

Environmental Impact Assessment

Maughanaclea Renewable
Energy Development, Co.
Cork

Non-Technical Summary



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NON-TECHNICAL SUMMARY

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Introduction

This Environmental Impact Assessment Report (EIAR) has been prepared by MKO on behalf of Maughanaclea Ltd, who intends to apply to An Coimisiún Pleanála for planning permission to construct a renewable energy development comprising 14 no. wind turbines and associated infrastructure in the townlands of Maughanaclea and adjacent townlands, near Kealkill in Co. Cork, including a 110kV onsite substation and associated works, and underground 110kV cabling to connect to the national grid at the existing Dunmanway 110kV substation, located approximately 13.8km southeast of the Proposed Wind Farm site. A detailed description of the Proposed Project is provided in Ch. 4: Description of the Proposed Project of this EIAR.

For the purposes of this EIAR:

- › The ‘Proposed Project’ refers to the entirety of the project (the ‘Proposed Wind Farm’ and the ‘Proposed Grid Connection’, as described below) for the purposes of this EIAR in accordance with the EIA directive. The Proposed Project is described in detail in Ch. 4: Description of the Proposed Project of this EIAR and is the subject of the accompanying planning application under Section 37E of the Planning and Development Act 2000, as amended;
- › The ‘Proposed Wind Farm’ refers to the 14 no. wind turbines and associated foundations and hardstanding areas, including site access roads and entrances, underground 33kV internal cabling, meteorological mast, temporary construction compounds, peat and spoil management areas, borrow pits, biodiversity enhancement areas, tree felling and vegetation removal, site drainage, operational stage signage, 110kV onsite substation, and all ancillary works and apparatus. A detailed description of the Proposed Wind Farm is provided in Ch. 4: Description of the Proposed Project of this EIAR.
 - The ‘proposed turbines’ refers to the 14 no. turbines associated with the Proposed Wind Farm as outlined above;
- › The ‘Proposed Grid Connection’ refers to the 110kV underground cabling connection from the proposed 110kV onsite substation to the existing Dunmanway 110kV substation, and all ancillary works and apparatus. The Proposed Grid Connection will facilitate the connection of the Proposed Wind Farm to the national electricity grid;
- › 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 1,175 hectares; and,
- › The ‘Proposed Wind Farm site’ refers to the portion of the Site surrounding the Proposed Wind Farm but excluding the portion of the Site surrounding the Proposed Grid Connection underground cabling route.

Both the EIAR and NIS contain the information necessary for An Coimisiún Pleanála to complete the Environmental Impact Assessment and Appropriate Assessment as required for this planning application. Both the EIAR and NIS take into account the combined impacts identified across the various EIAR disciplines of the Proposed Project.

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

The Site identifies the primary EIAR study area for the Proposed Project and was defined in consideration to appropriate buffers and natural onsite features. 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 planning application boundary) for the purposes of this planning application occupies a smaller area within the Site boundary. The EIAR Site Boundary and encompasses an area of approximately 1,175 hectares. The total development footprint of the Proposed Project measures approximately 14.67 hectares, which represents approximately 1.25% of the EIAR Site Boundary.

The Proposed Project is described in detail in Chapter 4 of this EIAR.

Applicant

The Applicant for the Proposed Project, Maughanaclea Ltd, is an associated 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 the end of 2025, Enerco associated companies had over 975 Megawatts (MW) of wind generating capacity in commercial operation or in construction, with a further c.400MW of projects at various stages in its portfolio to assist in meeting Ireland's renewable energy targets

Brief Description of the Proposed Project

The Proposed Project will comprise the construction of 14 no. turbines with an overall blade tip height of 169m and all associated works, including an 110 kV onsite substation and associated underground 110kV cabling to connect to the national grid at the existing Dunmanway 110kV substation. The full description of the Proposed Project is detailed in Ch. 4: Description of the Proposed Project of this EIAR.

The current planning application, relating to the Proposed Project, is being made to An Coimisiún Pleanála under Section 37E of the Planning and Development Act, 2000, as amended.

The Proposed Project description for the current planning application as appears in the public notices is as follows:

The Proposed Project will consist of the provision of the following:

- i. 14 no. wind turbines with an overall turbine tip height of 169 metres, a rotor blade diameter of 133 metres, and turbine hub height of 102.5 metres, and a meteorological mast with a height of 30 metres, and subsequent decommissioning of the wind turbines and meteorological mast, following a thirty five-year operational life from the date of full commissioning of the wind turbines;*
- ii. Associated wind turbines and meteorological mast foundations and hardstanding areas;*
- iii. A 110kV substation compound (Including control buildings (with a combined floor area of 594Sq.m) with welfare facilities, all associated electrical plant and apparatus, security fencing, underground cabling, lightening protection poles, underground wastewater holding tank, site drainage and all ancillary works);*
- iv. Underground electrical (110kV) and communications cabling from the proposed 110kV substation to the existing Dunmanway 110kV substation in the townland of Ballyhalwick (including joint bays, communication chambers, earth sheath links, and ancillary works along the underground electrical cabling route). This cabling route is primarily located within the public road corridor;*
- v. Underground electrical (33kV) and communications cabling connecting the wind turbines and meteorological mast to the proposed 110kV substation;*
- vi. 3 no. temporary construction compounds (including site offices and welfare facilities (with a combined floor area of 585Sq.m);*
- vii. 2 no. temporary security cabins (with a combined floor area of 28.8Sq.m);*

- viii. *Junction accommodation works to facilitate turbine delivery and construction access to the site, including the upgrade of an existing site entrance off the R585 regional road, and the construction of a new access road off the R585 regional road, crossing the L8777 Local Road; including new permanent gated site entrances;*
- ix. *Upgrade of existing site tracks/roads and provision of new site access roads, junctions and hardstand areas (including upgrade of a short section of the L8777 local road);*
- x. *4 no. borrow pits;*
- xi. *Peat and Spoil Management;*
- xii. *Site Drainage;*
- xiii. *Tree felling and vegetation removal;*
- xiv. *Biodiversity Enhancement measures (peatland habitat enhancement, Kerry slug habitat enhancement, and native woodland planting);*
- xv. *Operational stage site signage and;*
- xvi. *All associated site development works and apparatus.*

The application is seeking a ten-year planning permission. Current and future wind turbine generator technology will ensure that the wind turbine model, chosen for the Proposed Project, will have an operational lifespan greater than the 35-year operational life that is being sought as part of the planning application

Need for the Proposed Project

Ireland faces significant challenges to its efforts to meet EU targets for renewable energy by 2030 and its commitment to transition to a low carbon economy by 2050. Further detail can be found in Ch. 2: Background to the Proposed Project.

The Proposed Project provides the opportunity to capture an additional part of County Cork's valuable renewable energy resource. If the Proposed Project were not to proceed, this opportunity to harness the wind energy resource of County Cork's valuable renewable energy resource would be lost, as would the opportunity to further contribute to meeting Government and EU targets for the production and consumption of electricity from renewable resources and the reduction of greenhouse gas emissions.

Economic Benefits

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

Commercial rate payments from the Proposed Project will be provided to Cork County Council each year during the construction 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 Project has the potential to create up to 100 jobs during the construction phase and 3-4 jobs during operational and maintenance phases of the Proposed Project. During construction, additional indirect employment will be created in the region through the supply of services and materials to the Proposed Project. There will also be income generated by local employment from the purchase of local services i.e. travel, goods and lodgings. Further details on employment associated with the Proposed Project are presented in in Ch. 5: Population and Human Health of this EIAR.

Should the planning application for the Proposed Project 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 Project enter the Renewable Energy Support Scheme (RESS), the

proposed Community Benefit Fund would attract a community contribution in the region of approximately €410,000/year for the first 15 years of operation, to be used by the local community over the lifetime of the Proposed Project (based on the current RESS T&C's). 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.

Purpose and Scope of the EIAR

The purpose of this EIAR is to document the current state of the environment on and in the vicinity of the Site and to quantify the likely significant effects of the Proposed Project on the environment. The compilation of this document serves 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 Project.

It is important to distinguish the Environmental Impact Assessment (EIA) to be carried out by An Coimisiún Pleanála, from the EIAR accompanying the 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 Project. It includes an examination, analysis and evaluation by An Coimisiún Pleanála 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 significant effects of the Proposed Project 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.

Background to the Proposed Project

Ch. 2: Background to the Proposed Project presents information on renewable energy and climate change policy and targets, the strategic, regional and local planning context for the Proposed Project, planning history, scoping and consultation, as well as setting out the nature of the cumulative impact assessment process undertaken.

The 'Proposed Project' is being brought forward in response to local, regional, national 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.

A gradual shift towards increasing Ireland's use of renewable energy is no longer viable. There is an urgency now to ensure real changes occur without delay. Renewable energy development is recognised as a vital component of Ireland's strategy to tackle the challenges of combating climate change and ensuring a secure supply of energy. Ireland is heavily dependent on the importation of fossil fuels to meet its energy needs. In 2023, over 81% of Ireland's energy was imported from abroad, higher than the European Union (EU) average of almost 60% (National Energy Security Framework, 2022). This high dependency on energy imports is highly risky and Ireland is currently extremely vulnerable both in terms of meeting future energy needs and ensuring price stability. As such, expanding indigenous renewable energy supply is critical for energy security and price stability. The provision of the Proposed Project would aid in achieving the shift to decarbonising the electricity sector and energy security in Ireland.

Ireland's Climate Action Plan 2024 and Climate Action Plan 2025 sets ambitious yet essential targets for renewable energy, including 9GW of onshore wind capacity - with at least 5GW of offshore to be delivered by 2030 - and an 80% share of renewable electricity by the same year. However, multiple assessments, including the Climate Change Advisory Council (CCAC) Annual Review and the Environmental Protection Agency (EPA) emissions projections, confirm that Ireland is not on track to meet these targets. Significant gaps remain in renewable energy deployment, particularly in grid capacity expansion, as well as onshore and offshore wind energy development, while continued reliance on fossil fuels threatens national and EU climate commitments.

Failure to meet binding EU targets will expose Ireland to financial penalties, increased carbon credit costs, and continued dependence on fossil fuel imports—posing serious risks to energy security and economic stability. Furthermore, Ireland's national interest, as outlined in Section 143(1) of the Planning and Development Act, 2000, as amended (the Act), requires the rapid expansion of renewable energy, making this a matter of strategic economic and social importance.

Every viable renewable energy project plays a crucial role in meeting Ireland's climate targets. The approval of well-planned, appropriately located renewable energy projects, such as the Proposed Project is not just beneficial—it is imperative. Without decisive action to facilitate renewable energy deployment, Ireland risks missing national and EU commitments, incurring financial penalties, and undermining energy security.

Regional Policy

Southern Regional Assembly Regional Spatial & Economic Strategy

The Southern Regional Assembly (SRA) was established in 2015 and the Regional Spatial and Economic Strategy (RSES) for the Southern Region (Carlow, Clare, Cork, Kerry, Kilkenny, Limerick, Tipperary, Waterford and Wexford) came into effect on 31st January 2020. The RSES provides a long-term, strategic development framework for the future physical, economic and social development of the Southern Region. The RSES seeks to achieve balanced regional development and full implementation of Project Ireland 2040 – the National Planning Framework.

Adopted on the 31st of January 2020, the principal statutory purpose of the RSES is to support the implementation of the Project Ireland 2040 NPF and NDP and the economic policies and objectives of the Government. The RSES aims to build on the region's strengths and potential to become a more prosperous, sustainable, climate resilient and attractive region for the benefit of all its people up to 2040 and beyond.

The RSES for the Southern Region clearly outlines its objective to support the development of renewable energy within the Region, such as the Proposed Project. It is considered that the provision of the Proposed Project would facilitate this objective. In the region, a noticeable trend has emerged to recognise and take advantage of emerging opportunities related to the shift towards a decarbonized economy, particularly in the realm of renewable energy generation and therefore the Proposed Project is considered to be in line with Regional Policy

Local Planning Policy

Cork County Development Plan 2022-2028

The Cork County Development Plan 2022-2028 (CCDP) came into effect on 6th June 2022 and was subject to a Ministerial Direction in accordance with section 31(4)(c) of the Planning and Development Act 2000, as amended however the requirements of this Direction did not relate to renewable energy and has no impact on the Proposed Project, subject of this EIAR.

