
- Key Risk 3: Water scarcity.
- Key Risk 4: Flooding and sea level rise

In April 2022, the IPCC released the report ‘Working Group-III – Climate Change 2022: Mitigation of Climate Change, which assesses literature on the scientific, technological, environmental, economic, and social aspects of mitigation of climate change. The report reflects new findings in the relevant literature and builds on previous IPCC reports, including the WGIII contribution to the IPCC’s Fifth Assessment Report (AR5), the WGI and WGII contributions to AR6 and the three Special Reports¹⁰ in the Sixth Assessment cycle. This report outlines developments in emission reduction and mitigation efforts, assessing the impact of national climate pledges in relation to long-term emissions goals in a global context.; and states that ‘*Unless there are immediate and deep emissions reductions across all sectors, limiting global warming to 1.5°C will be beyond reach.*’

In November 2023, the IPCC published the ‘*AR6 Synthesis Report: Climate Change 2023*¹¹, and is the final product of the AR6 of the IPCC. It summarizes the state of knowledge of climate change, its widespread impacts and risks, and climate change mitigation and adaptation. It confirms that the unsustainable and unequal energy and land use as well as historical use of fossil fuels have unequivocally caused global warming, with global temperatures approximately 1.1°C above 1850-1900 levels. A substantial ‘emissions gap’ exists between global greenhouse gas emissions in 2030 associated with the implementation of NDCs announced prior to COP26, Parties to the Paris Agreement have two years to submit updated NDCs for the period up to 2035, ambition will need to be ratcheted up in order to limit warming to 1.5°C.

In May 2025, the EPA¹² reported, for the year 2023, that the energy sector contributed to 14.3% of Ireland's total emissions. The latest EPA projections show that currently implemented policies and measures (WEM) will result in Ireland achieving a total greenhouse gas emission reduction of 8.4% on 2005 levels by 2030, significantly short of Ireland's 2030 target under the EU Effort Sharing Regulation (ESR), i.e., 42% reduction of emissions compared to 2005 levels by 2030, and also lower than the 9% reduction projected in the 2024 report. If policies and measures in the higher ambition (WAM) scenario are implemented, EPA projections show that Ireland can achieve a reduction of 26% by 2030. The EPA projections show that agriculture and transport emissions form the majority of ESR emissions; combined they represent 59.2% and 63.2% of emissions in 2023 (latest inventory data) and 2030 (projected), respectively. Decarbonisation of power generation is a key measure, not only in the energy sector, but for other energy intensive sectors, such as transport and agriculture, whose activities result in high levels of greenhouse gas emissions.

In July 2024, the EPA ‘*Ireland's Provisional Greenhouse Gas Emissions 1990-2023*’ report stated that in 2023, overall electricity generation in Ireland increased by a 2.1% and renewable electricity generation increased from 38.6% in 2022 to 40.7%, mainly due to an increase in wind energy production of 33.7%. The increase in renewables, combined with decreases in coal, oil, and peat use, resulted in the emissions intensity of power generation in 2023 decreasing by 23.3%, 332 g CO₂/kWh in 2022 compared with 255 g CO₂/kWh in 2023.

¹⁰ The three Special Reports are: *Global Warming of 1.5°C: an IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty (2018)*; *Climate Change and Land: an IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems (2019)*; *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate (2019)*

¹¹ IPCC Sixth Assessment Synthesis Report, Intergovernmental Panel on Climate Change AR6 Report: Climate Change 2023

¹² *Ireland's Greenhouse Gas Emission Projections 2024-2055 (May 2025)* < [Ireland's Greenhouse Gas Emissions Projections 2024-2055 | Environmental Protection Agency](#) >

The ‘*National Energy Projections 2023*’¹³, published annually by the Sustainable Energy Authority of Ireland (SEAI), state that in 2022, 86% of all energy used in Ireland was from fossil fuels, 13% from renewable sources and the remainder from others such as waste and electricity imports. By 2030, fossil fuels could still provide most of Ireland’s energy, ranging from 68% in the WEM scenario to 57% in the most ambitious WAM scenario. The deployment of renewables needs to outpace the growth of energy demand for the absolute reductions in greenhouse gas emissions that are required to be met. However, the SEAI National Energy Projections show that by the end of the second budget period, the total exceedance in the electricity sector is projected to be 20.1 MtCO₂eq, or 33%, and 13.8MtCO₂eq, or 23%, in the WEM and WAM scenarios, respectively.

CAP25¹⁴ was published on the 15th of April 2025 by the Department of the Environment, Climate and Communications (DECC). Following on from Climate Action Plans 2019, 2021, 2023, and 2024, CAP25 sets out the roadmap to deliver on Ireland’s climate ambition. It aligns with the legally binding economy-wide carbon budgets and sectoral ceilings that were agreed by Government in July 2022 following 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 the reduction of 51% by 2030 mentioned above. CAP25 sets out an ambitious course of action over the coming years to address the impacts which climate may have on Ireland’s environment, society, economic and natural resources. CAP25 clearly recognises that Ireland must significantly step up its commitments to tackle climate disruption. CAP25 reidentifies the need to increase the share of electricity demand generated from renewable sources by to up to 80% where achievable and cost effective, without compromising security of electricity supply and a need for 9GW of onshore wind generation. In 2023, Ireland had 4.74GW of installed wind capacity, up 4.5% on the previous year; the Sustainable Energy Authority of Ireland (SEAI) provisional estimate for installed wind capacity in 2024 is 4.85GW, based on EirGrid data to the end of August, and ESB-Networks data to the end of September.¹⁵ As of January 2025, there were 6.3GW of wind energy capacity installed on the island of Ireland; Of this, 4.9GW was installed in the Republic of Ireland.¹⁶ When all data from 2024 is recorded an updated carbon intensity factor for the Irish national grid will be published.

CAP25 presents clear and unequivocal support for the provision of additional renewable energy generation and presents yet further policy support for increased wind energy.

CAP25 sets out the following targets for electricity generation and transmission:

- Share of electricity demand generated from renewable sources to up to 80% where achievable and cost effective, without compromising security of electricity supply;
 - Onshore Wind Capacity: up to 9GW
 - Offshore Wind Capacity: 5GW (minimum)
 - Solar PV Capacity: 8GW
- Ensure that 20-30% of system demand is flexible by 2030;
- Ensure electricity generation grid connection policies and regular rounds of connection offers which facilitate timely connecting of renewables, provides a locational signal and supports flexible technologies.

It is estimated that the Proposed Development will have a generating capacity of 14.4MW. On this basis, the Proposed Development will result in the net displacement of approximately 9,535 tonnes of carbon dioxide (CO₂) per annum, including accounting for back-up generation. The carbon offsets resulting from the Proposed Development are described in detail in Section 11.4.3.2 of Chapter 11 (Climate) of this EIAR.

¹³ SEAI National Energy Projections 2023 Report. <<https://www.seai.ie/publications/National-Energy-Projections-2023.pdf>>

¹⁴ Government of Ireland (2025) Climate Action Plan 2025 <<https://www.gov.ie/en/department-of-the-environment-climate-and-communications/publications/climate-action-plan-2025/>>

¹⁵ SEAI (December 2024) Energy in Ireland 2024 Report <<https://www.seai.ie/sites/default/files/publications/energy-in-ireland-2024.pdf>>

¹⁶ EirGrid, <https://www.eirgrid.ie/grid/system-and-renewable-data-reports>

Energy Security

At a national level, Ireland currently has one of the highest external dependencies on imported sources of fuel for energy use. In July 2024 the SEAI published ‘Ireland’s Energy Supply and Security of Supply in 2023’¹⁷, which identifies that in 2023, Ireland’s national primary energy requirement remained heavily fossil dependent, with 82.8% of energy requirement satisfied by fossil fuels. Ireland’s use of fossil fuels reached its lowest level in 2023 for over 20 years, outside the exceptional year of 2020, when COVID-related travel restrictions significantly reduced demand for petrol, diesel, and jet kerosene. Conversely, 2023 saw record high use of renewable energy in Ireland.¹⁸ In November 2023, the Department of the Environment, Climate and Communications (DECC) released ‘Energy Security in Ireland to 2030’¹⁹, which states that “Ireland’s future energy will be secure by moving from an oil, peat, coal, and gas-based energy system to an electricity-led system, maximising our renewable energy potential flexibility and being integrated in Europe’s energy systems.” This report proposes a package of a wide range of measures to implement by 2030 to improve Ireland’s energy security. Ireland has one of the highest energy import dependencies in the EU, having imported 77% of energy supply in 2021 and 82% in 2022.²⁰ The ‘Energy Security in Ireland to 2030’ provides a roadmap to energy security in Ireland, on the basis of current energy policies and project and to implement the measures proposed as part of the energy security package.

EirGrid in their ‘All Island Generation Capacity Statement 2023 - 2032’²¹ (January 2024), states that new wind farms commissioned in Ireland in 2022 brought total wind installed capacity to over 4,500MW, contributing to the overall RES-E percentage of 36.8% with wind energy accounting for 32.9%. Prior to 2015, Ireland’s import dependency of energy was over 90% but dropped to 71% in 2016 with the Corrib gas field starting production. Since 2018, Ireland’s import dependency has been increasing as the output from the Corrib gas field reduces faster than we are adding new renewable sources.

In December 2024 the SEAI published their ‘Energy in Ireland 2024 Report’²², stating that energy related emissions in 2023 were at their lowest level in over 30 years/ energy related emissions in 2023 were 31.4MtCO₂eq, down 8.3% on 2022 levels and lower even than emissions observed during the height of COVID in 2020. In 2023, electricity accounted for almost a quarter (24.1%) of energy-related emissions, with transport accounting for a further 37.6%. Heat emissions accounted for the remaining 38.3%. Overall, energy-related emissions in 2023 were down by 2.8 MtCO₂eq on the previous year. This net reduction came from a 2.1 MtCO₂eq drop in electricity emissions, a 0.7 MtCO₂eq drop in heat emissions, and a 0.03 MtCO₂eq increase in transport emissions. In 2023, Ireland generated 11.7 TWh of renewable energy from wind generation, exceeding the previous record of 11.6 TWh set in 2020 by 0.1 TWh. Currently, the SEAI website has a published value of 229.9gCO₂/kWh for electricity generation and 254.8gCO₂/kWh for electricity consumption. These are the lowest carbon intensity values ever reached in Ireland. When all data from 2024 is recorded, an updated carbon intensity factor for the Irish national grid will be published.

Electricity demand in Ireland rose by 1.24 TWh in 2023. This net-increase was strongly led by a 1.15 TWh increase in demand from the commercial services sector, which includes data centres. The Energy in Ireland 2024 Report states: ‘Ireland must rapidly transform its economy and society to one based on sustainable energy technologies, like wind and solar farms, bioenergy, district heating schemes, electric vehicles, and heat-pumps.’ Ireland continues to be hugely energy import-dependent leaving it exposed to large energy price fluctuations and possibility of fuel shortages if a major energy

¹⁷ SEAI (July 2024) Ireland’s Energy Supply and Security of Supply in 2023 <<https://www.seai.ie/data-and-insights/seai-statistics/key-publications/energy-supply-security>>

¹⁸ Ibid.