Climate change mitigation and adaptation objectives have been incorporated into the policies of the CCDP. This is to ensure that climate change has been consistently integrated into the policy themes addressed by the CCDP. Chapter 17 of the CCDP outlines the County's climate change policy and aligns itself with wider policies with the recognition that *'national and regional planning policy and national and international climate change policy determine climate change commitments which Cork County Council must meet...'* In relation to renewable energy and climate action, the relationship between increased renewable energy production and a reduction in GHG emissions is recognised.

Objective 17-2 states:

'In order to achieve a reduction in greenhouse gas emissions, an increase in renewable energy production, an increase in energy efficiency and enhanced biodiversity, support the transition to a low carbon, competitive, climate resilient and environmentally sustainable economy by 2050 through implementation of the polices of this plan...'

With regard to renewable energy, Chapter 13 of the CCDP sets out the policy context for the County's energy strategy. County Cork's role in the delivery of renewable energy resources is acknowledged within the CCDP, with the statement that *"Cork is well positioned to become self-sufficient in renewable energy and contribute to the achievement of national energy targets"*. The CCDP sets out a number of County Development Plan Objectives relating to renewable energy, including the following:

- › **Objective ET 13-1 (a): Energy** -Ensure that County Cork fulfils its potential in contributing to the sustainable delivery of a diverse and secure energy supply and to harness the potential of the county to assist in meeting renewable energy targets and managing overall energy demand.
- › **Objective ET 13-2(a): Renewable Energy** - Support Ireland's renewable energy commitments as outlined in Government Energy and Climate Change policies by facilitating the development of renewable energy sources such as wind, solar, geothermal, hydro and bioenergy and energy storage at suitable locations within the county where such development has satisfactorily demonstrated that it will not have adverse impacts on the surrounding environment (including water quality), landscape, biodiversity or amenities.
- › **Objective ET 13-2 (b): Renewable Energy** - Support and facilitate renewable energy proposals that bring socio-economic benefit to the local community. The Council will engage with local communities and stakeholders in energy and encourage developers to

consult with local communities to identify how they can invest in/gain from significant renewable energy development.

› **Objective ET 13-21: Electricity Network**

- a) *Support and facilitate the sustainable development, upgrade and expansion of the electricity transmission grid, storage, and distribution network infrastructure.*
- b) *Support the sustainable development of the grid including strategic energy corridors and distribution networks in the region to international standards.*
- c) *Facilitate where practical and feasible, infrastructure connections to wind farms, solar farms, and other renewable energy sources subject to normal proper planning considerations.*
- d) *Proposals for development which would be likely to have a significant effect on nature conservation-sites and/or habitats or species of high conservation value will only be approved if it can be ascertained, by means of an Appropriate Assessment or other ecological assessment, that the integrity of these sites will not be adversely affected.*

› **Objective ET 13-22: Transmission Network**

- a) *To co-operate and liaise with statutory and other energy providers in relation to power generation in order to ensure adequate power capacity for the existing and future needs of the County including business and residential demands.*
- b) *Proposals for new electricity transmission networks will need to consider the feasibility of undergrounding or the use of alternative routes especially in landscape character areas that have been evaluated as being of high landscape sensitivity. This is to ensure that the provision of new transmission networks can be managed in terms of their physical and visual impact on both the natural and built environment and the conservation value of European sites.*
- c) *Proposals for development which would be likely to have a significant effect on nature conservation-sites and/or habitats or species of high conservation value will only be approved if it can be ascertained, by means of an Appropriate Assessment or other ecological assessment, that the integrity of these sites will not be adversely affected.*

From the above objectives, it is evident that there is strong support at local level for the development of renewable energy projects in County Cork in accordance with the CCDP. **Objective 13-4** is particularly relevant to the Proposed Project as it offers clear support for the development of onshore wind energy projects, including the siting of such developments at locations that utilise existing infrastructure, as is the case with the Proposed Project.

The Cork County Council Climate Action Plan, 2024-2029 (Cork CAP) sets out a strong precedent for the Council's responsibility to ensure the County's reduction in carbon emissions in line with the Climate Act.

“The Climate Action and Low Carbon Development (Amendment) Act 2021, which also frames Ireland’s legally binding climate ambition, requires a reduction in greenhouse gas emissions by Cork County Council of 51% by 2030 from the 2016/2018 average baseline and a 50% increase in energy efficiency from a 2009 baseline.”

Objective 4.3.1.1 and **Objective 4.8.1.1** of the Cork CAP clearly sets out the Council's intention to reduce GHG emissions within the electricity sector through the development of renewable energy infrastructure projects.

- › **Objective 4.3.1.1** - *51% reduction in green house gases from the 2016/2018 baseline resulting from the council's electricity usage.*
- › **Objective 4.8.1.1** - *Support the development of renewable energy infrastructure.*

Objective 4.8.1.1 is underpinned by **Action 4.8.1.1.2** which looks to “Promote renewable energy generation, storage, and distribution infrastructure in accordance with the CDP within the county, whilst

promoting the need to consider environmental protection requirements at the outset of and during such projects.”

These objectives outlined above would be significantly aided by the Proposed Project and its potential to connect 67.2MW of renewable electricity to the grid, and as such, the Proposed Project is aligned with the Cork CAP.

Cork County Development Plan 2022-2028: Wind Energy Strategy

Section 13.6 of the CCDP outlines the Wind Energy Strategy (WES) for the County. The WES provides a clear framework for the Council's objectives and methodology for identifying suitable locations for wind energy development in the county. The WES includes a number of Objectives which clearly demonstrates the support for the siting of wind energy projects within the County:

- **Objective ET 13-4: Wind Energy** - *In order to facilitate increased levels of renewable energy production consistent with national targets on renewable energy and climate change mitigation as set out in the National Energy and Climate Plan 2021-2030, the Climate Action Plan 2021, and any updates to these targets, and in accordance with Ministerial Guidelines on Wind Energy Development, the Council will support further development of on-shore wind energy projects including the upgrading, repowering or expansion of existing infrastructure, at appropriate locations within the county in line with the Wind Energy Strategy and objectives detailed in this chapter and other objectives of this plan in relation to climate change, biodiversity, landscape, heritage, water management and environment etc.*
- **Objective ET 13-5 (a): Wind Energy Projects** - *supports a plan led approach to wind energy development in County Cork through the identification of areas for wind energy development. The aim in identifying these areas is to ensure that there are minimal environmental constraints, which could be foreseen to arise in advance of the planning process.*
- **Objective ET 13-5 (b): Wind Energy Projects** - *On-shore wind energy projects should focus on areas considered ‘Acceptable in Principle’ and ‘Areas Open to Consideration’ and generally avoid “Normally Discouraged” areas as well as sites and locations of ecological sensitivity.*
- **Objective ET13-9: National Wind Energy Guidelines** - *Development of on-shore wind should be designed and developed in line with the ‘Planning Guidelines for Wind Farm Development 2006’ and ‘Draft Wind Energy Development Guidelines 2019’ and any relevant update of these guidelines.*
- **Objective ET13-10: Development in line with Best Practice** - *Ensure that wind energy developments in County Cork are undertaken in observance with best industry practices, and with full engagement of communities potentially impacted by the development. In accordance with the Code of Practice ‘Good Practice for Wind Energy Development Guidelines 2016’, wind energy development operators are required to put in place an effective complaints procedure in relation to all aspects of wind energy development projects, where members of the public can bring any concerns they have about operational difficulties, including noise and nuisance to the attention of the wind energy development operator.*

The WES characterises the county into 3 different policy areas aimed at facilitating large scale commercial wind energy developments. These policy areas are based on a number of criteria, including accessibility to the electricity distribution grid, used to identify suitable areas for wind energy developments. The WES areas and descriptions are set out in **Table 2-2** below.

Table 2-2: Cork County Council Wind Energy Strategy Area Designations

Cork County Council – Wind Energy Strategy Areas	
Strategy Areas	Description
<i>Acceptable in Principle -</i>	<i>Commercial wind energy development is normally encouraged in these areas subject to protection of residential amenity particularly in respect of noise,</i>

	<i>shadow flicker, visual impact and the requirements of the Habitats, Birds, Water Framework, Floods and EIA Directives and taking account of protected species of conservation concern.</i>
<i>Open to Consideration -</i>	<p><i>Commercial wind energy development is open to consideration in these areas where proposals can avoid adverse impacts on:</i></p> <ul style="list-style-type: none"> › <i>Residential amenity particularly in respect of noise, shadow flicker and visual impact;</i> › <i>Urban areas and Metropolitan/Town Green Belts;</i> › <i>Natura 2000 Sites (SPA's and SAC's), Natural Heritage Areas (NHA's), proposed Natural Heritage Areas and other sites and locations of significant ecological value.</i> › <i>Architectural and archaeological heritage;</i> › <i>Visual quality of the landscape and the degree to which impacts are highly visible over wider areas.</i> <p><i>In planning such development, consideration should also be given to the cumulative impacts of such proposals.</i></p>
<i>Normally Discouraged-</i>	<p><i>Commercial wind energy developments will be discouraged in these areas which are considered to be sensitive to adverse impacts associated with this form of development (either individually or in combination with other developments). Only in exceptional circumstances where it is clear that adverse impacts do not arise will proposals be considered.</i></p>

The Proposed Wind Farm is wholly located within the policy area designated as 'Open to Consideration' (OTC).

In summary, the CCDP and associated Cork CAP and WES fully recognises the importance of tackling climate change through the increased supply of renewable energy. Cork County Council seeks to support and facilitate the sustainable provision of a reliable energy supply in the County, with emphasis on increasing energy supplies derived from renewable resources. Furthermore, there are a range of policies in place which support the development of renewable energy.

The Proposed Wind Farm is located in area deemed OTC, demonstrating the site's appropriateness for wind energy development, subject to detailed assessment. Accordingly, the Proposed Wind Farm is considered to be compliant with the relevant provisions of the CCDP and represents proper planning and sustainable development in the functional area of CCC.

Wind Energy Development Guidelines 2006

In June 2006, the then Department of Environment, Heritage and Local Government (DoEHLG) published the Wind Energy Development Guidelines, 2006 (the Guidelines (DoEHLG, 2006)) under Section 28 of the Act. The aim of the Guidelines (DoEHLG, 2006) was to assist the proper planning of wind power projects in appropriate locations around Ireland. The Guidelines (DoEHLG, 2006) also highlight general considerations in the assessment of all planning applications for wind energy. They set out advice to planning authorities on planning for wind energy through the development plan process and in determining applications for planning permission. They contain guidelines to ensure consistency of approach throughout the country in the identification of suitable locations for wind energy development.

Each wind energy development has its own characteristics and defining features, and it is therefore impossible to write specifications for universal use. The Guidelines (DoEHLG, 2006) should be applied practically and do not replace existing national energy, environmental and planning policy. 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 (DoEHLG, 2006). Notwithstanding this, however, due to the timelines associated with the planning process for renewable energy projects and the commitment within the CAP25 to publish new wind energy guidelines for onshore wind in Q1 2026 it is possible that the Draft Guidelines (DoHPLG, 2019) may be adopted during the consideration period for the current planning application. Without benefit of the revised wind energy development guidelines for onshore wind, it is considered that since noise emissions and shadow flicker are controllable via inbuilt turbine technologies, therefore, the Proposed Wind Farm is capable of compliance with any future guideline limits in this regard.

Draft Wind Energy Development Guidelines 2019

The Department of Housing, Planning and Local Government (DoHPLG) published the Draft Revised Wind Energy Development Guidelines (the Draft Guidelines (DoHPLG, 2019)) in December 2019. A consultation process in relation to the Draft Guidelines (DoHPLG, 2019) concluded on the 19th of February 2020. A further review of the Draft Guidelines (DoHPLG, 2019) is currently underway by the Department of Housing, Local Government and Heritage (DoHLGH) and the Department of Environment, Climate and Communications (DoECC), particularly in relation to noise limits. Since the publication of the Draft Guidelines (DoHPLG, 2019), there have been significant changes in national policy regarding renewable energy targets, giving further impetus to the importance of the further review. The Draft Guidelines (DoHPLG, 2019) set out that that the proper planning and sustainable development of areas and regions must be considered when local authorities prepare their development plans and assess planning applications, irrespective of the significant role renewable energy has to play in tackling climate change.

The design of the Proposed Project has been developed with the provisions of the Draft Guidelines (DoHPLG, 2019) in mind (for example in relation to 4 times turbine tip height set back distance from third party sensitive receptors) and the inclusion of a standalone community report.