¹⁹ Department of the Environment, Climate and Communications (2023) Energy Security in Ireland to 2030. <<https://assets.gov.ie/276471/2d15ce6d-e555-4ada-a3cf-b325a5d7ba20.pdf>>

²⁰ Sustainable Energy Authority of Ireland (2023) Key insights from SEAI’s 2022 National Energy Balance. <<https://www.seai.ie/data-and-insights/seai-statistics/key-publications/national-energy-balance/Key-Insights-from-2022-National-Energy-Balance.pdf>>

²¹ EirGrid, (2024) All Island Generation Capacity Statement 2023 - 2032; <<https://cms.eirgrid.ie/sites/default/files/publications/19035-EirGrid-Generation-Capacity-Statement-Combined-2023-V5-Jan-2024.pdf>>

²² SEAI (2024) Energy in Ireland – 2024 <<https://www.seai.ie/sites/default/files/publications/energy-in-ireland-2024.pdf>>

crisis were to occur. The international fossil fuel market is growing increasingly expensive and is increasingly affected by international politics which can add to price fluctuations. This volatility will be increased as carbon prices increase in the future. This has implications for every Irish citizen.

The SEAI has stated that our heavy dependence on imported fossil fuels, “*is a lost opportunity in terms of keeping this money here in Ireland and further developing our abundant renewable resources*”²³. The cost of carbon credits is included in all electricity traded, and the price of electricity generated by coal is particularly vulnerable due to its high carbon emissions per unit of electricity generated. Coal and peat generate almost 5% of Ireland’s electricity, while gas generates 51%²⁴. At a time when the energy system is under severe pressure to ensure security of supply, amid projections of rapid electricity demand growth over the coming decade, any steps to reduce Ireland’s dependence on imported fossil fuels will add to financial autonomy and stability in Ireland. The use of Ireland’s indigenous energy resources, such as wind, will contribute to a reduction in energy imports.

The Energy White Paper 2015²⁵ notes that “there will be a substantial increase in the cost of carbon in the short and medium term, through the EU Emissions Trading Scheme”. Any steps to reduce dependence on imported fossil fuels will add to financial autonomy and stability in Ireland. As the White Paper notes:

“In the longer term, fossil fuels will be largely replaced by renewable sources”.

1.5.3.1 REPowerEU

In a Communication from the European Parliament on Joint European Action for more affordable, secure and sustainable energy²⁶, the European Commission proposed an outline of a plan to make Europe independent from Russian fossil fuels well before 2030 in light of Russia's invasion of Ukraine. Commission President Ursula von der Leyen stated:

“We must become independent from Russian oil, coal and gas. We simply cannot rely on a supplier who explicitly threatens us. We need to act now to mitigate the impact of rising energy prices, diversify our gas supply for next winter and accelerate the clean energy transition. The quicker we switch to renewables and hydrogen, combined with more energy efficiency, the quicker we will be truly independent and master our energy system.”.

In May 2022, the EU published the REPowerEU Plan²⁷ in light of Russia’s invasion of Ukraine in February 2022. The core purpose of the plan, in addition to accelerating the EU’s transition from the use of fossil fuel to renewable energy sources, is to end the dependence on Russian fossil fuels.

In April 2022, the Government published the National Energy Security Framework (NESF) providing a single overarching and initial response to address Ireland’s energy security needs in the context of the war in Ukraine. This framework mirrors that of the EU, in which accelerating Ireland’s transition from the use of fossil fuel to renewable energy sources is a key objective.

1.5.3.2 Council Regulation (EU) 2022/2577 and 2024/223

Arising from REPowerEU, Council Regulation (EU) 2022/2577²⁸ laying down a framework to accelerate the deployment of renewable energy was adopted on the 22 December 2022. Regulation 2022/2577

²³ Dr Eimear Cotter, Head of Low Carbon Technologies, SEAI - “Energy Security in Ireland 2015”

²⁴ Ibid.

²⁵ Ireland’s Transition to a Low Carbon Energy Future 2015-2030 (Department of Communications, Energy & Natural Resources, 2015)

²⁶ European Commission (March 2022) REPowerEU: Joint European Action for more affordable, secure and sustainable energy. Strasbourg. https://ec.europa.eu/commission/presscorner/detail/en/ip_22_1511

²⁷ https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3131

²⁸ European Union 2024 Council Regulation (EU) 2024/223 of 22 December 2023 amending Regulation (EU) 2022/2577 laying down a framework to accelerate the deployment of renewable energy <<https://eur-lex.europa.eu/eli/reg/2024/223/oj/eng>>

came into effect on the 23 December 2022 and has effect until the 30 June 2024. The Regulation made provision for a review by the commission within 12 months. Following this review the Council introduced Regulation 2024/223 on the 22 December 2023 amending Regulation 2022/2577. Regulation 2022/2577 and 2024/223 recognises the relative importance of renewable energy deployment in the current difficult energy context and provides significant policy and legislative support to enabling renewable energy projects.

Article 2(2) of Regulation EU 2022/2577 requires priority to be given to projects that are recognised as being of overriding public interest whenever the balancing of legal interests is required in individual cases and where those projects introduce additional compensation requirements for species protection. An analogous provision is not present in Directive (EU) 2018/2001. The first sentence of Article 3(2) of Regulation (EU) 2022/2577 has the potential, in the current urgent and still unstable energy situation on the energy market which the Union is facing, to further accelerate renewable energy projects since it requires Member States to promote those renewable energy projects by giving them priority when dealing with different conflicting interests beyond environmental matters in the context of Member States' planning and the permit-granting process. The Commission's report demonstrated the value of the first sentence of Article 3(2) of Regulation (EU) 2022/2577 which beyond the specific objectives of the derogations foreseen in the Directives referred to in Article 3(1) of Regulation (EU) 2022/2577. (emphasis added).

Further detail is provided in Section 2.3.1 in Chapter 2 (Background to the Proposed Development) of this EIAR. As such, the Proposed Development, a renewable energy project, is critical to helping Ireland, and the EU in addressing energy security challenges as well as addressing the country's over-dependence on imported fossil fuels.

1.5.4 Competitiveness of Wind Energy

While Ireland has a range of renewable resources, as the White Paper states “[Onshore Wind] is a proven technology and Ireland's abundant wind resource means that a wind generator in Ireland generates more electricity than similar installations in other countries. This results in a lower cost of support.”²⁹

In fact, the cost of support is more than offset by the fact that adding large quantities of wind to the wholesale market drives down auction prices in any half hour trading period when the wind is blowing, i.e. for 80% of the hours of the year. Wind is capable of an average capacity factor of 35%³⁰, which is its average output throughout the year relative to its maximum output. However, wind is generating power at some level for 80% of the hours of the year. EirGrid's website has more detailed information. A Pöyry study from 2015 showed that reaching our targets in 2020 would reduce wholesale prices by more than costs of new grid infrastructure, backup and the subsidies paid to wind, resulting in a net saving of €43m per year in 2020. The EU has noted that Ireland has one of the lowest costs of supporting renewables mainly because onshore wind is on a par with the cost of power from conventional generation when a full cost benefit analysis is undertaken.

1.5.5 European Renewable Energy Policy and Targets

1.5.5.1 Renewable Energy Directive

The burning of fossil fuels for energy creates greenhouse gases, which contribute significantly to climate change. These and other emissions also create acid rain and air pollution. Sources of renewable energy that are utilised locally with minimal impact on the environment are necessary to meet the challenges of

²⁹ Ibid.

³⁰ Baringa (October 2018), 70 by 30 – a 70% Renewable Electricity Vision for Ireland in 2030 (Table A.6). Report available at: <https://www.iwea.com/images/files/70by30-report-final.pdf>

the future. The EU adopted Directive (2018/2001 EU)³¹ on the Promotion of the Use of Energy from Renewable Sources in December 2018 which sets EU 2030 Renewable Energy Targets.

The Directive sets a legally binding mandatory national target for the overall share of energy from renewable sources for each Member State. This package is designed to achieve the EU's overall 20:20:20 environmental target, which consists of a 20% reduction in greenhouse gases, a 20% share of renewable energy in the EU's total energy consumption and a 20% increase in energy efficiency by 2020. To ensure that the mandatory national targets are achieved, Member States must follow an indicative trajectory towards the achievement of their target as outlined in Ireland's National Renewable Energy Action Plan (NREAP).

The first Renewable Energy Directive (RED)³² is legislation that influenced the growth of renewable energy in the EU and Ireland for the decade ending in 2020. From 2021, RED was replaced by the second Renewable Energy Directive (REDII),³³ which continues to promote the growth of renewable energy out to 2030. Ireland's mandatory national target for 2020 was to supply 16% of its overall energy needs from renewable sources. This target covered energy in the form of electricity (RES-E), heat (RES-H) and transport fuels (RES-T). Ireland fell just short of this target with total GFC reaching 13.5%. REDII introduced a binding EU-wide target for overall RES of 32% in 2030 and requires Member States to set their national contributions to the EU-wide target. As per the National Energy and Climate Plan (NECP) 2021-2030, Ireland's overall RES target is 34.1% in 2030³⁴.

Under RED, the RES-E target was for 40% of gross electricity consumption to come from renewable sources in 2020. The actual RES-E achieved in 2020 by Ireland was 39.1%, falling just short of the national target. Under REDII, Ireland's National Energy and Climate Plan 2021-2030 included a planned RES-E of 70% in 2030, which has been replaced by the 80% by 2030 RES-E target as detailed in the more recent CAP24, which will ensure that renewable electricity continues to form the backbone of Irish renewable energy use for the coming decade and beyond.

Given the need to accelerate the EU's clean energy transition, RED was revised in 2023, and the amending Directive EU/2023/2413 (REDIII)³⁵ entered into force on 20 November 2023 and transposed into Irish law in August 2025. REDIII amended the EU-wide overall 2030 RES target from 32% to at least 42.5%, with an ambition to reach 45% by 2030³⁶. Article 3(4a) of RED III requires Member States to establish a framework to enable the deployment of renewable energy to a level consistent with its national contribution to the EU's target and at a pace that is consistent with the indicative trajectories in Climate Action Regulation 2018/1999.

Ireland's statutory national climate objective and 2030 targets are aligned with Ireland's obligations under the Paris Agreement and with the European Union's objective to reduce GHG emissions by at least 55% by 2030, compared to 1990 levels and to achieve climate neutrality in the European Union by 2050.

³¹ European Union 2018 Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) < <https://eur-lex.europa.eu/eli/dir/2018/2001/oj/eng> >

³² Directive 2009/28/EC on the promotion of the use of energy from renewable sources. Available from: <https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A32009L0028>

³³ Directive (EU) 2018/2001 on the promotion of the use of energy from renewable resources (recast). Available from: <https://eurlex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32018L2001>

³⁴ Department of the Environment, Climate and Communications 2024, < <https://www.gov.ie/en/department-of-the-environment-climate-and-communications/publications/national-energy-and-climate-plan-necp-2021-2030/> >

³⁵ Directive (EU) 2023/2413 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC as regards the promotion of energy from renewable sources and repealing Council Directive (EU) 2015/652. Available from: https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:L_202302413

³⁶ European Commission 2023 Renewable Energy Directive < https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-directive_en >

1.5.6 National Renewable Energy Targets

The Climate Action and Low Carbon Development (Amendment) Act 2021 commits Ireland to reach a legally binding target of net-zero emissions no later than 2050, and a cut of 51% by 2030 (compared to 2018 levels)³⁷. Under the 2021 Act, Ireland's national climate objective requires the state to pursue and achieve, by no later than the end of the year 2050, the transition to a climate resilient, biodiversity rich, environmentally sustainable and climate neutral economy.