Scoping and Consultation

Ch. 2: Background to the Proposed Project; Section 2.8 of this EIAR presents details of the EIA Scoping undertaken with regards to the Proposed Project. A scoping report, EIAR scoping document, providing details of the Proposed Project, was prepared by MKO and circulated in January 2025. A follow up was issued in March 2025 to the relevant bodies who had yet to respond. The scoping document provided details of the Proposed Project and set out the scope of work for the EIAR. Consultees were invited to contribute to the EIAR by suggesting baseline data, survey techniques and potential impacts that should be considered as part of the assessment process and in the preparation of the EIAR.

Telecommunications operators were scoped at an earlier stage for the purposes of constraints mapping. Copies of all scoping responses received as of March 2026 are included in Appendix 2-2 of this EIAR. The recommendations of the consultees have informed the scope of the assessments undertaken and the contents of the EIAR.

Section 2.8.3 of this EIAR includes details of the community engagement undertaken by the Applicant with the wider communities with regards to the Proposed Project. Public consultation began in December 2024, through engagement with near neighbours, local representatives, and local community groups. This included door-to-door engagement with near neighbours within a c. 2 km radius of the developable area. A Community Liaison Officer was also appointed and a dedicated project website (<https://maughanacleainfo.com/>) with the relevant project information went live. On the 29th of April, the first Public Information Event was held in the Westlodge Hotel, Bantry. The objective of the

consultations was to ensure that the views and concerns of all were considered as part of the Proposed Project design and Environmental Impact Assessment (EIA) process. Appendix 2-1 of this EIAR contains a full and detailed community engagement report. The report was prepared to record the consultation carried out with the local community in respect of the Proposed Project. On the 24th of November 2025, a second public Information Event was held in Westlodge Hotel, Bantry. The objective of the second consultation was to update the public on the progress of the Proposed Project, following surveys and consultation.

The Proposed Project has the potential to have significant benefits for the local economy, by means of job creation, landowner payments and commercial rate payments. An important part of any renewable energy development, which Maughanaclea Ltd has been at the forefront of developing, is its Community Benefit Package. The concept of directing benefits from wind farms to the local community is promoted by the National Economic and Social Council (NESC) and the Wind Energy Ireland (WEI) among others. While it may be simpler and easier to put a total fund aside for a wider community area, the applicant is endeavouring to develop new ways to direct increased gain towards the local community with particular focus on those living closest to the Proposed Project.

Section 2.8.4 of this EIAR includes details of the pre-planning meetings undertaken prior to the planning application being lodged. Members of the project team and the Applicant met with representatives from An Coimisiún Pleanála on the 28th March 2025 via Microsoft Teams to discuss the Proposed Project under Section 37B of the Act. A letter received from An Coimisiún Pleanála dated the 10th of February 2026 stated that under Section 37B (4)(A), it is the opinion of the Commission that the Proposed Project falls within the scope of 37A(2)(a) and (b) of the Act. This confirmed that the Proposed Project constitutes SID and therefore the planning application should be made directly to An Coimisiún Pleanála.

The Applicant engaged with Cork County Council on the 17th February 2025 in accordance with Section 247 of the Planning and Development Act, 2000 (as amended) in relation to the Proposed Project. Cork County Council has responded to the Applicant stating

“I note that An Bord Pleanála have recently advised the Planning Authority that the Board have entered into pre-application consultations in relation to the above described proposed development. Please be advised that as the Board is the consenting authority in this case, the Planning Authority has no role in pre-application consultations at this stage.”

In light of this response, the Applicant acknowledges the position of Cork County Council, but they will remain available should CCC wish to discuss the project. The Applicant also engaged with engineers from CCC to discuss the proposals. The discussions covered several matters; reinstatement of the grid route, directional drilling to cross the River Bandon and the volume of cables proposed within the public corridor. The proposed grid route was accepted in these discussions and the proposed TDR was deemed to be acceptable.

Cumulative Impact Assessment

The EIA Directive and associated guidance documents state that as well as considering any direct, indirect, secondary, transboundary, short-, medium-, and long-term, permanent, and temporary, positive and negative effects of the project (all of which are considered in the various chapters of this EIAR), the description of likely significant effects should include an assessment of cumulative impacts that may arise. This description should take into account the environmental protection objectives established at Union or Member State level which are relevant to the project. The factors to be considered in relation to cumulative effects include population and human health, biodiversity, land, soil, water, air, climate, material assets, landscape, and cultural heritage as well as the interactions between these factors.

To gather a comprehensive view of cumulative impacts on these environmental considerations and to inform the EIAR process being undertaken by the consenting authority, each relevant chapter within this EIAR includes a cumulative impact assessment where appropriate.



The potential for cumulative impacts arising from other projects has therefore been fully considered within this EIAR.

A list of all cumulative projects considered as part of the application is included as Appendix 2-3.

Consideration of Reasonable Alternatives

Ch. 3: Site Selection & Reasonable Alternatives of the EIAR contains a description of the reasonable alternatives that were studied by the developer, which are relevant to the Proposed Project and its specific characteristics, in terms of site location and other renewable energy technologies as well as site layout incorporating size and scale of the Proposed Project, connection to the national grid and transport route options to the Proposed Wind Farm site. This section also outlines the design considerations in relation to the Proposed Wind Farm and Proposed Grid Connection. It provides an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects. The consideration of alternatives is an effective means of avoiding environmental impacts.

Alternative Site Locations

To ensure that the levelized costs of building each megawatt of electricity-generating capacity on a wind farm is controlled efficiently, it is incumbent on the design team to ensure that the most suitable site for development of a wind farm development is chosen. The process of identifying a suitable location for a development such as the Proposed Project is influenced by a number of factors. While wind speeds, the extent of suitable or available land, proximity to the grid connection point, and planning policy are all very important, a wind farm project must be commercially viable/competitive, as otherwise it will not attract the necessary project finance required to see it built.

The Site has been identified as having potential for a wind energy development as a result of a nationwide search of suitable lands. The site selection process has been constraints and facilitators led. Facilitators are factors that give an advantage to a proposed project, while constraints are restrictions that inform the location and design of a project by highlighting sensitivities. A constraints analysis was undertaken and included avoidance of environmental designations (Natura 2000 sites), review of national, regional and local policies and objectives, suitable wind speeds, adequate setbacks from sensitive receptors, proximity to national grid nodes, avoidance of direct impacts on known cultural heritage assets, access, and constructability

Alternative Renewable Energy Technologies

Both onshore and offshore wind energy development will be required to ensure Ireland reaches the target set in the Climate Action Plan 2025 (CAP25) to source 80% of our electricity from renewable energy by 2030. It is not a case of 'either' 'or'. When considering other renewable energy technologies in the area, the Applicant considered offshore wind and commercial solar energy production as an alternative to the Proposed Wind Farm. Although the screening exercise was based on identifying lands for onshore wind development; another alternative source of renewable electricity generation is offshore wind energy.

Enerco Energy Ltd has a keen interest in offshore wind farms and has explored potential offshore sites. However, it is considered that due to delays with the regulatory process for offshore development, a combination of both onshore and offshore wind farm development will continue to be required to deliver on the ambitious renewable energy targets set out under CAP25 which include focusing on onshore wind energy developments to reach the 2025/2030 renewable energy targets. As such, Enerco's primary focus remains to be onshore wind farms, and they will continue to explore potential development offshore in tandem with delivering suitable sites onshore such as the Proposed Project.

The amount of electrical energy output from renewable generation is generally described in terms of capacity factor. The capacity factor relates to the amount of energy that may be achieved from a renewable technology over the period of one calendar year. Generally solar PV has a lower capacity factor than wind generation. One factor in the energy yield difference is that solar PV does not produce

electrical energy at night, but the wind can blow at any time of the day or night. The Proposed Wind Farm site is located within the F wind region for Ireland, as outlined in the EirGrid report 'Enduring Connection Policy 2.3 Solar and Wind Constraints Report: Assumptions and Methodology'¹. The capacity factor for wind in this region is 37% (0.37). If solar PV was to be deployed on the Proposed Wind Farm site, it would be located within the Solar South region of Ireland as outlined in the same EirGrid report. The capacity factor for solar in this region is 13.3% (0.133).

A solar PV array of the scale necessary to provide the same electricity output as the Proposed Wind Farm Site would require a footprint of approx. 134.4 hectares² or 11.6% of the overall Site. In addition, a solar development of this scale, would have a higher potential environmental effect on Traffic and Transport (construction phase), Air Quality (construction phase) and Biodiversity and Ornithology (habitat loss), a greater potential for direct impacts on unknown subsurface archaeology (construction phase) and glint and glare at the Site (operational phase). Furthermore, the implementation of a solar development would require the removal of the existing forestry, resulting in additional environmental and landscape impacts. In contrast, a wind energy development allows for the continued co-existence of the forestry, thereby minimising land use change and preserving existing habitats.

Taking into account the factors outlined above, and considering the farming practices in the area, it has been determined that wind energy is the most suitable renewable energy technology for the Site with the lesser potential for significant, adverse environmental effects.

Alternative Turbine Numbers and Model

Modern wind turbines have a potential power output in the 4 - 7 megawatt (MW) range. It is proposed to install 14 no. turbines at the Proposed Wind Farm which will have an estimated installed capacity of 67.2 MW. Such a wind farm could also be achieved on the Proposed Wind Farm site by using smaller turbines (for example, 2.5 MW machines). However, this would necessitate the installation of almost 27 turbines to achieve a similar output. A larger number of smaller turbines would result in the wind farm occupying a greater footprint within the Proposed Wind Farm site, with a larger amount of supporting infrastructure being required (i.e., roads, hardstands, etc) and increasing the potential for environmental impacts to occur. An estimated capacity of 67.2MW could also be achieved using larger turbines (for example, 6.7MW machines). In this case, only 10 turbines would be required to achieve a similar output. While a smaller number of turbines would occupy a lower overall footprint, taller turbines could have a greater effect on the overall landscape. The proposed number of turbines takes account of all site constraints and the distances to be maintained between turbines and features such as roads and houses, while maximising the wind energy potential of the Proposed Wind Farm. The 14-turbine layout selected for the Proposed Wind Farm is considered to strike the right balance compared to the other alternatives considered in relation to overall development footprint, reducing the potential for environmental effects, while still achieving the optimum output at a more consistent level than would be achievable using different turbines.

Alternative Turbine Layout and Development Design

The design of the Proposed Wind Farm has been an informed and collaborative process from the outset, involving the designers, developers, engineers, landowners, environmental, hydrological and geotechnical, landscape, archaeological, and traffic specialists. All have had the objective of reducing

¹ EirGrid (2024) Enduring Connection Policy 2.3 Solar and Wind Constraints Report: Assumptions and Methodology <<https://cms.eirgrid.ie/sites/default/files/publications/ECP-2.3-Solar-and-Wind-Constraints-Report-Assumptions-and-Methodology-v1.1.pdf>>

² Approximately 1.6 - 2 ha are required for each MW of solar panels installed based on approximately 4000 panels per MW (taken from the Sustainable Energy Authority Solar Energy FAQ publication which can be accessed here: https://www.seai.ie/publications/FAQs_on_Solar_PV.pdf). For the purposes of comparison, a minimum value of 1.6 ha has been assumed.

the potential for environmental effects while designing a project that is capable of being constructed and viable.

Throughout the preparation of this EIAR, the layout of the Proposed Wind Farm has been revised and refined to take account of the findings of all site investigations and baseline assessments, which have brought the design from its first initial layout to the current Proposed Wind Farm layout. The design process has also taken account of the recommendations and comments of the relevant statutory and non-statutory consultees, the local community and local authorities as detailed in Chapter 2 of the EIAR, while still seeking to ensure a viable project which can ultimately be constructed and connected to the national grid.

Alternative Grid Connection Options

As the turbine layout was finalised, the most suitable routes between each component of the Proposed Project were identified, taking into account the shortest routes and existing forestry tracks and filtering out the physical and environmental constraints of the Site and the associated buffers, and utilising the most direct route between turbines in order to minimise the footprint.

Alternative Borrow Pit Options

A review of potential construction phase borrow pit locations was carried out by geotechnical experts, Fehily Timoney & Company Ltd. (FT), with on-site investigations carried out by Irish Drilling Ltd. under the supervision of FT. Site surveys were undertaken and existing GIS data and environmental constraints were also considered, namely aerial photography, soil and subsoil cover, biodiversity (habitats), onsite drainage and hydrology, proximity to the existing and proposed internal road network, and proximity to sensitive receptors. Arising from this process, 16 no. trial pit locations were selected over the Proposed Wind Farm site.

Alternative Enhancement Area Proposals

The selection of the proposed biodiversity management and enhancement areas within the Proposed Wind Farm site was an iterative process. This section looks to identify the development and iterative process of the enhancement and mitigation locations. The final enhancement and mitigation measures are detailed within Appendix 6-4: Biodiversity Management Enhancement Plan (BMEP). The aim of the biodiversity enhancement areas is to facilitate the enhancement of peatland, native woodland planting and enhancement of Kerry Slug habitat within the Proposed Wind Farm site.

Alternative 110kV Substation Option

The identification of a suitable substation location was informed by a range of environmental, technical, and socio-economic considerations. Site selection was undertaken with the objective of minimising potential environmental effects while ensuring technical and operational feasibility. The principal constraints and features assessed as part of this process included:

- › **Minimum distance from turbines** – typically at least 2 times the turbine fall distance, to ensure safety and compliance with regulations.
- › **Natural screening** – preference for locations that benefit from existing topography or vegetation to reduce visual impact.
- › **Grid connection feasibility** – proximity to the national grid, with a focus on achieving the shortest and most efficient cable route to minimise land disturbance and potential environmental effects.
- › **Proximity to residential receptors**, ensuring appropriate separation distances from dwellings to limit potential effects related to noise, visual impact, and general amenity.

- › **Ecological and Environmental constraints**, avoidance of designated sites, sensitive habitats, protected species, watercourses, flood zones, national monuments etc.
- › **Land availability**– suitability of land size, access rights, and landowner agreements.
- › **Planning and regulatory constraints** – compliance with local planning policies, zoning, and statutory requirements.

Based on the above two separate options were evaluated for the proposed 110kV onsite substation location. A substation location was chosen within the existing Coillte forestry. This chosen location was deemed to be suitable due to the low ecological value of the habitats it is located on, proximity to the local road network for which to facilitate the connection of the Proposed Wind Farm to the national grid, the presence of screening, and the existing ground conditions

Alternative Grid Connection Options

The Proposed Wind Farm will connect to the national grid via underground electrical cabling, located primarily within the public road corridor, with a short section passing through the existing on-site access track (which will be upgraded) within the Site. Underground electrical cables will transmit the power output from each wind turbine to the proposed onsite 110kV substation, and from there to the existing Dunmanway 110kV substation, via an underground electrical cabling route, measuring approximately 20.5 km in length.

A key consideration in determining the grid connection method for a proposed wind energy development is whether the cabling is underground or run as an overhead line. An alternative to the c. 20.5 km underground cabling route would be to construct an approx. 15km overhead line from the proposed onsite substation to the existing 110kV Dunmanway substation. While overhead lines are less expensive and allow for easier repairs when required, underground cabling will have no visual impact. While overhead lines are less expensive and allow for easier repairs when required, underground lines will have no visual impact. For this reason, it was considered that underground lines would be a preferable alternative to overhead lines. The Guidelines (DoEHLG, 2006) also indicate that underground cables are the preferred option for connection of a wind energy development to the national grid. The underground electrical cabling will follow the route of existing public roads, thereby minimising the amount of ground disturbance required and will have a reduced permanent visual impact due to the placement of the cabling route underground, with no above ground infrastructure visible in the operational phase.

Additionally, consideration was given to installation of the grid connection within private lands adjacent to the public road network. However, as the existing Dunmanway 110kV substation is located approximately 15 km southeast of the proposed 110kV onsite substation (as the crow flies), it was considered that this was not a feasible option, due to the need for constructing 9.4 km of new road across private lands to facilitate the construction and operation of the underground cabling.

The Megawatt (MW) output of the Proposed Wind Farm is such that it needs to connect to a 110kV substation. There are 8 no. existing 110kV electricity substation located within 25km of the Proposed Wind Farm, namely:

- › Dunmanway 110kV substation
- › Carrigdangan 110kV substation
- › Ballylickey 110kV substation
- › Clonkeen 110kV substation
- › Coomagearlahy 110kV substation
- › Glanlee 110kV substation
- › Coomataggart 110kV substation
- › Coomagearlahy 110kV substation

Following initial grid connection studies, Dunmanway 110kV substation was identified as the optimum connection node for the Proposed Project. An underground grid connection underground cabling route

to Dunmanway 110kV substation was considered and assessed to identify whether it was a viable option. This assessment outlines 2 no. possible routes from the Proposed Wind Farm to Dunmanway 110kV substation, which were considered during the iterative design process. The early iterative design process also explored the potential of connecting to the Proposed Wind Farm to the Carrigdangan 110kV Substation.

The Proposed Grid Connection has been revised and refined to take account of the findings of the site investigations and baseline assessments.

Alternative Turbine Component Delivery Option and Site Access Points

The ports considered for the port of entry of wind turbine components into Ireland for the Proposed Wind Farm site include Dublin Port, Shannon-Foynes Port, the Port of Cork, and the Port of Galway. The Port of Cork is the principal deepwater facility on the South Coast and caters for dry bulk, break bulk, liquid and project cargoes. The Port of Cork also offers a roll-on roll-off procedure to facilitate import of wind turbine components. All of the aforementioned ports have been used for the importing of turbine components. As stated, all ports mentioned above have a proven track record in the handling and subsequent transport of large turbine components. The final selection will be driven by commercial, availability and scheduling considerations. There are clear access routes for all four ports utilising the motorway network to the proposed haul route to the Site. For the purpose of this EIAR, the Port of Cork, in Ringaskiddy, Co. Cork was selected as the port of entry for the proposed turbines due to its proximity and ease of access to the Proposed Wind Farm, and has been assessed in detail in Chapter 15 of this EIAR.

The Proposed Wind Farm is located approximately 32km southwest of the N22/R585 junction and, as such, delivery of turbine components from this direction were considered as part of the iterative design process for the Proposed Project. The proposed Turbine Delivery Route (TDR) leaves Ringaskiddy on Ringaskiddy Rd (N28), following the N28 right onto Carr's Hill, merging onto the Cork south Ring Rd (N40), continuing on the N22 until turning southwest onto the R585 Regional Road. The TDR continues on the R585 before reaching the Site in the townland of Maughanaclea where it will turn left onto the existing access track to reach the southern turbine cluster, or turn right onto the new proposed site entrance off the R585 to reach the northern turbine cluster.

This route has been proven suitable for the transport of turbine components, and the transport analysis has determined that only minor accommodation works will be required to accommodate the proposed turbine components. The turbine transport route will utilise the national and regional roads available to ensure the road network holds the capacity to manage large loads.

It should be noted that all component deliveries (abnormal loads) will be undertaken as described in the Traffic Management Plan in Appendix 15-2, which will be submitted and agreed with the local authorities and roads authorities upon consent of this application. All component deliveries will be subject to escort by An Garda Siochana. All manoeuvres around junctions and into the Site entrances will be supervised by a qualified team of turbine delivery experts. The abnormal load entrance will be temporary in nature, over a short period of the construction phase only. The abnormal load entrance will be reinstated after all abnormal loads have been delivered to the Site. However, should replacement components be required, this entrance will be temporarily reopened to facilitate such works. Please see section 15.1.9 of Chapter 15: Material Assets for further details.

There are a number of existing access points to the Site. These comprise the existing site access road to the southern turbine cluster, as well as private farm access points and the local road network to both the northern and southern turbine clusters. An initial review of these existing locations was carried out to identify the most suitable locations for wind farm construction and operational site entrances.

In the northern turbine cluster, the existing farm entrances off the L-8777 and L-87771 local roads were deemed unsuitable for construction traffic due to the lack of adequate sightlines and significant areas of land take that would be required. Use of these local roads were not considered appropriate from a

traffic management perspective. Therefore, a new construction site entrance off the R585, which has achieved the necessary sightlines, is proposed for general construction (inclusive of abnormal load delivery) and operational access, and is also considered suitable as an operational entrance for maintenance staff.

It was considered the most appropriate and environmentally prudent option to utilise the existing entrance and access road to the southern turbine cluster for general construction (inclusive of abnormal load delivery) and operational access. The upgrading of this site entrance, as described in Chapter 15, will achieve the necessary sightlines that are proposed for general construction (inclusive of abnormal load delivery) and operational access, and is considered suitable as an operational entrance for maintenance staff and ESBN (for substation access).

Alternative Mitigation Measures

Mitigation by avoidance has been a key aspect of the Proposed Project's evolution through the selection and design process. Avoidance of the most ecologically sensitive areas and geotechnically unstable areas of the site limits the potential for environmental effects. As noted above, the layout aims to avoid any environmentally sensitive areas. Where loss of habitat occurs at the Site, this has been offset with the proposal of habitat enhancement and improved habitat connectivity with hedgerow planting at the Proposed Wind Farm site.

The best practice design and mitigation measures set out in this EIAR will contribute to reducing any risks and have been designed to break the pathway between the Site and any identified environmental receptors. The alternative is to either not propose these measures, or propose measures which are not best practice and effective, and neither of these options are sustainable.

Description of the Proposed Project

Ch. 4: Description of the Proposed Project describes the Proposed Project and all of its component parts. Consultation with An Coimisiún Pleanála confirmed that the Proposed Project will be subject to a single consenting process, with development relating to the Proposed Wind Farm and the Proposed Grid Connection being made to An Coimisiún Pleanála under Section 37E of the Planning and Development Act, 2000, as amended.

The Proposed Wind Farm site is located within a rural setting in west Co. Cork, approximately 2.3km east of the village of Kealkill, 9.5km northeast of the town of Bantry, and 12.2km west of Dunmanway. The nearest Natura 2000 site to the Proposed Wind Farm site, i.e., Special Area of Conservation (SAC) or Special Protection Area (SPA), is the Derryclogher (Knockboy) Bog SAC which is located approximately 7km northwest of the nearest proposed turbine (T13). Elevations within the Proposed Wind Farm site range from ~428mOD (metres above Ordnance Datum) to ~132mOD.

The Proposed Grid Connection consists of c.20.5km of 110kV underground electrical cabling from the proposed 110kV onsite substation, in the townland of Maughanaclea, Co. Cork to the existing Dunmanway 110kV substation in the townland of Ballyhalwick, Co. Cork to facilitate the connection of the Proposed Wind Farm to the national electricity grid. The Proposed Grid Connection is primarily located along the public road corridor, with a short section located across private land/tracks. The Proposed Grid Connection follows the R585, L4909, L4609, L4615, R587, R586, and the R586 to the existing Dunmanway 110kV substation. The townlands that the Proposed Grid Connection will pass through are detailed in Table 1-1 of Chapter 1: Introduction. The nearest Natura 2000 site to the Proposed Grid Connection is the Bandon River SAC. A section of the Proposed Grid Connection overlaps with the Bandon River SAC. Please see Section 4.4.2 for further details on the Proposed Grid Connection.

Current land-use on the Proposed Wind Farm site is predominantly commercial forestry, with agricultural pastures and rough grazing also present. Current land-use along the Proposed Grid Connection comprises of the public road corridor, public open space, pastures, and private land principally used by agriculture. Land-use on the wider landscape comprises a mix of pastoral agriculture, low-density residential, and small-scale commercial properties.

The existing uses of the site for agriculture and forestry will continue in conjunction with the Proposed Project.

The overall layout of the Proposed Project is shown on Ch. 4: Description of the Proposed Project, Figure 4-1. This drawing shows the proposed locations of the wind turbines, proposed 110kV substation, meteorological (met) mast, the underground electrical cabling route to the Dunmanway 110kV Substation, peat and spoil management areas, borrow pits, temporary construction compounds, internal access roads and hardstand areas, biodiversity management and enhancement areas, and the site entrances, which include proposed turbine delivery temporary accommodation works.

The proposed wind turbine layout has been optimised using wind farm design software (WindPro) to maximise the energy yield from the Proposed Wind Farm, while maintaining sufficient distances between the proposed turbines to ensure turbulence and wake effects do not compromise turbine performance. The Grid Reference coordinates of the proposed turbine locations are listed in Table 2 below. The final finished level of the top of turbine foundations will be determined by the actual ground conditions at each proposed turbine location and may differ slightly from those levels listed in Table 2.