Ireland's statutory national climate objective and 2030 targets are aligned with Ireland's obligations under the Paris Agreement and with the European Union's objective to reduce GHG emissions by at least 55% by 2030, compared to 1990 levels and to achieve climate neutrality in the European Union by 2050.

In April 2025, the Government published the most recent Climate Action Plan (CAP25), reaffirming the renewable electricity target of 80% by 2030 for Ireland. This is in line with targets previously announced in the Climate Action Plan 2021, 2023 and 2024.

CAP25 states that in order to meet the required level of emissions reduction by 2030 and the 80% renewable electricity generation target by 2030, the installed generation capacity of onshore wind will need to reach 9GW and at least 5GW of offshore wind. As stated above, in 2023, Ireland had 4.74GW of installed wind capacity, up 4.5% on the previous year; the SEAI provisional estimate for installed wind capacity in 2024 is 4.85GW, based on EirGrid data to the end of August, and ESB-Networks data to the end of September.³⁸ Please note, Ireland's installed capacity for wind generation in January 2025 was 4.9GW.³⁹ As noted previously, Ireland missed its 2020 renewable energy target of 40% with a renewable share in electricity of 39.1%, and by the end of 2021, Ireland's renewable energy share for electricity generation was 32.5%. With a renewable share of electricity generation at 80% in mind and a target of 9GW installed onshore wind by 2030, it is now more critical than ever that we continue to progress renewable energy development in Ireland so that we are successful in meeting our 2030 targets. Further detail on the EU 2030 targets is noted in Chapter 2 (Background to the Proposed Development), Section 2.3.

1.5.7 Increasing Energy Consumption

As detailed above, the CAP 2025 reaffirms a need for 9GW of onshore wind generation in order for Ireland to meet its 2030 targets. CAP25 further identified that the revised National Planning Framework⁴⁰ includes policy support for the development and upgrading of electricity grid infrastructure, the delivery of renewable electricity generation capacity, and the introduction of regional renewable electricity capacity allocations for each of the three Regional Assemblies by 2030. In accordance with the relevant National Policy Objectives, Regional Assemblies and Local Authorities must plan for sufficient wind and solar energy development in order to achieve the targeted regional renewable electricity capacity allocations outlined in the draft National Planning Framework, taking into account factors influencing delivery including attrition rates and changes to energised capacity levels, in addition to current installed energised capacity.⁴¹

In their 'All Island Generation Capacity Statement 2023 - 2032' (January 2024), EirGrid estimate that installed capacity of wind generation is set to increase to at least 12 GW between onshore and offshore capacity as Ireland endeavours to meet its renewable targets in 2030 and beyond.

³⁷ *Ibid.*

³⁸ SEAI (December 2024) *Energy in Ireland 2024 Report* <<https://www.seai.ie/sites/default/files/publications/energy-in-ireland-2024.pdf>>

³⁹ EirGrid, <https://www.eirgrid.ie/grid/system-and-renewable-data-reports>

⁴⁰ Department of Housing, Local Government and Heritage (2025) *Draft Revision of National Planning Framework* <<https://www.gov.ie/en/department-of-housing-local-government-and-heritage/press-releases/draft-revision-of-national-planning-framework-open-for-public-consultation/>>

⁴¹ *Ibid.*

Failure to meet Ireland’s targets for renewable energy will result in substantial EU sanctions. The Department of Public Expenditure and Reform (DPER) in their report ‘Future Expenditure Risks associated with Climate Change/Climate Finance’⁴² concluded that ‘*potential costs of purchasing non-ETS GHG compliance for the Irish Exchequer for the 2020 to 2030 period could have a cumulative total in the billions in the absence of any further policy changes*’. If Ireland decided to backfill shortfalls in the RES-H target with additional renewable electricity this could significantly reduce these costs.

In April 2016⁴³ the SEAI estimated the historic build rate for wind energy deployment as 180 MW per year since 2005. If this average build rate over the remaining period between 2018 and 2020 is assumed, then approximately 3.85 GW of wind would be built up to 2020. The SEAI has provided a provisional estimate of wind capacity in Ireland in 2023 to be 4.59GW.⁴⁴

It is noted that the key driver for electricity demand in Ireland for the next number of years is the connection of new large energy users, such as data centres. This statement notes that ‘*Large industrial connections normally do not dominate a country’s energy demand forecast but this is the case for Ireland at the moment*’. EirGrid analysis shows that demand from data centres could account for 28% of all demand by 2031 in a median demand scenario (accounts for the connection of all 1400MVA of potential demand in the connection process)⁴⁵. The median demand scenario is now higher than for last year’s forecast for high demand, indicating the progression of many of the data centre projects.

In 2015, IWEA commissioned a study ‘*Data Centre Implications for Energy Use in Ireland*’⁴⁶ which concluded that an extra approx. 1 Gigawatt (GW) of electricity demand could materialise between 2015 and 2020 due to growth in data centres. More recently, data available from Bitpower⁴⁷ at the end of 2020 noted that there are currently 66 operational data centres in Ireland, totalling 834MW; with an additional 778MW having received planning approval and 295MW under construction. The increase in growth of data centres means an increase in electricity demand, with many of the proposed data centres committing to using 100% renewable energy which will result in an increased demand for renewable electricity as detailed above.

In the context of increasing energy demand and prices, uncertainty in energy supply and the effects of climate change, our ability to harness renewable energy such as wind power plays a critical role in creating a sustainable future. The Department of the Environment, Climate and Communications have set a target for Ireland of 80% of total electricity consumption to come from renewable resources by 2030⁴⁸, this target forms part of the Government’s strategy to make the green economy a core component of its economic recovery plan for Ireland. It is envisaged that wind energy will provide the largest source of renewable energy in achieving this target, with a target of 9GW onshore wind installed generation capacity and a target of 5GW offshore wind installed generation capacity.

The Department of Communications, Energy & Natural Resources (DCENR) noted in their Draft Bioenergy Plan 2014⁴⁹, that achieving the anticipated renewable energy usage in the three energy sectors will be challenging, with the 12% for renewable heat being particularly so. SEAI estimate that the shortfall could be in the region of 2% to 4% of the 12% RES-H target. Given that individual member states 2030 targets are set at a more challenging level than 2020, fines could persist for an extended number of years, and so the total cost to Ireland could run to billions. For comparison, the entire wholesale electricity market has an annual value of around €3bn.

⁴² <https://igees.gov.ie/wp-content/uploads/2013/10/Future-Expenditure-Risks-associated-with-Climate-Change-Climate-Finance1.pdf>

⁴³ https://www.seai.ie/publications/Ireland_s-Energy-Targets-Progress-Ambition-and-Impacts.pdf

⁴⁴ Sustainable Energy Authority of Ireland (2024) *Energy in Ireland – 2023 Report*

⁴⁵ EirGrid 2022 *Ireland Capacity Outlook*

<https://cms.eirgrid.ie/sites/default/files/publications/EirGrid_SONI_Ireland_Capacity_Outlook_2022-2031.pdf>

⁴⁶ IWEA 2015 *Data Centre Implications for Energy Use in Ireland*

<<https://windenergyireland.com/images/files/9660bdc9488d1ce95c4f2ba74ce340bfb4831f.pdf>>

⁴⁷ http://www.bitpower.ie/images/Reports/2020_H2_Report.pdf

⁴⁸ *Ibid.*

⁴⁹ DCENR 2014 *Draft Bioenergy Plan* <

https://www.teagasc.ie/media/website/crops/crops/October_2014_Draft_Bioenergy_Plan.pdf>

In the medium-term, with the introduction of electric vehicles and uptake of smart demand such as storage heating and heat pumps, emissions in the heat and transport sector will be substantially reduced. A high renewables electricity system is the foundation of such a transformation.

The White Paper published by DCENR in December 2015⁵⁰ expanded on the vision set out above. It outlines a radical transition to a low carbon future which will involve amongst other things, *‘generating our electricity from renewable sources of which we have a plentiful indigenous supply’* and *‘Increasing our use of electricity and biogas to heat our homes and fuel our transport’*.

The DCENR confirmed in the publication of the White Paper *‘Ireland’s Transition to a Low Carbon Future’ 2015 – 2030*, that wind is the cheapest form of renewable energy:

“(Onshore wind) is a proven technology and Ireland’s abundant wind resource means that a wind generator in Ireland generates more electricity than similar installations in other countries. This results in a lower cost of support.”

EU countries have agreed on a new 2030 Framework for climate and energy, including EU-wide targets and policy objectives for the period between 2020 and 2030. These targets aim to help the EU achieve a more competitive, secure and sustainable energy system and to meet its long-term 2050 greenhouse gas reductions target. It is noted that a binding EU target of 32% for renewable energy by 2030 has been set by the EU 2030 Framework for Climate and Energy, with Ireland confirming its own targets for 2030 as detailed below.

Ireland will therefore have to meet even more demanding climate change and renewable energy supply obligations in order to play its part in achieving the European climate and energy ambitions. As announced in December 2022, the Irish Government have pledged to generate 80% of the country’s electricity supply from renewable sources by 2030⁵¹. The development of additional indigenous wind energy generating capacity, such as the Proposed Development, will not only help to reduce carbon emissions but will also improve Ireland’s security of energy supply. Such penetration levels of wind are technically and economically feasible once paired with other energy system changes such as increasing electric vehicle penetration and electrification of heat. Further information on the 2030 commitments for Ireland are noted in Chapter 2 (Background to the Proposed Development), Section 2.2.

These sources of ‘flexible demand’ allow the system to match intermittent renewable energy resources with minimal extra cost. Additional interconnection is also planned with the UK and France, further assisting in the integration of wind (and in the future solar) on the power system.

A number of alternative energy types have been examined when considering how best to meet this renewable energy target.

In 2014, a report prepared by UK consultant BW Energy for the Rethink Pylons campaign group has suggested that converting Moneypoint generation station (which runs solely on coal) from coal to biomass would have enabled Ireland to meet 2020 renewable energy targets. Dr Brian Motherway, Chief Executive SEAI⁵² refutes this claim. While Dr Motherway agrees that biomass offers benefits and is helping Ireland to move away from fossil fuels, he states that *“the conversion of Moneypoint to biomass has been considered a number of times over the years, including actual trials of small amounts of biomass in the station. However, the technical and economic challenges have proven far greater than some would have us believe”*.