Table 2 Proposed Wind Turbine Locations and top of foundation level

Turbine	ITM Coordinates		Top of Foundation Elevation (mOD)
	Easting	Northing	

T1	512234	559029	308
T2	511718	558777	290
T3	511969	558466	258
T4	510753	558366	212
T5	511153	558170	276
T6	511548	557969	220
T7	510300	555783	348
T8	509807	555268	376
T9	509359	555344	316
T10	508872	555280	300
T11	508449	555395	290
T12	508113	555660	246
T13	507799	555873	232
T14	507383	555284	224

The proposed wind turbines to be installed on the Proposed Wind Farm site will have a ground-to-blade tip height, hub height and blade length within the following, limited, ranges:

- > Tip Height – 169m
- > Hub Height – 102.5m
- > Rotor Diameter – 133m

Modern wind turbine generators currently have a typical generating capacity in the 4 to 7 MW range, with the generating capacity continuing to evolve upwards as technology improvements are achieved by the turbine manufacturers. Turbines of the exact same make, model and dimensions can have different generating potential depending on the capacity of the electrical generator installed in the turbine nacelle. The exact generating capacity of the installed turbine will be designed to match the wind regime on the Proposed Wind Farm site and will be determined by the selected manufacturer.

Please note, the MW output of the Proposed Wind Farm is considered to be a consequence of turbine design and not a physical attribute on which it is possible to measure or assess the impact of. For the purposes of this EIAR, a rated output of 4.8 MW has been chosen to calculate the potential generating capacity of the proposed 14-turbine renewable energy development, which would result in an estimated installed capacity of 67.2MW.

The Proposed Wind Farm makes use of the existing road network insofar as possible. It is proposed to upgrade approximately 2.1km of existing roads and tracks, and to construct approximately 12.1km of new access road on the Proposed Wind Farm site. It is proposed to construct 3 no. passing bays along the proposed access road network in order to allow construction traffic to safely pass each other while travelling in opposite directions. Areas such as wide junctions and proposed hardstands will also be used as passing bays throughout the construction phase of the Proposed Wind Farm. A new floating road, approximately 85 metres in length, will be constructed in a single area on the Proposed Wind

Farm site (to the east of T14) where the peat depth is in excess of 3m and the slope angle is less than a 5 degree slope.

It is proposed to construct a clear-span watercourse crossing at the 5 no. locations where new watercourse crossings are required within the Proposed Wind Farm site. Within the Proposed Wind Farm site, there are a total of 3 no. existing watercourse culvert crossing location that will require upgrading.

There are 3 no. temporary construction compounds proposed as part of the Proposed Wind Farm. All temporary construction compounds will be removed as part of the post-construction reinstatement works of the Proposed Wind Farm. The concrete foundation of these compounds will be left in situ and will be left to revegetate naturally.

Each turbine will be connected to the proposed 110kV onsite substation via underground 33 kV (kilovolt) electricity cabling. Fibre-optic cables will also connect each wind turbine and the meteorological (met) mast to the proposed 110kV onsite substation. The electricity and fibre-optic cabling connecting to the proposed 110kV onsite substation compound will be run in cable ducts approximately 1.2 metres beneath ground level, along the sides of roadways and/or under the roadways. The route of the cable ducts will follow the access track to each turbine location and are illustrated on the site layout drawings included as Appendix 4-1. The exact number and configuration of cable ducting may vary within the cabling trench. The cabling may be placed on either side of the roads, on both sides of the road and/or within the road. The exact configuration of the underground cabling will be set by the requirements of the electrical designers at detailed design stage. Any existing services will be avoided.

One metrological (met) mast is proposed as part of the Proposed Wind Farm. The met mast will be equipped with wind monitoring equipment at various heights. The mast will be a free-standing slender lattice structure 30 metres in height. The mast will be constructed on a hard standing area sufficient to accommodate the equipment that will be used to erect the mast.

There will be 2 no. temporary security cabins within the Proposed Wind Farm site, one of which will be located in the Proposed Wind Farm's northern turbine cluster along the proposed site access road, just before the L-8777 Local Road. In the southern cluster, a temporary security cabin will be located just inside the existing site entrance off the R585.

It is proposed to construct a 110 kV onsite substation within the Proposed Wind Farm site. The proposed 110kV onsite substation is located within commercial forestry land and will be accessed via the existing access road to the southern cluster.

Two wind farm control buildings will be located within the proposed 110kV onsite substation compound. The Independent Power Producer (IPP) Control Building will measure approximately 18 metres by 7.8 metres and 6 metres in height. It will be located at the western edge of the proposed 110kV onsite substation compound. The EirGrid Control Building will be located towards the centre of the proposed 110kV onsite substation compound and will measure approximately 25 metres by 18 metre and 7 metres in height. As part of the proposed 110kV onsite substation, 2 no. storage containers will be located adjacent to eastern boundary of the proposed 110kV onsite substation compound.

Three different types of enhancement areas within the Proposed Wind Farm site have been proposed for biodiversity enhancement measures as part of the Proposed Project and to enhance the Proposed Wind Farm site for species and habitats known to occur within the Proposed Wind Farm site.

› **Kerry slug enhancement areas**

The necessary bat felling buffers for the Proposed Project will be managed as peat and spoil management areas and to enhance Kerry slug habitat, as this species is known to occur within the Proposed Wind Farm site. Enhancement will include the felling of existing conifer plantations within the 3 no. felling buffers and leaving the stumps in place and to protrude

from the additional peat and spoil deposits, as these provide refuge for this species. These areas combined amount to approx. 3.9 ha.

› **Native woodland planting**

0.54ha of forestry within the Proposed Project will be felled and planted with native woodland. This habitat will connect to a parcel of previously established native woodland and will be located at the boundary of a larger area of conifer plantation. Planting will follow recommendations to establish an oak woodland.

› **Peatland enhancement**

The peatland enhancement area encompasses an area of recently afforested conifer plantation and degraded wet heath habitat. The peatland enhancement area will cover an area of approx. 5.3 ha.

Population and Human Health

One of the principal concerns during the development process is that human beings, as individuals or communities, should experience no significant diminution of their quality of life from the direct, indirect or cumulative effects arising from the construction, operation and decommissioning of a development. Ultimately, all the effects of a development impinge on human beings, directly and indirectly, positively and negatively. The key issues examined in this chapter of the EIAR include population, human health, employment and economic activity, land use, residential amenity (including visual amenity, shadow flicker and noise), community facilities and services, tourism, property values, traffic and health and safety.

The Proposed Wind Farm site is located within a rural setting in west Co. Cork, approximately 2.3 km east of the village of Kealkill, 9.5 km northeast of the town of Bantry, and 12.2 km west of Dunmanway. The Site is made up of two turbine clusters, a northern and southern turbine cluster. The R585 regional road runs in an east-west direction between the northern and southern turbine cluster of the Proposed Wind Farm, passing within approximately 890 metres of the nearest turbine. Please refer to Ch. 1: Introduction for the Site location context. The Site covers an area of approximately 1,175 hectares in total. The proposed site entrance for the Proposed Wind Farm's northern turbine cluster will consist of a new access point off the R585, while the southern turbine cluster is accessed via an existing forestry road off the R585. The Proposed Wind Farm site is also served by a number of existing agricultural and forestry tracks. The Proposed Wind Farm falls within the townlands listed in Table 1-1 of Ch. 1: Introduction. All townlands are located in Co. Cork.

The design, construction, operation and decommissioning of the Proposed Wind Farm will provide employment for technical consultants, contractors and maintenance staff. It is anticipated that 100 employees will be hired throughout the duration of the construction works of the wind farm, which are expected to take 18-24 months. During construction, additional employment will be created in the region through the supply of services and materials to the Proposed Project. The construction phase of the Proposed Project will last between approximately 18 – 24 months. The majority of construction workers and materials will be sourced locally where available, thereby helping to sustain employment in the construction trade. This will have a short-term significant positive effect.

The injection of money in the form of salaries and wages to those employed during the construction phase of the Proposed Project has the potential to result in an increase in household spending and demand for goods and services in the local area. This would result in local retailers and businesses experiencing a short-term positive effect on their cash flow.

There is currently no published credible scientific evidence to positively link wind turbines with adverse health effects. The main publications supporting the view that there is no evidence of any direct link between wind turbines and health are summarised in Ch. 5: Population and Human Health. Similarly, there is insufficient evidence from the scientific literature discussed in Ch. 5: Population and Human Health to credibly determine that there is the potential for a significant effect on property values in Ireland, or abroad, as a result of the Proposed Project.

Shadow flicker is an effect that occurs when rotating wind turbine blades cast shadows over a window in a nearby property. Shadow flicker is an indoor phenomenon, which may be experienced by an occupant sitting in an enclosed room when sunlight reaching the window is momentarily interrupted by a shadow of a wind turbine's blade. Shadow flicker lasts only for a short period of time and occurs only during certain specific combined circumstances. The Guidelines (DoEHLG, 2006) recommend that shadow flicker at neighbouring dwellings within 500 metres of a proposed turbine location should not exceed a total of 30 hours per year or 30 minutes per day. It is further noted that at distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low, and therefore the Shadow Flicker Study Area is set at 1.63km (10 x rotor diameter 1.63km). There are 79 no. sensitive receptors located within 1.63km of the proposed turbine locations.

WindPro computer software (version number 4.0.552) was used to model the predicted daily and annual shadow flicker levels in significant detail, identifying the predicted daily start and end times, maximum daily duration and the individual turbines predicted to give rise to shadow flicker.

The model results assume worst-case conditions, including:

- › 100% sunshine during all daylight hours throughout the year,
- › An absence of any screening (vegetation or other buildings),
- › That the sun is behind the turbine blades,
- › That the turbine blades are facing the property, and
- › That the turbine blades are moving.

The predicted shadow flicker levels have been modelled for all 79 no. sensitive receptors located within the Shadow Flicker Study Area. The predicted shadow flicker model results indicate:

- › 38 no. sensitive receptors are theoretically predicated to experience zero shadow flicker;
- › 41 no. sensitive receptors are theoretically predicated to experience some shadow flicker;
 - Of the 41 sensitive receptors, 30 sensitive receptors are theoretically predicted to experience shadow flicker that exceeds the Guideline thresholds for daily and/or annual shadow flicker. It should be noted that 9 no. of these 30 no. sensitive receptors are involved landowners and 1 no. is in a derelict condition. As a result, no mitigation measures are required for these 10 no. properties.
- › The annual threshold of over 30 hours for shadow flicker Guidelines (DoEHLG, 2006) is predicted to be exceeded at 8 no. sensitive receptors once the regional sunshine average factor of 33.40% has been considered. It should be noted that 2 no. of these 8 no. sensitive receptors are involved landowners, and 1 no. is in a derelict condition.

For the assessment of cumulative shadow flicker, any other existing, permitted, or proposed wind farms are considered where the project's 10 times rotor diameter shadow flicker study area is located within the Shadow Flicker Study Area of 10 times the rotor diameter for the Proposed Wind Farm. In this case, the only wind farm which has an intersecting shadow flicker study area is the proposed Gortloughra Wind Farm located approximately 2km northeast of the Proposed Wind Farm. As such, the 10 times rotor diameter shadow flicker study area for this proposed project would overlap with that of the Proposed Wind Farm 10 times rotor diameter Shadow Flicker Study Area.

Of the 79 no. properties within the Shadow Flicker Study Area of the Proposed Wind Farm, 3 no. dwellings fall within the cumulative Shadow Flicker Study Area. 1 no. property has the potential to experience cumulative shadow flicker impacts, when the proposed Gortloughra Wind Farm is assessed alongside the Proposed Wind Farm.

Section 5.4 of Ch. 5: Population and Human Health details the mitigation measures which will be employed at the potentially affected properties to ensure that the current adopted Guidelines (DoEHLG, 2006) are complied with at any property within the Shadow Flicker Study Area. The same mitigation measures (with stricter implementation of shadow flicker controls) also demonstrate that the proposed turbines can be operated in accordance with the shadow flicker requirements of the Draft Guidelines (DoHPLG,2019), should they be adopted as currently proposed, while the planning application is being determined.

The Proposed Project will be constructed, operated and decommissioned in accordance with the design, best practice and mitigation that is described within this EIAR, ensuring that significant effects on population and human health employment and economic activity, land-use, residential amenity,



community facilities and services, tourism, property values and health and safety are not anticipated at international, national or county scale.

Biodiversity

This chapter assesses the likely significant effects (both alone and cumulatively with other projects) that the Proposed Project may have on Biodiversity (excluding birds, assessed in Chapter 7 of the EIAR), and sets out the mitigation measures proposed to avoid, reduce or offset any potential significant effects that are identified.

To inform the assessment, a comprehensive desk study, NPWS consultation, and suite of field surveys have been carried out. Multidisciplinary walkover surveys were undertaken between 2024 and 2025. Habitat surveys of the Proposed Project site covered the recognised optimum period for vegetation surveys/habitat mapping, i.e. April to September (Smith *et al.*, 2011). Dedicated species/habitat specific surveys including for bats, Kerry slug, protected mammals and detailed botanical assessment surveys were carried out. In addition, fisheries surveys and aquatic macroinvertebrate surveys have been undertaken as part of the detailed baseline assessment, the detailed results of which are provided in technical appendices to this EIAR.

The multi-disciplinary walkover surveys comprehensively covered the lands within the EIAR Site Boundary and based on the survey findings, further detailed targeted surveys were carried out for features and locations of ecological significance. These surveys were carried out in accordance with NRA Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes (NRA, 2009).

During the multidisciplinary surveys, a search for Invasive Alien Species (IAS) listed under the Third Schedule of the European Communities Regulations 2011 (S.I. 477 of 2015) was also conducted.

The habitats on the Site were the subject of a detailed survey and assessment and habitat mapping. This habitat mapping and assessment was undertaken following the 'A Guide to Habitats in Ireland' (Fossitt, 2000)³. Wet heath and blanket bog habitats have also been assessed according to the guidance set out in Irish Wildlife Manual No. 79⁴.

The Proposed Wind Farm site is dominated by conifer plantation (WD4), degraded wet heath (HH3), upland blanket bog (PB2), wet grassland (GS4) and dry-humid acid grassland (GS3). The Proposed Wind Farm Site is drained by the Owngar River, the Owvane River and Mealagh River. The Proposed Grid Connection crosses the Bandon River.

Article 17 mapped habitats are present within the EIAR site boundary. These areas were identified early in the design stage of the Proposed Project, and based on subsequent field surveys and detailed botanical assessments, the site layout has been designed to avoid good quality Annex I habitats.

The Proposed Wind Farm is located within the *Margaritifera* catchment Dunmanus-Bantry-Kenmare catchment of other extant populations. The Proposed Grid Connection is located within the Bandon and Caha *Margaritifera* catchments of SAC populations listed under regulations S.I. No. 296/2009 - The European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations 2009. Along the Proposed Grid Connection, there are 11 no. surface water crossing points. The Proposed Grid Connection will be emplaced primarily along the road carriageway therefore no instream works will occur, and no bridge/ culvert alterations are proposed. The Proposed Grid Connection crosses through the Bandon River SAC.

A Biodiversity Management and Enhancement Plan is proposed as part of the Proposed Project. It is proposed to fell an area of 5.4ha of young conifer plantation in the northern section of the Proposed Wind Farm site, in areas where Wet Heath (HH3) habitat previously existed. The restoration efforts will restore the formerly occurring wet heath habitat to this area. It is also proposed to plant 0.54ha of native

³ A Guide to Habitats in Ireland' (Fossitt, 2000).

⁴ https://www.npws.ie/sites/default/files/publications/pdf/IWM79_0.pdf

woodland. A section of immature native woodland is located in the southern cluster. This section of immature native woodland is surrounded by conifer plantation. It is proposed to fell an area of the conifer plantation and replace this with native woodland. This area has been strategically chosen to link up with identified bat commuting corridors within the Proposed Wind Farm site, will comprise native tree species of various age structures and will be of greater biodiversity value than the habitats being lost.

The construction of the Proposed Wind Farm will result predominantly in the loss of conifer forestry, degraded wet heath and grassland habitats. There will also be a loss of degraded upland blanket bog habitat. The Proposed Grid Connection will not result in the significant permanent loss of any habitat. As part of the Biodiversity Management and Enhancement Plan it is proposed to enhance peatland which currently encompasses an area of recently afforested conifer plantation and degraded wet heath habitat. The peatland enhancement area will cover an area of approx. 5.3 ha.

Bat species composition and abundance was found during detailed bat surveys undertaken at the Proposed Project site to be typical of the geographic location and nature of the Proposed Project site. Bats as an Ecological Receptor have been assigned Local Importance (Higher value) on the basis that the habitats within the study area are utilized by a regularly occurring bat population of Local Importance. Following the implementation of mitigation, no potential for residual significant effects with regard to loss of commuting and foraging habitat, loss or damage to roosts, displacement or other construction phase impacts have been identified. In relation to potential collision risk and injury with operational turbines, a bespoke adaptive monitoring and mitigation strategy has been devised for the Proposed Project in line with NatureScot (2021)⁵ Guidance, which will ensure that there is no potential for significant residual effects on local bat populations during the operational phase of the Proposed Project.

No otter holts or couches were identified within the Proposed Wind Farm site or along the Proposed Grid Connection. Evidence of otter activity in the form of spraint was found on the Gortnacowly River (a tributary of the Mealagh River), within the southern section of the Proposed Wind Farm. There is no potential for direct loss or fragmentation of significant otter habitat including loss of breeding or resting places. Given that no otter holts or resting places were recorded within the Proposed Project site, no direct mortality, significant disturbance or any barrier to the movement of otter is anticipated.

Dedicated surveys for Kerry slug were carried out in 2025. Hand searches confirmed the presence of Kerry slug at one location within the Proposed Wind Farm, within an area of recently felled woodland within the south of the Proposed Wind Farm site. A derogation licence for survey and translocation of the species in advance of and during construction of the Proposed Project has been obtained and is appended to Chapter 6 of the EIAR. The Biodiversity Management and Enhancement Plan also includes for the creation of additional suitable breeding habitat for the species. No potential for residual significant effect on the species is anticipated.

No residual significant effects on surface water quality, groundwater quality or the hydrological/hydrogeological regime were identified during construction, operation, or decommissioning. A suite of detailed mitigation measures for protection of water quality has been included in this EIAR. No potential for residual significant effects as a result of water quality deterioration to nearby designated sites, including the Bandon River SAC and the Bandon Valley South of Dunmanyway pNHA, was identified. A full hydrological assessment in relation to the Proposed Project has been carried out in Chapter 9 of the EIAR.

In relation to European designated sites, the Bandon River SAC and Mullaghanish to Musheramore Mountains SPA have been fully assessed within the Appropriate Assessment Screening and Natura Impact Statement (NIS) that accompanies this EIAR. This report has been prepared to provide the

⁵ NatureScot (2021). Bats and Onshore Wind Turbines: Survey, Assessment and Mitigation.

competent authorities with the information necessary to complete an Appropriate Assessment screening and an Appropriate Assessment for the Proposed Project in compliance with Article 6(3) of the Habitats Directive. The NIS concludes that the Proposed Project, individually or in-combination with other plans or projects, will not adversely affect the integrity of any European Site.

It has been concluded that there is a potential for a residual negative effect as a result of the loss of an area of degraded upland blanket bog (PB2). However, no significant residual effects as a result of the Proposed Project in relation to disturbance, displacement, mortality of faunal species, loss of faunal habitat or deterioration in water quality has been identified. Provided that the Proposed Project is constructed and operated in accordance with the design, best practice and mitigation that is described within this application, significant individual or cumulative effects on ecology are not anticipated at the national or international scale.

Ornithology

This chapter assesses the likely significant effects that the Proposed Project may have on bird species. Firstly, a brief description of the Proposed Project is provided. This is followed by a comprehensive description of the methodologies that were followed in order to obtain the information necessary to complete a thorough assessment of the potential effects of the Proposed Project on bird species. The survey data is presented in full in the Environmental Impact Assessment Report (EIAR) appendices, with a summary of the information presented within this chapter. An analysis of these data is then provided, which discusses the ecological significance of the birds recorded within the Proposed Wind Farm site. The potential effects of the Proposed Project are then described in terms of the construction, operation and decommissioning phases. An accurate prediction of the effects is derived following a thorough understanding of the nature of the Proposed Project along with a comprehensive knowledge of bird activity within the Proposed Wind Farm site. The identification of Key Ornithological Receptors (KORs) and the assessment of effects follow a precautionary approach.

The potential for effects on designated sites is fully described in the Natura Impact Statement (NIS) that accompanies this application. The NIS concluded that where the potential for any adverse effect on any European Site has been identified, the pathway by which any such effect may occur has been robustly blocked through the use of avoidance, appropriate design and mitigation measures as set out within this report and its appendices. The measures ensure that the construction, operation and decommissioning of the Proposed Project will not adversely affect the integrity of any European Sites.

Based on the detailed assessment, it is considered that the potential effects of the Proposed Project upon birds will not be significant. Effects associated with direct habitat loss, disturbance/displacement, collision risk and cumulative effects have been assessed to be no greater than a long-term slight negative effect (EPA, 2022) and low effect significance (Percival, 2003).

An assessment of potential cumulative effects was also undertaken, which takes into consideration other existing and proposed wind farms within 25km of the Proposed Wind Farm site. No residual additive, antagonistic or synergistic effects have been identified with regard to direct habitat loss, disturbance/displacement or collision risk for any of the identified KORs. No significant cumulative impacts are predicted.

In conclusion, no significant effects as a result of the Proposed Project are foreseen on key ornithological receptors of the Proposed Wind Farm site.

Land, Soils and Geology

The bedrock across the Site is mapped as the siltstone, mudstone and sandstone variations. Subsoils are mapped as localised blanket peat and glacial tills. Subsoils are mapped to be absent or thin on the more elevated parts of the Site where bedrock is at, or close to ground level.

Site investigations and geotechnical assessments at the Site were extensive and consisted of 640 no. peat depth probes, 16 no. trial pits, 15 no. soil cores and 3 no. bedrock boreholes. The geological setting of the Site has been thoroughly assessed, and the geological setting is fully understood.

Peat depths recorded across the Site ranged from 0 to 4.5m with an average depth of 0.6m. The peat depths recorded at the turbine locations varied from 0.1 to 2.1m with an average depth of 0.8m (this is considered shallow for blanket peat).

Bedrock was recorded in all 16 no. trial pits with depth to bedrock ranging from 0.2m and 3.5m with an average of 1.5m. Depth to bedrock at turbine locations where trial pits were carried out ranged between 0.6 and 3.5m with an average of 1.5m. Trial pits were carried out at 6 no. proposed turbine locations (T3 – T6, T12 & T13) as these were the only turbines that could be accessed by an excavator.

Drilling investigations encountered weathered SANDSTONE or SILTSTONE over strong SANDSTONE or SILTSTONE. The investigations indicate that deep overburden excavations will not be required due to the shallow depth of bedrock strata. No bedrock joints, fissures, fractures faults (groundwater bearing structures) were identified by the investigation drilling.

Excavation of peat, subsoil and bedrock will be required for site levelling and for the installation of wind farm infrastructure. This will result in a permanent removal of peat, subsoil and possibly bedrock at most excavation locations. Excavated peat/spoil will be utilized to re-instate the borrow pit locations, placed within dedicated peat/spoil management areas and will also be used for reinstatement and landscaping works around the Site.

The investigation drilling demonstrates that the bedrock proposed for extraction at the proposed borrow pits is strong, competent and fit for the purpose of rock extraction and follow-on permanent storage of peat and spoil.

The handling and management of peat and spoil will be undertaken in accordance with the Peat & Spoil Management Plan as set out in Chapter 4 of this EIAR. Storage and handling of hydrocarbons/chemicals will be carried out using best practice methods. Measures to prevent peat and subsoil erosion during excavation, reinstatement, and permanent placement in the borrow pits will be undertaken to prevent water quality impacts.

A Geotechnical and Peat Stability(Appendix 8-1) assessment undertaken for the Proposed Project shows that there is a low risk of peat instability/failure at the Site largely due to the shallow thickness and drained nature of the peat.

No significant effects on the land, soil, and geology of the Site will occur during construction, operation, or during decommissioning phases. No potential for affects to designated sites or geological heritage sites have been identified.

All proposed habitat management and enhancement works will be in accordance with the best practice Forest Service regulation, policies and strategic guidance documents as well as Coillte, DAFM and NatureScot guidance documents to ensure minimal potential negative effects on the local peat, soil and subsoil environment. The enhancement measures will result in a net gain in biodiversity.

The assessment also concludes that there will be no cumulative effects on land soil and geology environment as a result of the Proposed Project.