⁵⁰ DCENR, *Ireland’s Transition to a Low Carbon Future’ 2015 – 2030* <<https://www.iea.org/policies/6530-ireland-white-paper-transition-to-a-low-carbon-energy-future-2015-2030>>

⁵¹ Department of the Environment, Climate and Communications 2023 <<https://consult.decc.gov.ie/en/consultation/call-expert-evidence-climate-action-plan-2024/chapter/electricity#:~:text=The%20Climate%20Action%20Plan%20sets,down%20from%2039.1%25%20in%202020>>

⁵² http://www.seai.ie/News_Events/Press_Releases/2014/Biomass-is-a-big-part-of-the-solution-but-not-the-whole-solution.html

The reason being that the move of Moneypoint from coal to biomass would not entail a clean swap. In fact, ‘to allow for combustion of biomass, a full redesign and rebuild of much of the station would be required’. In the UK where this has been done, energy generation stations have required significant financial support to make the process viable and with each unit of energy in the UK being worth approx. 13 cents, almost double that of Ireland which is approx. 7 cents, wind energy works out cheaper in Ireland. Also, the amount of biomass required to feed Moneypoint would require 300,000ha of land; an equivalent area of Counties Wexford and Carlow being planted with willow which is far more than Ireland currently produces which means we would need to import.

Importation raises the question; would this be cost effective? As prices are volatile and availability of biomass is difficult to predict Ireland would become dependent on the uncertainty of imported biomass. It is also noted that there will be emissions from transport and distribution. The further the biomass is transported, the greater the greenhouse gas emissions⁵³. So, while biomass is currently contributing to a move to renewable energy production, on its own it is not the sole answer to meeting Ireland’s renewable energy targets. Ireland has a legal obligation to diversify its energy sources requiring the development of renewable energy to avoid substantial fines. It should be noted that Moneypoint ceased burning of coal on the 20th of June 2025⁵⁴ and has converted to the use of Heavy Fuel Oil. It will be used as a back-up, out of market generator, that EirGrid can call on any time they need extra generation capacity to ensure a stable supply of electricity for the Irish market.

The Joint Committee on Climate Action published its cross-party report entitled, ‘*Climate Change: A Cross-Party Consensus for Action*’ (March 2019). This report highlights the requirements for alternate energy production. More specifically, the report notes that it is currently planned to stop burning coal at Moneypoint by 2025 as well as peat at Bord na Mona and ESB stations by 2030. In April 2025, the DECC published CAP25 which is the fourth annual update to Ireland’s Climate Action Plan 2019 and the third to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021. CAP25 notes the need for renewable alternatives to coal and peat. Further information on the CAP25 can be seen in Chapter 2 (Background to the Proposed Development).

CAP25 states that as electrification and decarbonisation of other sectors continues, there will be an increase in electricity demand, and a transferring of emissions from those sectors to the electricity sector. The deployment of renewables needs to outpace the growth in energy demand for it to deliver the absolute reductions in greenhouse gas emissions required. Therefore, the timing of the delivery of the renewable energy generation relative to the scale and pace of growth in electricity demand is a critical factor. In the high demand scenario outlined in the Programme for Government, electricity demand will almost double by 2030, while electricity emissions are to be reduced by 60-80% at the same time.

Underlying drivers of changes in electricity demand include:

- Data centres are forecast to continue to grow by up to ~9 TWh in 2030 (~2316% of total demand).
- Transport electricity demand is forecast to grow (~23% p.a.) as a result of fast uptake of EV charging.
- Electrical heating in industry will increase by more than 2.5 times in 2030 from 2017 levels.
- Building energy efficiency improvements from an extensive retrofit programme will moderate the growth in electricity demand from new heat pumps in buildings.

Against this backdrop, the importance of wind energy as the main component of Ireland’s renewable energy development is acknowledged, and wind energy is accepted as the main contributor to meeting the Country’s national climate change and energy supply obligations. Notwithstanding this, it must also be acknowledged that not every part of Ireland is well endowed with wind resources and therefore, not

⁵³ Sustainability Criteria Options and Impacts for Irish Bioenergy Resources (SEAI 2019)

⁵⁴ <https://www.rte.ie/news/2025/0620/1519429-moneypoint-power-station/>

all counties will be able to deliver wind-based renewable energy. Furthermore, whilst it is accepted that there are other renewable energy technologies in operation, for the foreseeable future many areas will be unable to deliver significant renewable energy output. This primarily applies to the more populous areas.

National and international renewable energy and climate change targets must be achieved, and it is crucial that these are appropriately translated and implemented at regional and local levels. Wind farm development and design involves balancing the sometimes-conflicting interests of constraints (e.g., natural and built heritage, human beings, ecological, ground conditions, hydrological, etc.) with visual amenity and the technological/economic requirements/realities of the specific project and turbines. As detailed in Section 1.5.2 above, EU Regulation 2022/2577 as amended by Regulation 2024/223⁵⁵ identifies the priority that should be afforded renewable energy development whenever the balancing of legal interests is required in individual cases and where those projects introduce additional compensation requirements for species protection. While Article 3(1) of the Regulation is mirrored in Article 16(f) of REDIII, the wider obligation placed on competent authorities engaged in the consenting of renewable energy projects under Article 3(2) of Regulation 2022/2577 is not and as explained in Recital 14 of Regulation 2024/223, is an appropriate additional temporary measure given the particular difficulties which the Union is currently facing in the supply of energy. In considering applications for the development of such projects planning authorities are obliged to give effect to this legislative imperative.

1.5.8 Reduction of Carbon Emissions and Other Greenhouse Gases

This production of renewable energy will assist in achieving the Government's and EU's stated goals of ensuring safe and secure energy supplies, promoting an energy future that is sustainable and competitively priced to consumers whilst combating energy price volatility and the effects of climate change. The Energy White Paper⁵⁶ in 2015 outlines an ambitious Greenhouse gas reduction target of between 80% to 95% compared to 1990 levels out to 2050. Furthermore, if national carbon emissions targets are divided out amongst each county, each Local Authority may be responsible for meeting its own targets.

In addition to a reduced dependence on oil and other imported fuels, the generation of electricity from wind by the Proposed Development will displace approximately 9,535 tonnes of carbon emissions per annum from the largely carbon-based traditional energy mix, the detail of which is presented in Section 11.4.3.2 of this EIAR.

The World Health Organisation (WHO) in 2019 estimated that ambient (outdoor) air pollution caused 4.2 million deaths worldwide in 2019.⁵⁷ The Environmental Protection Agency (EPA) report '*Air Quality in Ireland 2022*'⁵⁸ noted that in Ireland, the premature deaths attributable to poor air quality are estimated at 1,300 people per annum. The European Environmental Agency (EEA) Report, '*Air Quality in Europe – 2022 Report*'⁵⁹ highlights the negative effects of air pollution on human health. The report assessed that poor air quality in Europe accounted for premature deaths of approximately 238,000 people in the 27 EU Member States in 2021. The estimated impacts on the population in Europe of exposure to NO₂ and O₃ concentrations in 2021 were around 49,000 and 24,000 premature deaths per year, respectively. Of these numbers, 610 deaths due to poor air quality were estimated in Ireland in 2020 with 490 Irish deaths attributed to PM_{2.5}, 50 Irish deaths attributed to nitrogen oxides (NO_x) and 70 Irish deaths attributed to Ozone (O₃). These emissions, along with others, including

⁵⁵ European Union 2024 Council Regulation (EU) 2024/223 of 22 December 2023 amending Regulation (EU) 2022/2577 laying down a framework to accelerate the deployment of renewable energy <<https://eur-lex.europa.eu/eli/reg/2024/223/oj/eng>>

⁵⁶ *Ibid.*

⁵⁷ [https://www.who.int/news-room/fact-sheets/detail/ambient-\(outdoor\)-air-quality-and-health](https://www.who.int/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health)

⁵⁸ *Air Quality in Ireland Report 2022* <https://www.epa.ie/publications/monitoring-assessment/air/Air_Quality_Report_22_v8v2.pdf>

⁵⁹ *Air Quality in Europe 2022* <<https://www.eea.europa.eu/publications/air-quality-in-europe-2022>>

sulphur oxides (SO_x), are produced during fossil fuel-based electricity generation in various amounts, depending on the fuel and technology used, emissions from industry and power plants, vehicles emissions and transport fuels.

The EPA 2020 report ‘Ireland’s Environment – An Assessment’⁶⁰ states that the pollutants of most concern are NO_x, (the collective term for the gases nitric oxide and nitrogen dioxide, PM (particulate matter) and O₃ (ozone). The EPA 2016 report goes on to state that:

“Ireland has excellent indigenous renewable energy resources, and renewable energy is playing an increasing role in the domestic energy supply. Ireland has more onshore (land-based) and offshore energy potential than most other European countries.

Energy from non-combustion sources, such as hydropower, wind or solar energy, and use of hydrogen, do not give rise to combustion-related impacts.”

The Proposed Development therefore represents an opportunity to further harness Ireland’s significant renewable energy resources, with valuable benefits to air quality and in turn to human health. The consumption of fossil fuels for energy results in the release of particulates, sulphur dioxide and nitrogen dioxide to our air. The use of wind energy, by providing an alternative to electricity derived from coal, oil or gas-fired power stations, results in emission savings of carbon dioxide (CO₂), oxides of nitrogen (NO_x), and sulphur dioxide SO₂, thereby resulting in cleaner air and associated positive health effects.

1.5.9 Economic Benefits

In addition to helping Ireland avoid significant fines and reducing environmentally damaging emissions, the Proposed Development will have significant economic benefits. At a national level, Ireland currently has one of the highest external dependencies on imported sources of energy, such as coal, oil and natural gas. As detailed in the SEAI Report *Energy in Ireland 2024*⁶¹, Ireland has a high import dependence on oil and gas and is essentially a price-taker on these commodities. Ireland’s import dependency decreased slightly from 80% in 2022 to 78% in 2023 due to reduced net imports, which were only partially offset by the reduction in primary energy requirement.⁶² From September 2023 to September 2024, Ireland imported 78% of its gas supply and supplied 22% of its gas supply from indigenous sources.

The ‘*Energy in Ireland 2024 Report*’ stated that Ireland’s national energy-related emissions in 2023 were at their lowest level in over 30 years, with 14.1% of Ireland primary energy being sourced from renewables, the highest value to date. The SEAI estimates electricity emissions to be 7.6MtCO₂e in 2023, down 22% from 2022. Current predictions for 2024 electricity emissions are estimated to be 6.9 MtCO₂e. The 5-year 2021-2025 sectoral emission ceiling for electricity is 40MtCO₂e; therefore, if the SEAI estimate for 2024 electricity emissions is accurate, there will only be 5.9MtCO₂e of emissions available for the electricity sector in 2025.

The 2014 report ‘*The Value of Wind Energy to Ireland*’⁶³, published by Pöyry, stated that growth of the wind sector in Ireland could support 23,850 jobs (construction and operational phases) by 2030. If Ireland instead chooses to not develop any more wind, then by 2030 the country will be reliant on natural gas for most of our electricity generation, at a cost of €671 million per annum in fuel import costs.

⁶⁰ Ireland’s Environment – An Assessment (2020) < https://www.epa.ie/publications/monitoring-assessment/assessment/state-of-the-environment/EPA_Irelands_Environment_2020.pdf >

⁶¹ Ibid.