Hydrology and Hydrogeology

The Proposed Wind Farm is located within the Owvane River catchment (11 no. proposed turbines) and the Mealagh River catchment (3 no. proposed turbines). The Proposed Grid Connection is located in the Bandon River catchment (17.6km) and the Owvane River catchment (2.9km).

The bedrock underlying the Site is classified as poorly productive in terms of well water yields. The bedrock has little or no open cracks which means groundwater movement within the aquifer is localised. Groundwater at the Site can be classed as sensitive in terms of potential impacts from the proposed development. The low potential for pollutant travel within the bedrock groundwater makes surface water bodies such as streams more vulnerable to pollution than groundwater at this Site. There will be no impact on private wells as a result of the Proposed Project.

Designated sites downstream of the Site include the Bandon River SAC and Bandon Valley South of Dunmanway pNHA. Drainage mitigation measures for surface water quality protection will ensure no likely effects on downstream designated sites.

Also, downstream of the Site are surface water Drinking Water Protected Areas (DWPA's) where river water is abstracted for drinking water purposes. The abstractions are located on the Owngar River (Kealkill PWS), Mealagh River (Bantry Cahernacrin PWS) and the River Bandon (Bandon Regional PWS). The mitigation measures detailed in this chapter are tried and tested, best-practice mitigation measures for the protection of the hydrological (surface water) and hydrogeological (groundwater) environment and will ensure no significant effects on downstream abstractions.

The GSI/EPA do not map the presence of any Public Water Schemes (PWS) or Group Water Scheme (GWS) groundwater source protection areas within the Site.

Due to the nature of wind farm and grid connection developments, being near surface construction activities, effects on groundwater are generally negligible and surface water is generally the main sensitive receptor assessed during impact assessments. The primary risk to groundwater at the site would be from hydrocarbon spillage and leakages at the borrow pits. These are common potential impacts to all construction sites (such as road works and industrial sites). These potential contamination sources are to be carefully managed at the site during the construction and operational phases of the development and measures are proposed within the EIAR to deal with these potential minor impacts.

Two methods will be employed to control drainage water within the site during construction, thereby protecting downstream surface water quality and aquatic habitats. The first method involves 'keeping clean water clean' by avoiding disturbance to natural drainage features, minimising any works in or around artificial drainage features, and diverting clean surface water flow around excavations and construction areas. The second method involves collecting any drainage waters from works areas within the site that might carry silt, to allow settlement and cleaning prior to its release. During the construction phase all runoff will be treated to a high quality prior to being released. A self-imposed 50m stream buffer was used during the layout of the proposed wind farm development site, thereby avoiding sensitive hydrological features.

Other preventative measures also include fuel and concrete management and a waste management plan which will be incorporated into the overall Construction and Environmental Management Plan.

All proposed habitat management and enhancement works will be in accordance with the best practice Forest Service regulation, policies and strategic guidance documents as well as Coillte, DAFM and NatureScot guidance documents to ensure minimal potential negative effects on soil and water environment.

There will be no risk of increased flooding down-stream as a result of the Proposed Wind Farm due to the proposed drainage measures and also since the Proposed Wind Farm infrastructure does not

encroach fluvial flood zones. A site-specific Flood Risk Assessment was carried out for the Proposed Project.

During the operational phase drainage control measures will ensure that surface runoff from the developed areas of the site will continue to be of good quality and will therefore not impact on the quality of down-stream rivers and streams. The present drainage regime of the site will not be altered in any way. Impacts on water quality during the operational phase of the wind farm will be negligible to none.

No hydrological cumulative effects are likely in the Owvane River and Mealagh River catchments due to the relatively low turbine density. Due to the fact that the Proposed Grid Connection is along existing roads (private and public), the lack in-stream works, the intermittent and transient nature of the trenching excavations, the Proposed Grid Connection is not expected to contribute to hydrological cumulative effects in the Owvane River, Mealagh River or Bandon River catchments.

A Water Framework Directive (WFD) Compliance Assessment has been completed for all waterbodies (surface water and groundwater bodies) with the potential to be impacted by the Proposed Project. With the implementation of the mitigation measures detailed in this EIAR there will be no change in the WFD status of the underlying groundwater body or downstream surface waterbodies as a result of the Proposed Project. The Proposed Project has been found to be fully compliant with the WFD and will not prevent any waterbody from achieving its WFD objectives.

Air Quality

Ch. 10: Air Quality identifies, describes, and assesses the potential significant direct and indirect effects on air quality arising from the construction, operation and decommissioning of the Proposed Project.

The air quality zone for the Site was selected, followed by a review of EPA collated baseline air quality data namely Sulphur Dioxide (SO₂), Particulate Matter (PM₁₀), Nitrogen Dioxide (NO₂), Carbon Monoxide (CO) and Ozone (O₃) for the selected air quality zone to determine the representative levels of such emissions for the Proposed Project.

The EPA has designated four Air Quality Zones for Ireland:

- › Zone A: Dublin City and Environs
- › Zone B: Cork City and Environs
- › Zone C: 16 urban areas within population greater than 15,000
- › Zone D: Remainder of the country

These zones were defined to meet the criteria for air quality monitoring, assessment and management as described in the CAFE Directive. The Proposed Project lies within Zone D, which represents rural areas located away from large population centres.

The air quality in the vicinity of the Proposed Project is typical of that of rural areas of Ireland, i.e., Zone D. Prevailing south-westerly winds carry clean, unpolluted air from the Atlantic Ocean onto the Irish mainland. The EPA publishes Air Monitoring Station Reports for monitoring locations in all four Air Quality Zones. The most recent report on air quality in Ireland, '*Air Quality in Ireland 2024*' was published by the EPA in September 2025. The EPA reports provide SO₂, PM₁₀, NO₂ and O₃ concentrations for areas in Zone D.

The Institute of Air Quality Management in the UK (IAQM) guidance document '*Guidance on the Assessment of Dust from Demolition and Construction*' (2024) (hereafter referred to as 'IAQM 2024 Guidance') was considered in the dust impact assessment. The guidance document outlines an assessment method for predicting the impact of dust emissions from construction activities based on the scale and nature of the works and the sensitivity of the area to dust impacts. This methodology has been used to predict the likely risk of dust as a result of the construction phase works operational phase activities and decommissioning phase.

The production of energy from wind turbines has no direct air emissions as is expected from fossil fuel-based power stations. Harnessing more energy by means of renewable sources will reduce dependency on fossil fuels, thereby resulting in a reduction in harmful emissions that can be damaging to human health and the environment. Some temporary or short-term indirect emissions associated with the construction of the Proposed Project will include vehicular and dust emissions.

A Construction and Environmental Management Plan (CEMP) will be in place throughout the construction phase (see Appendix 4-3). The CEMP includes dust suppression measures. In addition, turbines and construction vehicles will be transported to the Site on specified haul routes only, which will be regularly inspected for cleanliness and cleaned as necessary.

During the construction phase of the Proposed Project and the construction of other permitted or proposed developments and plans in the area (please see Section 2.9 in Ch. 2: Background to the Proposed Project and Appendix 2-3 of this EIAR), there will be exhaust emissions from construction plant and machinery and potential dust emissions associated with the construction activities. However, once the mitigation proposals, as outlined in the Ch. 10: Air Quality assessment are implemented during the construction phase of the Proposed Project, there will be no cumulative negative effect on air quality.

Exhaust and dust emissions during the operational phase of the Proposed Project will be minimal, relating to the use of maintenance machinery and vehicles onsite, and therefore there will be no measurable negative cumulative effect with other developments on air quality. The nature of the Proposed Project is such that, once operational, it will have a long-term, moderate, positive impact on the air quality. There will be no measurable negative cumulative effect with other developments on air quality, and it is not significant

There will be no net carbon dioxide (CO₂) emissions from operation of the Proposed Project. By providing an alternative to electricity derived from coal, oil or gas-fired power stations, the Proposed Project will result in emission savings of carbon dioxide (CO₂), oxides of nitrogen (NO_x), and sulphur dioxide (SO₂). The production of renewable energy from the Proposed Project will have a Long-Term Moderate Positive effect on air quality due to the offsetting of approximately 44,498 tonnes of Carbon Dioxide (CO₂) per annum, or 1,557,430 tonnes of carbon dioxide over the proposed 35 year lifecycle of the Proposed Project.

Climate

Ch. 11: Climate identifies, describes, and assesses the potential likely significant direct and indirect effects on climate arising from the construction, operation and decommissioning of the Proposed Project. The production of energy from wind turbines has no direct emissions as is expected from fossil fuel-based power stations. Harnessing more energy by means of wind farms will reduce dependency on fossil fuels, thereby resulting in a reduction in harmful emissions that can be damaging to human health and the environment.

Climate change is one of the most challenging global issues facing us today and is primarily the result of increased levels of greenhouse gases in the atmosphere. These greenhouse gases come primarily from the combustion of fossil fuels in energy use. Changing climate patterns are linked to increased frequency of extreme weather conditions such as storms, floods and droughts. In addition, warmer weather trends can place pressure on animals and plants that cannot adapt to a rapidly changing environment. Moving away from our reliance on coal, oil and other fossil fuel-driven power plants is essential to reduce emissions of greenhouse gases and combat climate change.

In May 2025, the Environment Protection Agency (EPA) released ‘*Ireland’s Greenhouse Gas Emissions Projections 2024-2055*’. The EPA has produced two scenarios in preparing these greenhouse gas emissions projections: a “With Existing Measures” (WEM) scenario and a “With Additional Measures” (WAM) scenario. These scenarios forecast Ireland’s greenhouse gas emissions in different ways. The WEM scenario assumes no additional policies and measures, beyond those already in place by the end of 2023. This is the cut off point for which the latest national greenhouse gas emission inventory data is available, known as the ‘base year’ for projections. The WAM scenario has a higher level of ambition and includes government policies and measures to reduce emissions such as those in Ireland’s Climate Action Plan (CAP) 2024 that are not yet implemented. As implementation of policies and measures occurs, they will be migrated into the WEM Scenario. Please note, CAP25 is not specifically referenced in this report as it had yet to be published during the preparation phase of the 2024-2055 projections. A review was undertaken and there are no significant additional measures in CAP25 therefore no major omissions in these projections.

The EPA has produced two scenarios in preparing these greenhouse gas emissions projections: a “With Existing Measures” (WEM) scenario and a “With Additional Measures” (WAM) scenario. These scenarios forecast Ireland’s greenhouse gas emissions in different ways. The WEM scenario assumes no additional policies and measures, beyond those already in place by the end of 2023. This is the cut off point for which the latest national greenhouse gas emission inventory data is available, known as the ‘base year’ for projections. The WAM scenario has a higher level of ambition and includes government policies and measures to reduce emissions such as those in Ireland’s Climate Action Plan 2024 that are not yet implemented. As implementation of policies and measures occurs, they will be migrated into the WEM Scenario. Please note, CAP25 is not specifically referenced in this report as it had yet to be published during the preparation phase of the 2024-2055 projections. A review was undertaken and there are no significant additional measures in CAP25 therefore no major omissions in these projections.

A methodology was published in June 2008 by scientists at the University of Aberdeen and the Macauley Institute with support from the Rural and Environment Research and Analysis Directorate of the Scottish Government, Science Policy and Co-ordination Division. The document, ‘*Calculating Carbon Savings from Wind Farms on Scottish Peat Lands*’, was developed to calculate the impact of wind farm developments on the soil carbon stocks held in peat. This methodology was refined and updated in 2011 based on feedback from users of the initial methodology and further research in the area. The web-based version of the carbon calculator, which supersedes the excel based versions of the tool, was released in 2016. Please note, the web-based version of the carbon calculator is currently not available, the Macauley Institute has supplied a worksheet of the calculator (Version 2.14.0) which has been used to complete the following carbon loss assessment. The tool provides a transparent and easy to follow method for estimating the impacts of wind farms on the carbon dynamics of peatlands.

Previously guidance produced by Scottish Natural Heritage in 2003 had been widely employed to determine carbon payback in the absence of any more detailed methods.

The full life cycle and embodied carbon of the Proposed Project turbines have been taken account of in the Macauley Institute model. The emissions associated with the embodied carbon, along with the construction phase transport movements, of the remaining features of the site are considered using the Transport Infrastructure Ireland (TII) Carbon Tool (TII 2022). The TII Carbon Tool is customised for road and light rail projects in Ireland, using emission factors from recognised sources during the construction, maintenance and operation of TII projects in Ireland.