⁶² SEAI (2024) *Energy in Ireland – 2024* <<https://www.seai.ie/sites/default/files/publications/energy-in-ireland-2024.pdf>>

⁶³ Pöyry 2014 *The Value of Wind Energy to Ireland* <<https://windenergyireland.com/images/files/9660bd6b05ed16be59431aa0625855d5f7dca1.pdf> >

A 2021 MaREI report⁶⁴ includes a prospective view of Ireland's energy sector in 2050 whereby an additional 25,000 jobs would be created in the development of onshore and offshore wind to meet the zero carbon targets as pledged in the Climate Action and Low Carbon Development Act 2021 discussed in section 1.5.1 above.

In April 2021, Wind Energy Ireland published a report produced by KPMG on the '*Economic Impact of Onshore Wind in Ireland*'⁶⁵ stating that Irish wind farms are worth €400 million to the economy every year and it is expected to rise to €550 million by the end of the decade. If Ireland are to achieve the 8,200 MW target set in the CAP 2021, the total industrial output across operating and capital activities would rise from 1.1bn in 2020 (from the 4,200 MW installed capacity) to 1.5bn in 2030.

The Proposed Development will be capable of providing power to over 10,512 households every year, as presented in the calculations in Section 4.4.1.1.7 of this EIAR.

The Proposed Development will help to supply the rising demand for electricity, resulting from renewed economic growth. The EirGrid report '*All-Island Generation Capacity Statement 2022-2031*' (October 2022)⁶⁶ notes that electricity demand on the island of Ireland is expected to grow by 21% in 2030. Much of this growth is expected to come from new data centres in Ireland.

The Proposed Development will have both long-term and short-term benefits for the local economy including income to local landowners, job creation, work opportunities for local business and service providers, local authority commercial rate payments and a Community Benefit Scheme.

Commercial rate payments from the Proposed Development will be provided to Cork County Council, each year during the operational phase, which will be redirected to the provision of public services within Co. Cork. These services include provisions such as road upkeep, fire services, environmental protection, street lighting, footpath maintenance etc. along with other community and cultural support initiatives.

It is estimated that the Proposed Development will create approximately 40 jobs during the construction, operational and decommissioning phases a of the Proposed Development. During construction, additional employment will be created in the region through the supply of services and materials to the development. In addition to this, there will also be income generated by local employment from the purchase of local services i.e. travel and lodgings.

Should the planning application for the Proposed Development be granted, there would be substantial opportunities available for the local area in the form of Community Benefit Funds. Based on the current proposal, should the Proposed Development enter the Renewable Energy Support Scheme (RESS), the proposed Community Benefit Fund would attract a community contribution of approximately €88,000/year for the first 15 years of operation, to be used by the local community over the lifetime of the Proposed Development. This estimation is based on the current term and conditions of the RESS which in future may be subject to change. The value of this fund will be directly proportional to the energy produced at the Site and will support and facilitate projects and initiatives in the area.

Further details on the proposed Community Benefit Funds proposals are presented in Appendix 2-1 and Section 4.9 of this EIAR.

1.6

Purpose and Scope of the EIAR

⁶⁴ MaREI 2021 *Our Climate Neutral Future: Zero by 2050*. <<https://www.marei.ie/wp-content/uploads/2021/03/Our-Climate-Neutral-Future-Zero-by-50-Skillnet-Report-March-2021-Final-2.pdf>>

⁶⁵ KPMG 2021 *Economic Impact of Onshore Wind in Ireland* <<https://windenergyireland.com/images/files/economic-impact-of-onshore-wind-in-ireland.pdf>>

⁶⁶ EirGrid 2022 '*All-Island Generation Capacity Statement 2022-2031*' <https://cms.eirgrid.ie/sites/default/files/publications/EirGrid_SONI_Ireland_Capacity_Outlook_2022-2031.pdf>

The purpose of this EIAR is to document the current state of the environment in the vicinity of the Site and to quantify the likely significant effects of the Proposed Development on the environment. The compilation of this document served to highlight any areas where mitigation measures may be necessary in order to protect the surrounding environment from the possibility of any significant effects arising from the Proposed Development.

It is important to distinguish the Environmental Impact Assessment (EIA) to be carried out by Cork County Council, from the EIAR and the accompanying planning application. The EIA is the assessment carried out by the competent authority, which includes an examination of the information contained in the EIAR, any supplementary information provided where necessary and any relevant information received through consultation and the formation of a reasoned conclusion by the competent authority on the significant effects on the environment of the Proposed Development. It includes an examination, analysis evaluation by Cork County Council that identifies, describes and assesses in an appropriate manner, in the light of each individual case and in accordance with Articles 4 to 11 of the Environmental Impact Assessment Directive, the direct and indirect effects of the Proposed Development on the following:

- 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. major accidents and natural disasters
- f. the interaction between the factors referred to in points (a) to (e)

The EIAR submitted by the applicant provides the relevant environmental information to enable the EIA to be carried out by the competent authority. The information to be contained in the EIAR is prescribed by Article 5 of the revised EIA Directive described in Section 1.2 above.

1.7 Structure and Content of the EIAR

1.7.1 General Structure

This EIAR uses the grouped structure method to describe the existing environment, the likely significant effects of the Proposed Development thereon and the proposed mitigation measures. Background information relating to the Proposed Development, scoping and consultation undertaken and a description of the Proposed Development are presented in separate sections. The grouped format sections describe the likely significant of the Proposed Development in terms of population and human health, biodiversity, with specific attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EEC: land soils and geology, hydrology and hydrogeology, air quality, climate, noise and vibration, landscape and visual, cultural heritage and material assets such as traffic and transportation, major accidents and natural disasters, together with the interaction of the foregoing and schedule of mitigation and monitoring.

The chapters of this EIAR are as follows:

- > Introduction
- > Background to the Proposed Development
- > Site Selection & Reasonable Alternatives
- > Description of the Proposed Development
- > Population & Human Health
- > Biodiversity
- > Birds
- > Land, Soils & Geology

- > Hydrology & Hydrogeology
- > Air Quality
- > Climate
- > Noise & Vibration
- > Landscape & Visual
- > Archaeological, Architectural & Cultural Heritage
- > Material Assets (including Traffic and Transport, Telecommunications and Aviation)
- > Major Accidents & Natural Disasters
- > Interactions of the Foregoing
- > Schedule of Mitigation & Monitoring Measures

The EIAR also includes a Non-Technical Summary (NTS), which is a condensed and easily comprehensible version of the EIAR document. The NTS is laid out in a similar format to the main EIAR document and comprises a description of the Proposed Development followed by the existing environment, any likely significant effects of the Proposed Development and mitigation measures presented in the grouped format. The NTS is provided in both the English and Irish language.

1.7.2 Description of Likely Significant Effects and Impacts

As stated in the document titled, ‘*Guidelines on the Information to be contained in Environmental Impact Assessment Reports 2022*’ (EPA, 2022), an assessment of the likely significant effects of the potential effects of a Proposed Development is a statutory requirement of the EIA process. The statutory criteria for the presentation of the characteristics of potential impacts requires that the likely significant effects of potential impacts are described with reference to the extent, magnitude, complexity, probability, duration, frequency, reversibility and trans-frontier nature (if applicable) of the impact.

The classification of effects in this EIAR follows the definitions provided in the Glossary of Impacts contained in the EPA 2022 document.

Table 1-2 presents the glossary of impacts as published in the EPA 2022. Standard definitions are provided in this glossary, which permit the evaluation and classification of the quality, significance, duration and type of impacts associated with a Proposed Development on the receiving environment. The use of pre-existing standardised terms for the classification of impacts ensures that the EIA employs a systematic approach, which can be replicated across all disciplines covered in the EIAR. The consistent application of terminology throughout the EIAR facilitates the assessment of the Proposed Development on the receiving environment.

Table 1-2 Impact Classification Terminology (EPA, 2022)

Effect Characteristic	Term	Description
Quality of Effects	Positive	A change which improves the quality of the environment
	Neutral	No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error.
	Negative	A change which reduces the quality of the environment
Significance of Effects	Imperceptible	An effect capable of measurement but without significant consequences

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

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

Each effect is described in terms of its quality, significance, extent, duration & frequency and type, where possible. A ‘Do-Nothing’ effect is also predicted in respect of each environmental theme in the EIAR. Residual effects are also presented following any impact for which mitigation measures are prescribed and any interactions between the impacts are assessed. The remaining effect types are presented as required or applicable throughout the EIAR. Any potential interactions between the various aspects of the environment assessed throughout this EIAR are presented in Chapter 17 (Interaction of the Foregoing).

1.8 Project Team

1.8.1 Project Team Responsibilities

The companies and staff listed in Table 1-3 were responsible for completion of the EIAR of the Proposed Development. Further details regarding project team members are provided below.

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. The qualifications and experience of the principal staff from each company involved in the preparation of this EIAR are summarised in Section 1.8.2 below. Each chapter of this EIAR has been prepared by a competent expert in the subject matter.

Table 1-3 Companies and Staff Responsible for the EIAR Completion

Consultants	Principal Staff Involved in Project	EIAR Input*
<p>McCarthy Keville O' Sullivan Ltd. (MKO)</p> <p>Tuam Road Galway H91 VW84</p>	<p>Brian Keville Michael Watson Sean Creedon Ellen Costello Natasha Morley Ciarán Fitzgerald Edel Mulholland Colm Ryan Meabhann Crowe Sean McCarthy Alan Clancy Ciara Griffin John Hynes Pat Roberts Corey Cannon Caroline Kelly Padraig Desmond Stephanie Corkery Dervla O' Dowd Padraig Cregg Patrick Manley Jack Workman Dija Mazonaite Darragh Buckley Killian Devereux Joseph O'Brien</p>	<p>Project Managers, Scoping and Consultation, Preparation of Natura Impact Statement, Report Sections:</p> <ol style="list-style-type: none"> 1. <i>Introduction</i> 2. <i>Background to the Proposed Development</i> 3. <i>Site Selection and Reasonable Alternatives</i> 4. <i>Description of the Proposed Development</i> 5. <i>Population & Human Health</i> 6. <i>Biodiversity</i> 7. <i>Birds</i> 10. <i>Air</i> 11. <i>Climate</i> 13. <i>Landscape & Visual</i> 15. <i>Material Assets (non-Traffic)</i> 16. <i>Major Accidents and Natural Disasters</i> 17. <i>Interaction of the Foregoing</i> 18. <i>Schedule of Mitigation</i>
<p>Hydro Environmental Services Ltd.</p> <p>22 Lower Main Street Dungarvan Co. Waterford</p>	<p>Michael Gill David Broderick Nitesh Dalal</p>	<p>Flood Risk Assessment, Drainage Design, Preparation of EIAR Sections:</p> <ol style="list-style-type: none"> 8. <i>Land, Soils & Geology</i> 9. <i>Hydrology and Hydrogeology</i>
<p>Fehily Timony & Company Ltd</p> <p>Carlow: Unit 6. Bagenalstown Industrial Park, Royal Oak Road, Muine Bheag, Co. Carlow, R21 XW81, Ireland</p>	<p>Ian Higgins</p>	<p>Geotechnical site investigations; Peat Stability Assessment and Peat Management Plan</p>
<p>AWN Consulting</p> <p>The Tecpro Building Clonsgaugh Business & Technology Park Dublin 17</p>	<p>Dermot Bluinne Mikes Simms Miguel Caartuyvels</p>	<p>Baseline Noise Survey, Preparation of EIAR Section</p> <ol style="list-style-type: none"> 12. <i>Noise and Vibration</i>

Tobar Archaeological Services	Miriam Carroll	Archaeological Consultants; Preparation of EIAR Section: <i>14. Archaeological, Architectural and Cultural Heritage</i>
Saleen Midleton Co. Cork		
Alan Lipscombe Traffic and Transport Consultants	Alan Lipscombe	Swept Path Analysis, Preparation of EIAR Section: <i>15. Material Assets - Traffic and Transport</i>
Claran, Headford, Co. Galway		

* (A Statement of Authority is included in each chapter of this EIAR detailing the experts who contributed to the preparation of this report, identifying for each such expert the part or parts of the report which he or she is responsible for or to which he or she contributed, his or her competence and experience, including relevant qualifications in relation to such parts, and such additional information in relation to his or her expertise that demonstrates the expert's competence in the preparation of the report and ensures its completeness and quality.

1.8.2 Project Team Members

1.8.2.1 MKO

Brian Keville B.Sc. (Env.)

Brian Keville has over 20 years' professional experience as an environmental consultant having graduated from the National University of Ireland, Galway with a first-class honours' degree in Environmental Science. Brian was one of the founding directors of environmental consultancy, Keville & O'Sullivan Associates Ltd., prior to the company merging in 2008 to form McCarthy Keville O'Sullivan Ltd. Brian's professional experience has focused on project and environmental management, and environmental impact assessments. Brian has acted as project manager and lead-consultant on numerous environmental impact assessments, across various Irish counties and planning authority areas. These projects have included large infrastructural projects such as roads, ports and municipal services projects, through to commercial, mixed-use, industrial and renewable energy projects. The majority of this work has required liaison and co-ordination with government agencies and bodies, technical project teams, sub-consultants and clients.

Michael Watson, MA; MIEMA, CEng, PGeo

Michael Watson is a Director of Environment in MKO. Michael has over 20 years' experience in the environmental sector. Following the completion of his master's degree in environmental resource management, Geography, from National University of Ireland, Maynooth he worked for the Geological Survey of Ireland and then a prominent private environmental & hydrogeological consultancy prior to joining MKO in 2014. Michael's professional experience includes managing Environmental Impact Assessments, EPA License applications, hydrogeological assessments, environmental due diligence and general environmental assessment on behalf of clients in the wind farm, waste management, public sector, commercial and industrial sectors nationally. Michael's key strengths include project strategy advice for a wide range and scale of projects, project management and liaising with the relevant local authorities, Environmental Protection Agency (EPA) and statutory consultees as well as coordinating the project teams and sub-contractors. Michael is a key member of the MKO senior management team and as head of the Environment Team has responsibilities to mentor various grades of team members, foster a positive and promote continuous professional development for employees. Michael also has a

Bachelor of Arts Degree in Geography and Economics from NUI Maynooth, is a Member of IEMA, a Chartered Environmentalist (CEnv) and Professional Geologist (PGeo).

Sean Creedon B.Sc., Diploma, MSc

Sean is an Associate Director in the Environment Team at MKO. He oversees a team of highly skilled environmental professionals working on EIAR for large-and medium scale Renewable Energy infrastructure. Sean has directed and overseen multiple renewable energy projects across wind, solar, battery and hydrogen as well as a range of thermal and other energy related developments. He is a member of the MKO senior management team responsible for developing the business, mentoring team members, fostering a positive culture and promoting continuous employee professional development. Sean has over 22 years' experience in program and project development, holds an MSc from NUI Galway and a Diploma in Project Management from Institute of Project Management Ireland.

Ellen Costello M.Sc., B.Sc., PIEMA

Ellen Costello is a Senior Environmental Scientist with MKO with over 5 years of experience in private consultancy. Ellen holds a BSc (Hons) in Earth Science, and a MSc (Hons) in Climate Change: Integrated Environmental and Social Science Aspects where she focused her studies on renewable energy development in Europe and its implications on environment and society. Ellen's key strengths and expertise are Environmental Protection and Management, Environmental Impact Statements, Project Management, and GIS Mapping and Modelling. Since joining MKO, Ellen has been involved in a range of renewable energy infrastructure projects. In her role as a project manager, Ellen works with and co-ordinates large multidisciplinary teams including members from MKO's Environmental, Planning, Ecological and Ornithological departments as well as sub-contractors from various fields in the preparation and production of EIARs. Ellen is a Practitioner Member of the Institute of Environmental Management & Assessment.

Natasha Morley BA (Hons) PG Dip

Natasha Morley is an Environmental Scientist with MKO since September 2024. Natasha holds BA (Hons) in Geography & English and a PG. Dip in Environmental Sustainability Implementation. Prior to taking up her position with MKO in September 2024, Natasha interned as a Conservation Assistant with Watch Tower Designs Ltd. Natasha has specialist knowledge in environmental science, sustainability, and renewables. Natasha's key strengths and areas of expertise are in environmental surveying, report writing and environmental mapping. Within MKO Natasha is a member of the MKO Environmental Renewables Team working as part of a large multi-disciplinary team writing and reviewing EIAR chapters and assisting with project development to produce extensive Environmental Impact Assessment Reports for large-scale onshore and offshore wind energy developments.

Ciarán Fitzgerald BSc. (Hons), PG Dip

Ciarán Fitzgerald is an Environmental Scientist who has been working with MKO since June 2024. Ciarán holds a B.Sc. (Honours) in Marine Science from the National University of Ireland Galway and a First-Class Honours PG. Dip in Geographic Information Systems from University College Cork. Ciarán works as part of the Environmental Renewables team as well as a larger multidisciplinary team. Ciarán's role involves undertaking tasks such as report writing, EIAR chapter writing, and QGIS mapping. Prior to joining MKO, Ciarán spent time aboard the research vessel "Celtic Explorer", working as part of a team undertaking chemical water data, pelagic species abundance and sorting, bathymetric GIS mapping, data collection, and report writing. Ciarán's key strengths lie in GIS mapping and communication. Since joining the company, Ciarán has been involved in a range of projects, including onshore wind, offshore wind, and solar, contributing by reviewing EIAR

chapters and assisting with project development. Ciarán holds a membership from the Institute of Sustainability and Environmental Professionals (ISEP).

Edel Mulholland BSc. (Hons)

Edel Mulholland is a Graduate Environmental Scientist with MKO. Edel holds BA (Hons) in Environmental Science from the University of Galway. Prior to taking up her position with MKO in September 2024, Edel worked as an Environmental Chemistry Analyst with Complete Laboratory Solutions, Co. Galway, where she assisted with water quality analysis. Edel's key strengths and areas of expertise are in environmental policy, drafting EIAR chapters and QGIS mapping.

Colm Ryan B.Sc. (Hons), M.Sc.

Colm Ryan is the Planning Director of MKO, Planning & Environmental Consultants, with over 16 years of experience as a planner in both private practice and public sector combined. Prior to joining MKO, Colm worked as a planner with a UK and Ireland based Renewable Energy developer. Colm has also spent part of his career in local authority as a planner with Laois County Council. Colm has significant experience in a wide range of projects and extensive experience in large scale residential, renewables and marine based developments. Colm currently heads up the Planning Division in MKO with responsibility for Planning, Project Management, Health & Safety and Project Communications. Colm holds BA (Hons) in Geography & Irish and Masters in Civic Design Town & Regional Planning. Prior to taking up his position with MKO in May 2017, Colm worked as a Senior Planner with Lightsource Renewable Energy Ltd. and held previous posts with Partnerships for Renewables, South Kesteven District Council, Planning Aid, Frank O Gallachoir & Associates in Bray and Laois County Council. Colm is a chartered town planner with specialist knowledge in renewable energy, mixed use development and residential. Colm's key strengths and areas of expertise are in large scale renewable energy development particularly in the ground mounted solar, delivery of local community engagement processes on contentious planning applications, management of community and developers interest through the planning process and post or pre-planning due diligence. Since joining MKO as a Senior Planner Colm has been overseeing and managing a wide range of development projects such as large scale solar applications, site feasibility work for potential wind energy projects, large scale housing and mixed use schemes. Within MKO Colm plays a large role in the management of staff members including several aspects of business development. Colm has proven negotiation skills and stakeholder relationship building across numerous development projects in Ireland and the UK and is a corporate member of the Irish Planning Institute.

Meabhann Crowe BA (Hons), M.Sc.

Meabhann Crowe is a Senior Planner with McCarthy O'Sullivan Ltd with over 15 years private sector experience. She is a fully chartered member of the Royal Town Planning Institute (MRTPI). Meabhann holds a BA (Hons) in Geography, Sociological and Political Science and a Masters in Urban and Regional Planning. Prior to taking up her position with McCarthy Keville O'Sullivan in October 2018, Meabhann was employed as an Associate Director with Colliers International in their Edinburgh office, prior to which she was employed for several years with Halliday Fraser Munro. In her time in the industry Meabhann has been active on a number of instructions across a broad spectrum of mixed-use, residential, commercial, renewable energy and retail projects. Meabhann brings particular expertise in initial development feasibility appraisals and development strategies. Her experience in managing large multi-disciplinary teams in the preparation of local and major planning applications across residential, mixed-use and retail developments means she has a wealth of knowledge to draw on in the early stages of development. She has particular experience in preparing and managing project strategies which include both responding to emerging planning policy whilst also preparing and progressing complex planning applications and appeals.

Sean McCarthy (Hons)

Sean McCarthy is a Project Director in the Planning Team at MKO with over 10 years of experience in both private practice and local authorities. Sean holds a BSc. (Hons) in Property Studies from ATU and a Masters in Regional & Urban Planning for Heriot Watt University in Edinburgh. Prior to taking up his position with McCarthy Keville O'Sullivan in September 2015, Sean worked as a Planning Officer with the Western Isles Council in Scotland in the UK and prior to that worked as a Graduate Planner with Tipperary County Council. Sean is a chartered member of the Royal Town Planning Institute with extensive experience in residential, commercial, industrial, quarries and healthcare development projects. Sean has been involved in complex and large-scale development projects from inception through to planning permission both as a project manager and working as part of wider design teams. Sean has extensive experience in working on Strategic Housing Development Projects/Large Scale Residential Development Projects and EIAR projects. Within MKO, Sean plays a large role in the management and confidence building of junior members of staff and works as part of a large multi-disciplinary team to produce planning applications.

Alan Clancy (Hons), MPlan

Alan Clancy is a Project Planner with MKO with over 8 years of experience in private practice. Alan holds a BA in Geography & History and Masters in Planning and Sustainable Development. Prior to taking up his position with MKO in February 2022, Alan worked as a Planner for Indigo Telecom Group in Limerick Ireland where he assisted with management of all planning aspects of new telecommunications network roll out programmes for leading telecommunications operators. Prior to this, Alan worked in the UK with the JTS Partnership LLP, where he gained experience as a graduate planner through to planner level. Alan has experience across a range of sectors including commercial, residential and industrial, Alan's key strengths and areas of expertise are in development management, provision of planning advice and project management. Since joining MKO, Alan has been working closely with Pamela Harty, Meabhann Crowe and the wider planning team, assisting with various projects including Strategic Infrastructure Developments, lodgement and management of Planning Applications, Development Plan Submissions and preparing Development Potential Reports. Alan is a member of the Irish Planning Institute.

Ciara Griffin

Ciara Griffin is a Planner with MKO having joined the company in September 2024. Ciara holds a BA (Hons) in City Planning & Environmental Policy from University College Dublin. Since joining MKO, Ciara has been involved in a range of renewable energy projects including onshore wind and grid infrastructure. Ciara's main responsibilities include preparing planning application documents and reports, preparing inputs for Environmental Impact Assessment Reports and liaising with multidisciplinary team projects.

John Hynes M.Sc. (Ecology), B.Sc.

John Hynes is the Ecology Director at MKO, with over 12 years' professional experience in the public and private sector. John oversees MKO's Ecology, Ornithology, Forestry, Bats, and GIS teams. John holds a B.Sc. in Environmental Science and a M.Sc. in Applied Ecology. John's key strengths and areas of expertise are in Appropriate Assessment of plans and projects, Ecological Impact Assessment, Flora and Fauna survey methods and design, project management and project strategy. John is experienced as a coordinator or large multi-disciplinary teams on complex ecological projects. John has been involved as a lead Ecologist on a range of energy infrastructure, commercial, transport, housing, forestry, biodiversity net gain and nature restoration projects. John is a Full member of the Chartered Institute of Ecology and Environmental Management, a member of Galway County Council Climate and Biodiversity Special Policy Committee (SPC) and a contributor to the Wind Energy Ireland (WEI) Biodiversity and Sustainability Working Group.

Pat Roberts B.Sc. (Env.)

Pat Roberts is Principal Ecologist with MKO with over 19 years post graduate experience of providing ecological services in relation to a wide range of developments at the planning, construction and monitoring stages. Pat holds B.Sc. (Hons) in Environmental Science. Pat has extensive experience of providing ecological consultancy on large scale industrial and civil engineering projects. He is highly experienced in the completion of ecological baseline surveys and impact assessment at the planning stage. He has worked closely with construction personnel at the set-up stage of numerous construction sites to implement and monitor any prescribed best practice measures. He has designed numerous Environmental Operating Plans and prepared many environmental method statements in close conjunction with project teams and contractors. He has worked extensively on the identification, control and management of invasive species on numerous construction sites. Prior to taking up his position with MKO in June 2005, Pat worked in Ireland, USA and UK as a Tree Surgeon and as a nature conservation warden with the National Trust (UK) and the US National Park Service. Pat's key strengths include his depth of knowledge and experience of a wide range of ecological and biodiversity topics and also in his ability to understand the requirements of the client in a wide range of situations. He is currently responsible for staff development, training and ensuring that the outputs from the ecology team are of a very high standard and meet the requirements of the clients and relevant legislation and guidelines. He is a full member of the Chartered Institute of Ecologists and Environmental Managers (CIEEM)

Corey Cannon B.Sc. (Hons), M.Sc.

Corey is Project Director (Ecology) with MKO. She is a Chartered Ecologist (CEcol) and full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) with over 12 years' professional experience. Corey holds a BSc in Zoology from Queen Mary University of London and an MSc in Biodiversity Survey from the University of Sussex. Prior to taking up her position with MKO in October 2023, Corey worked as a Principal Ecologist with Jacobs (Dublin office) for over 8 years and held previous posts with LUC and The Ecology Consultancy in London. Corey has strong generalist ecology field skills in terrestrial and riparian environments (with a particular interest in botany and bat ecology) and through her experience can demonstrate undertaking a range of ecological surveys including habitat, invasive and protected species survey, delivering initial site appraisals and identification of ecological constraints. Key areas of expertise include Ecological Impact Assessments (EcIA), Preliminary Ecological Appraisals (PEAs) and Appropriate Assessment (AA). She has undertaken ecological assessments and surveys on a variety of project types (e.g. road and rail schemes, waste, water and housing) involving survey, mitigation and enhancement. Within MKO Corey is responsible for overall management of the general ecology team alongside Sarah Mullen, providing technical input on all ecological aspects of our projects from inception through to planning. Outside of her professional role Corey is involved with voluntary initiatives. She helped reform the Dublin Bat Group in 2018. She is also a committee member to CIEEM's Ireland Members Network.

Caroline Kelly BSc, M.Sc.

Caroline Kelly is a Senior Ecologist with MKO with over 9 years professional experience. She is a Full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). Caroline holds a BSc in Environmental Biology from University College Dublin and an MSc in Applied Ecological Assessment from University College Cork. In addition, Caroline has completed an Advanced Diploma in Planning and Environmental Law from Kings Inns Dublin. Prior to taking up her position with MKO in June 2025, Caroline worked as a Principal Ecologist with Scott Cawley Ltd. Caroline has strong generalist field ecology skills and has undertaken a range of ecological surveys including habitat, invasive species and protected fauna surveys. She has strong technical reporting skills and has extensive experience in a range of ecological assessments including Appropriate Assessment and Ecological Impact Assessment.

Pádraig Desmond B.Sc. (Hons)

Pádraig is a Project Ecologist with MKO with 4 years post graduate ecological experience and over 3 years of which have been in ecological consultancy. Pádraig holds a BSc (Hons) in Ecology and Environmental Biology from University College Cork. Pádraig took up his position with MKO in December 2021, prior to which he worked as a Junior Ecologist with Envirico. Through these consultancy roles Pádraig has gained excellent experience in producing ecological reports such as Natura Impact Statements, Ecological Impact Assessments, Biodiversity chapters, Invasive Species Management Plans, and Constraints Reports for a wide range of projects including small private developments to housing developments and renewable energy projects such as solar and wind farms. Prior to the above roles, Pádraig worked as a field ecologist for the Department of Conservation in New Zealand, where he developed a strong field-based skill set. Pádraig's key strengths and areas of expertise are in terrestrial ecology, including vegetation surveys, habitat identification, invasive species surveys, mammal surveys, Appropriate Assessment and Ecological Impact Assessment. Pádraig is also skilled in GIS.

Stephanie Corkery B.Sc. (Hons) M.Sc.

Stephanie is an Ecologist with MKO with over 2.5 years of experience in professional ecological consultancy. Stephanie holds a BSc. in Ecology and Environmental Biology, an MSc. in Marine Biology, and a HDip in Sustainability in Enterprise, all from University College Cork. Since joining MKO as a graduate in March 2022, Stephanie has worked on a wide variety of projects including wind farms, large scale residential developments, and County Council projects. Stephanie's key strengths include organising and carrying out both terrestrial and marine mammal surveys, as well as general ecological walkover surveys and bat surveys. She is also experienced in GIS, acoustic data analysis for bat species, and in preparing Appropriate Assessment Screening Reports (AASR), Natura Impact Statements (NIS), Ecological Impact Assessments (EcIA), Biodiversity Chapters, and Bat Reports. Stephanie is also a JNCC Certified Marine Mammal Observer and has completed the ACCOBAMS Course for Highly Qualified Marine Mammal Observers (MMO) and Passive Acoustic Monitoring operators (PAM).

Dervla O'Dowd B.Sc. (Env.)

Dervla O'Dowd is Associate Director with responsibility for MKO's dedicated Ornithology Team with nineteen years of experience in environmental consultancy as a Senior Ecologist and Project Manager. Dervla graduated with a first-class honours B.Sc. in Environmental Science from NUI, Galway in 2005 and joined Keville O'Sullivan Associates in the same year. Dervla has gained extensive experience in the project management and ecological assessment of the impacts of various infrastructural projects including wind energy projects, water supply schemes, road schemes and housing developments nationwide and has also been involved in the compilation of Environmental Impact Reports and acted as EIAR co-ordinator on many of these projects. Dervla has also extensive experience in the provision of ecological site supervision for infrastructural works within designated conservation areas, in particular within aquatic habitats, and has also been involved in the development of environmental/ecological educational resource materials. Currently, Dervla is responsible for the management of MKO's dedicated Ornithology Team coordinating MKO's portfolio of bird survey and assessment work required on major infrastructural projects, with emphasis on wind energy projects. Dervla's key strengths and areas of expertise are in project management, project strategy, business development and survey co-ordination to ensure the efficient operation of the Ornithology team's field survey schedule. Dervla holds full membership of the Chartered Institute of Ecology and Environmental Management and current Safe Pass card.

Padraig Cregg M.Sc., B.Sc.

Padraig is a Principal Ornithologist with MKO and has over eleven years of experience working in environmental consultancies. The natural world has been a lifelong passion for Padraig. He has pursued this passion from boyhood through his academic study and career with MKO. In his role, he

acts as technical advisor for the ornithology team, helping to take projects through their entire lifecycle, from site selection through survey design, constraints studies, impact assessment and lodgement of the planning application. He is responsible for training the ornithology team and keeping his colleagues updated on all emerging guidance, legislation, policies, initiatives, industry best practices, emerging trends, and market opportunities.

Patrick Manley B.Sc.

Patrick Manley is a Senior Ornithologist with MKO with over 7 years of experience in environmental consultancy. Patrick holds BSc (Hons) in Geology from University College Dublin. Since joining MKO, Patrick has worked on wind farm projects, solar farm projects, residential developments, data centres, county council projects and National Parks and Wildlife Service projects. He specialises in ornithological consulting, including Environmental Impact Assessments and has specialist knowledge in designing, executing and project managing ornithological assessments, primarily in the renewable industry. Prior to joining MKO in August 2016, Patrick gained experience through his involvement in several bird conservation projects, including protected curlew, seabirds and waders. Within MKO, Patrick plays a large role in the management and confidence building of junior members of staff and works as part of a large multi-disciplinary team to produce EIAR chapters.

Jack Workman MSc.

Jack is the Landscape & Visual Project Director at MKO and is a Technician Member with the British Landscape Institute. He is a Landscape and Visual Impact Assessment Specialist with an academic background in the field of Environmental Science and Geography. Jack's primary role at MKO is conducting Landscape and Visual Impact Assessment (LVIA) for Environmental Impact Assessment reports. Jack holds a BSc. in Psychology, and an MSc. in Coastal and Marine Environments (Physical Processes, Policy & Practice) where he was awarded the Prof. Máirín De Valéra distinction in science research award. Prior to taking up his position with MKO, Jack worked as a Geospatial Analyst and Research Assistant with NUIG and also held previous posts in the coastal engineering sector with Royal Haskoning DHV and Saltwater Technologies. Since joining MKO in February 2020, Jack has conducted, and project managed, all aspects of LVIA for a broad range of commercial infrastructure developments including wind and solar energy projects, grid infrastructure, extraction industry and Strategic Housing Developments. Jack holds a membership with the Chartered Institute of Water and Environmental Management and is also a member of the Landscape Research Group. Darragh Buckley currently holds the role of Project Graphics Technician within MKO.

Dija Mazonaite B.Sc. (Hons)

Dija Mazonaite is an Environmental Scientist and LVIA Specialist at MKO. Dija has a BSc (Hons) in Geography & Geosystems and was recognised as a University Scholar at the University of Galway. Dija was also a finalist in Undergraduate of the Year for Innovative Sustainable Thinking. Dija's primary role at MKO is producing the LVIA chapter of EIA reports for large infrastructure developments. Since joining MKO, Dija has conducted and project managed all aspects of LVIA for a broad range of commercial infrastructure developments including wind and solar energy projects, grid infrastructure, extraction industry and Strategic Housing Developments. Dija's key strengths include proficiency in GIS tools such as ArcGIS and QGIS, conducting landscape and visual impact assessments and capturing image data through drone surveys and photomontages. Dija is an affiliate member with the Landscape Institute and is also a member with IEMA, with qualifications to fly drones in the A1/A3 subcategories.

Darragh Buckley B. Eng

He holds a B. Eng. in Video and Sound Technology awarded from the Limerick Institute of Technology. Before joining MKO in November 2019, Darragh gained a wealth of expertise in the

design and print industry, having worked as a graphic designer at various companies such as Cube Printing (Limerick) and Dyna Signs (Galway). Additionally, he managed his own freelance design business. His expertise lies in utilizing software such as windPRO, QGIS and the Adobe Suite (including Photoshop, InDesign, and Illustrator). These skills have proven invaluable in his work, particularly in producing EIAR Photomontages, Virtual Consultation Rooms, 360° Pano Viewers, and various other digital and print media.

Killian Devereux BSc (Hons)

Killian is currently the Project CAD Technician at MKO he has over 8 years of drafting experience in various sectors of the building industry. He holds BSc (Hons) in Architectural Technology from Galway Mayo Institute of Technology. Prior to taking up his position with MKO in October 2022, Killian worked as a Structural CAD/BIM Technician for Tobin Consulting Engineers and as an Architectural Technician for some smaller-scale Engineering Consultants. He was primarily involved in a variety of Commercial / Residential projects where he was responsible for the structural drawing packages but also has experience working in RC concrete Drawings, Architectural and Civil drawings, FSC's /DAC's and one-off housing planning applications. His key strengths and areas of expertise are in Auto CAD, Revit, Cads RC and Google Sketch up. Since joining MKO Killian has been the lead CAD technician on multiple Renewable Energy Planning Applications.

Joeseph O'Brien

Joseph O'Brien is a CAD Technician with MKO with over 9 years of experience. Joseph holds a BA Honours Level 8 Modelmaking, Design and Digital Effect, Institute of Art Design and Technology (IADT), Dun Laoghaire & City & Guilds Level 3 2D & 3D AutoCAD certificates. Prior to taking up his position with MKO in June 2016, Joseph worked as worked as a free-lance Modelmaker and CAD Technician. His previous experience included designing various models and props through CAD and then making them for various conventions such as Dublin Comic Con and Arcade Con. Joseph's key strengths and areas of expertise are skills such as mapping, aerial registration and detailed design drawings for projects. Since joining MKO Joseph has been role of producing planning application drawings through CAD for various projects such as renewable energy such as wind and solar.

1.8.2.2 Hydro Environmental Services Ltd.

Michael Gill

Michael Gill (P. Geo., B.A.I., MSc, Dip. Geol., MIEI) is an Civil/Environmental Engineer and Hydrogeologist with over 24 years' environmental consultancy experience in Ireland. Michael has completed numerous hydrological and hydrogeological impact assessments of wind farms in Ireland. He has also managed EIAR assessments for infrastructure projects and private residential and commercial developments. Michael has completed over 30 Source Protection Assessments for the GSI/NFGWSs, and for Irish Water, and for private developments across the country in a wide variety of hydrogeological settings. In addition, he has substantial experience in wastewater engineering and site suitability assessments, contaminated land investigation and assessment, karst hydrology/hydrogeology, water resource assessments, surface water drainage design and SUDs design, and surface water/groundwater interactions. For example, Michael has worked on the EIS/EIARs for Slievecallan Wind Farm, Seven Hills Wind Farm, Carrownagowan Wind Farm, and over 100 other wind farm related projects across the country. Michael worked on his first wind energy project in 2003, and he has continued to work on similar projects since then.

David Broderick

David Broderick (P. Geo., BSc, H. Dip Env Eng, MSc) is a Hydrogeologist with over 19 years' experience in both the public and private sectors. Having spent two years working in the Geological

Survey of Ireland working mainly on groundwater and source protection studies David moved into the private sector. David has a strong background in groundwater resource assessment, karst hydrology and hydrogeological/hydrological investigations in relation to developments such as quarries and wind farms. David has completed over 25 Source Protection Assessments for the GSI/NFGWSs, and for Irish Water and for private developments across the country in a wide variety of hydrogeological settings. David has completed numerous geology and water sections for input into EIARs for a range of commercial developments. David has worked on the EIS/EIARs for Ardderroo Wind Farm, Knockalough Wind Farm, and Oweninny Wind Farm, and over 60 other wind farm related projects across the country. David worked on his first wind energy project in 2010, and he has continued to work on similar projects since then.

Nitesh Dalal

Nitesh Dalal (B.Tech, PG Dip., MSc) is an Environmental Scientist with over 7 years' experience in environmental consultancy and environmental management in India. Nitesh holds a M.Sc. in Environmental Science from University College Dublin (2024), a PG Diploma in Health, Safety and Environment from Annamalai University, India (2021) and B.Tech. in Environmental Engineering (2016) from Guru Gobind Singh Indraprastha University, India (2016).

1.8.2.3 Fehily Timoney & Company Ltd.

The geotechnical aspects of the report, which were incorporated into the Geology & Soils and Water sections of the EIAR, were completed by Fehily Timoney. Fehily Timoney has extensive experience in the production of Peat Stability Assessments for wind energy developments. Fehily Timoney provides specialist geotechnical engineering and engineering geology advice to local authorities, contractors and consultants, particularly for infrastructure projects forming part of the National Development Plan and also for private commercial and residential developments as they move on to sites with more complex ground conditions.

Ian Higgins

Ian is a geotechnical engineer with over 18 years' experience in the design and supervision of construction of bulk earthworks, geotechnical foundation design, geotechnical monitoring and reviewing, reinforced earth design and 3rd party checking of piling and ground improvement designs. Ian's experience also includes the design, supervision and interpretation of ground investigations, including desk studies, walkover surveys, hazard mapping of rock excavations and slopes.

Ian has experience in many areas of civil engineering including highways, railways, energy projects and commercial developments. Ian's responsibilities include managing junior engineers, reviewing work carried out for ground investigation, reporting and design. Ian has also experience in using a number of geotechnical software packages including slope stability, finite element, pile design and retaining wall design.

1.8.2.4 AWN Consulting Ltd.

Dermot Blunnie

Dermot Blunnie (Principal Acoustic Consultant) holds a BEng (Hons) in Sound Engineering, MSc in Applied Acoustics and has completed the Institute of Acoustics (IOA) Diploma in Acoustics and Noise Control. He has been working in the field of acoustics since 2008 and is a member of the Institute of Engineers Ireland (MIEI) and the Institute of Acoustics (MIOA). He has extensive knowledge and experience in relation to commissioning noise monitoring and impact assessment of wind farms as well as a detailed knowledge of acoustic standards and proprietary noise modelling software packages. He

has commissioned noise surveys and completed noise impact assessments for numerous wind farm projects within Ireland.

Mike Simms

Mike Simms (Principal Acoustic Consultant) holds a BE and MEngSc in Mechanical Engineering and is a member of the Institute of Acoustics (MIOA) and of the Institution of Engineering and Technology (MIET). Mike has worked in the field of acoustics for over 20 years. He has extensive experience in all aspects of environmental surveying, noise modelling and impact assessment for various sectors including, wind energy, industrial, commercial and residential.

Miguel Cartuyvels

Miguel Cartuyvels (Acoustic Consultant) holds a BEng (Hons) in Industrial Engineering and is a member (TechIOA) of the Institute of Acoustics. Miguel has worked in the field of acoustics since 2021, where he has contributed to numerous projects related to environmental surveying, noise modelling, and impact assessment for various sectors, including wind energy, industrial, commercial, and residential

1.8.2.5 Tobar Archaeological Services

Tobar Archaeological Services is a Cork-based company in its 16th year in business. They offer professional nationwide services ranging from pre-planning assessments to archaeological excavation, and cater for clients in state agencies, private and public sectors.

Miriam Carroll is licensed by the Department of Arts, Heritage, Regional, Rural and Gaeltacht Affairs to carry out excavations in Ireland and have carried out work directly for the National Monuments Services of the Department of the Environment, Heritage and Local Government. Tobar Archaeological Services has a proven track record and extensive experience in the wind farm industry from EIS/EIAR stage through to construction stage when archaeological monitoring is frequently required.

1.8.2.6 Alan Lipscombe Traffic and Transport Consultants

Alan Lipscombe

In January 2007 Alan Lipscombe set up an independent traffic and transportation consultancy providing advice for a range of clients in the private and public sectors. Prior to this Alan was a founding member of Colin Buchanan's Galway office having moved there as the senior transportation engineer for the Galway Land Use and Transportation Study. Since the completion of that study in 1999, Alan has worked throughout the West of Ireland on a range of projects including: major development schemes, the Galway City Outer Bypass, Limerick Planning Land-Use and Transportation Study, Limerick Southern Ring Road Phase II, cost benefit analyses (COBA) and various studies for the NUI Galway. Before moving to Galway in 1997, Alan was involved in a wide variety of traffic and transport studies for CBP throughout the UK, Malta and Indonesia. He has particular expertise in the assessment of development related traffic and transport modelling, including for numerous wind farm developments, and is an accomplished analyst who has experience of a wide variety of modelling packages and methods.

1.9 Difficulties Encountered

There were no technical difficulties encountered during the preparation of this EIAR.

Viewing and Purchasing of the EIAR

Copies of this EIAR will be available online, including the Non-Technical Summary (NTS), on the Planning Section of the Cork County Council website, under the relevant Planning Reference Number (to be assigned on lodgement of the application).

Cork County Council: <https://www.corkcoco.ie/en/planning>

This EIAR and all associated documentation will also be available for viewing at the offices of Cork County Council. The EIAR may be inspected free of charge or purchased by any member of the public during normal office hours at the following address:

- Cork County Council,
Planning Section,
Norton House,
Cork Road,
Skibbereen,
Co. Cork
P81 AT28

The EIAR will also be available to view online via the Department of Housing, Local Government and Heritage EIA Portal, which will provide a link to the planning authority's website on which the application details are contained. This EIA Portal was recently set up by the Department as an electronic notification to the public of requests for development consent which are accompanied by an EIAR. (<https://www.gov.ie/en/department-of-housing-local-government-and-heritage/services/eia-portal/>)