The carbon balance of proposed wind farm developments in peatland habitats has attracted significant attention in recent years. When developments such as wind farms are proposed for peatland areas, there will be direct impacts and loss of peat in the area of the development footprint. There may also be indirect impacts where it is necessary to install drainage in certain areas to facilitate construction. The works can either directly or indirectly allow the peat to dry out, locally, which permits the full decomposition of the stored organic material with the associated release of the stored carbon as CO₂. It is essential therefore that any wind farm development in a peatland area saves more CO₂ than is released. The Proposed Project is situated on agricultural land and peatland, with small sections being covered by coniferous forestry. For this reason, the carbon balance between the use of renewable energy and the loss of carbon stored in the peat are assessed in Section 11.4.3.1 of the EIAR.

The Proposed Project will result in the loss of 149,464 tonnes of carbon dioxide equivalent. Please note, that in completion of these calculations a number of assumptions have been made under theoretical precautionary conditions; all assumptions are detailed in Appendix 11-2 Carbon Calculations. Therefore, it can be determined that the actual carbon losses associated with the Proposed Project will likely be less than the values provided in Table 11-5 of Ch. 11: Climate.

The Proposed Project will have an estimated installed generating capacity of 67.2MW and therefore will help contribute towards the achievement of national and international emission reduction targets, provide much needed grid infrastructure, and the capacity to offset 44,498 tonnes of carbon dioxide per annum, or 1,557,430 tonnes over the proposed 35 year operational life. Carbon losses to the atmosphere associated with the construction phase and from operations will be offset by the Proposed Wind Farm site in approximately **40.4** months (3.4 years) of operation. Please see Section 11.4.3 for details on carbon savings/offset calculations.

Following construction of the Proposed Project, there will be a Permanent Imperceptible Negative Effect on Climate as a result of greenhouse gas emissions from construction plant and vehicles, embodied carbon associated with the turbines and construction materials. Operation of the Proposed Project will have a Long-Term Moderate Positive Effect on climate as a result of reduced greenhouse gas emissions.

Noise and Vibration

AWN Consulting Limited has been commissioned to conduct an assessment into the likely environmental noise and vibration impacts of the Proposed Project, which comprises the proposed Maughanaclea Renewable Energy Development, Co. Cork.

The background noise environment has been established through noise monitoring surveys undertaken at six noise sensitive locations (NSLs) surrounding the Proposed Wind Farm Site. Typical background noise levels for day and night periods at various wind speeds have been measured in accordance with best practice guidance contained in the Institute of Acoustics document 'A Good Practice Guide to the Application of ETSU-R-97 for the Assessment and Rating of Wind Turbine Noise' (IOA GPG). The results of the background noise survey have been used to derive appropriate noise criteria for the development in line with the guidance contained in 'Wind Energy Development Guidelines for Planning Authorities 2006'.

When considering a development of this nature, the potential noise and vibration effects on the surroundings must be considered for three stages: the short-term construction and decommissioning phases and the long-term operational phase.

The assessment of construction and decommissioning noise and vibration has been conducted in accordance with best practice guidance contained in BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Noise* and BS 5228-2:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites – Vibration*. Subject to good working practice and mitigation measures as recommended in the EIAR Chapter, it is not expected that there will be any significant noise and vibration impacts associated with the construction phase and the likely noise from construction activity at the nearest NSLs is expected to be within recommended threshold values or temporal criteria. The associated construction noise and vibration impacts are not expected to cause any significant effects.

Based on detailed information on the site layout, the likely turbine noise emissions and turbine hub height for the proposed development, a series of turbine noise prediction models were prepared. The predicted turbine noise levels have been calculated in accordance with the IOA GPG recommendations. The assessment has confirmed that the residual turbine noise levels associated with the Proposed Project will be within the best practice noise criteria curves recommended in Irish guidance document 'Wind Energy Development Guidelines for Planning Authorities 2006'. Therefore, it is not considered that a significant effect is associated with the Proposed Project.

No significant vibration effects are associated with the operation of the Proposed Project.

In summary, the noise and vibration impact of the Proposed Project is not significant considering best practice guidance for wind turbine developments.

Landscape and Visual

Ch. 13: Landscape and Visual reports the Landscape and Visual Impact Assessment (LVIA) of the Proposed Project, focusing on the likely significant effects on landscape and visual amenity within a 25km LVIA Study Area. Although all elements of the Proposed Project are assessed, Chapter 13 focusses upon the proposed turbines of the Proposed Wind Farm, as they are deemed to be the primary essential aspects of the proposal under assessment from a landscape and visual perspective. The assessments were informed by site visits, verified photomontages, ZTV mapping, a Route Screening Analysis, and an impact assessment methodology which follows best practice guidance for LVIA of wind farms.

The Proposed Wind Farm is predominantly located within a marginal, working upland landscape comprising privately owned lands. There is little to no recreational value to the Proposed Wind Farm site itself, and it is a landscape which has undergone a degree of human modification due to current and historic land uses such as commercial forestry and agricultural fields. It is a large scale and sparsely settled landscape of marginal upland in an area designated as 'Open to Consideration' to wind energy development in local planning policy. The Proposed Wind Farm site is not located within any protected landscapes within any local landscape policy, and no sensitive landscape designations (High Value Landscapes) fall within the Proposed Wind Farm site itself. The Wind Farm site is however located adjacent to an area designated as Co. Cork High Value Landscape and assessment of effects on its key characteristics and sensitivities was a key focus of the LVIA presented in Ch. 13: Landscape and Visual.

ZTV and Topographical mapping shows that the proposed turbines are encircled by a horseshoe shaped series of mountainous peaks and large landforms which act as a visual barrier, enclosing the proposed turbines, reducing the visual envelope and restricting visibility of the proposed turbines beyond 5km to the north, east and south, excepting only on other mountainous peaks. As a result, within 5km, visibility of the proposed turbines is predominantly confined to the Maughanaclea valley located between the two turbine clusters and extends westwards towards Bantry Bay, as well as the Mealagh valley to the south. Beyond 5km, photomontage visualisations and site visits determined that visibility of the proposed turbines is mostly limited to elevated vantage points within the wider LVIA Study Area. In terms of location, spatial extent, spacing and layout, the siting and design of the Proposed Wind Farm adheres to the guidance for the siting of wind farms in Mountain Moorland Landscape Types, whilst also adhering to the minimum set back distance requirements, including 500 meters from residential dwellings and four times the turbine tip height from third-party properties as set out in the Guidelines (DoEHLG, 2006) and Draft Guidelines (DoHPLG, 2019) respectively.

The overall landscape value and sensitivity of the Site is deemed to be 'Medium, and the overall residual effects upon the landscape of the Proposed Wind Farm site itself are deemed to be 'Moderate'.

The Proposed Wind Farm site itself is located within LCT 15a – Ridged and Peaked Upland (Mullaghanish to Millstreet), an LCT of "local" landscape importance, which has the capability to effectively accommodate the proposed turbines as well as other wind energy developments. The LVIA determined a 'Moderate' residual effect on this LCT's landscape character. No significant landscape effects are deemed to occur in other designated LCTs assessed in the LVIA presented in Chapter 13. No significant landscape effects were deemed to arise on any designated High Value Landscapes (LCT 16a – Glaciated and Forested Cradle Valley (Gouganne Barra) or LCT 4 – Rugged Ridge Peninsulas (Castletownbere-Bantry-Schull)) located within the LVIA Study Area. There are 19 no. existing, 7 no. proposed, and 4 no. permitted wind farms within 25km from the proposed turbines, with the greatest cumulative landscape effects occurring in LCT 15a.

The assessment of visual effects was primarily informed by Photomontage Visualisations, a Route Screening Analysis, and observations recorded during site visits. Imagery was captured from 22 viewpoints within the LVIA Study Area. Out of these, 18 no. viewpoints were included in the EIAR Volume 2: Photomontage Booklet (including cumulative wind farms), while the remaining 4 viewpoints (PWVP-A, etc.) were used as photowires included in Appendix 13-5 (draft visualisations) to support

discussion of visual effects in relation to specific receptors. The assessment concluded that no 'Profound' or 'Very Significant' effects occurred at any of the 18 photomontage viewpoints. Residual effects of 'Significant' occurred at 4 viewpoint locations, given the proximity of the viewpoints to the proposed turbines (<1km). All other viewpoints were assessed as Moderate (7), Slight (6) and Not Significant (1). Cumulative visual effects have greatest potential to arise with other existing, permitted, and proposed wind energy developments. Given the scale of the Proposed Wind Farm and the restricted views of it due to topographic and vegetative screening there is an inherently limited potential for significant cumulative effects. The most notable combined views of the proposed turbines and cumulative turbines occur within close proximity of the proposed turbines with the proposed Curraglass turbines and the proposed Gortloughra turbines, given their proximity. Cumulative visual effects will also occur from longer ranging views of the upland area from elevated vantage points throughout the wider landscape. No significant cumulative visual effects are deemed to arise.

In conclusion, Ch. 13: Landscape and Visual determined that the Proposed Wind Farm is located within a landscape that can effectively accommodate a wind energy development of this scale, given the large scale and expansive nature of the receiving environment and the mitigation measures in place to ensure no significant impact on key landscape and scenic sensitivities. The assessments have determined that the Proposed Wind Farm site is a landscape capable of effectively accommodating the Proposed Project.

Cultural Heritage

This Cultural Heritage chapter was prepared by IAC Archaeology. It details an archaeological, architectural, and cultural heritage assessment of the Proposed Project. The assessment is based on a desktop assessment of the available cultural heritage and archaeological data and a comprehensive field inspection of the Proposed Wind Farm site and Proposed Grid Connection.

A total of 11 no. recorded archaeological sites, or groups of sites, are located within the Proposed Wind Farm site. There are a further 210 no. archaeological sites, or groups of sites, within the 5km study area. Six National Monuments and three sites subject to a Preservation Order are located within 10km of the Proposed Wind Farm site. There are six recorded structures of architectural merit within the 5km study area, including two protected structures. Additionally, 51 no. previously unrecorded sites of cultural heritage significance have been identified within the 2km study area as part of this assessment. Four archaeological sites are located within 50m of the Proposed Grid Connection, along with five built heritage sites and five previously unidentified sites of cultural heritage significance.

Much of the Proposed Wind Farm site has been disturbed by commercial forestry activities; however, it remains possible that previously unknown archaeological sites and features may survive below the current ground level across the area, particularly in areas of pasture which have not been previously disturbed. Ground disturbances associated with the Proposed Project, such as the construction of access roads and excavations for turbines bases and borrow pits, have the potential to result in direct, negative (permanent) effects on any such remains that may be present. Prior to the application of mitigation these effects have the potential to range from moderate to significant, depending on the sensitivity of any such sub-surface archaeological features. Potential effects will be limited due to the restricted nature of the Proposed Wind Farm site.

Prior to the commencement of construction, a programme of archaeological test trenching will be carried out at greenfield locations of the Proposed Wind Farm site, including the location of the proposed turbine hardstands, proposed temporary construction compounds, proposed borrows pit and along the proposed access roads. These works will include targeted test trenching of CH55. Any further mitigation will require agreement from the DoHLGH.

A large portion of the Proposed Wind Farm site is dominated by forestry, which is not suitable for archaeological test trenching. Archaeological monitoring of topsoil stripping will be carried out at these locations. Additionally, the sections of Proposed Grid Connection that passes through the Zones of Notification of AH36 and AH222/BH01 will be subject to archaeological monitoring, as will all works at the locations of AH58/TB02 and CH55. Any further mitigation will require agreement from the DoHLGH. A pre-construction survey of CH07, CH08, CH13 and CH55 will be carried out, resulting in the compilation of a detailed photographic and written record. A record is not required for CH18, the former butter road.

An assessment of the potential, indirect operational impacts on the archaeological, architectural and cultural heritage resource has been carried out. Negative operational impacts ranging from imperceptible to slight are predicted, however no significant impacts have been identified.

Following the completion of all construction mitigation measures, there will be no significant residual effects on the archaeological, architectural and cultural heritage resource. This is due to the fact that any archaeological remains located within the Proposed Project area will be identified during archaeological monitoring. This will lead to either their preservation in-situ or by record. As all archaeological remains will be identified and preserved, there will be no significant residual effects.

An assessment of potential cumulative effects was also undertaken, taking into consideration proposed or permitted developments within 5km of the proposed turbines, and permitted or proposed wind farms within 20km of the proposed turbines. No significant negative cumulative effects have been identified.

Material Assets

Traffic and Transport

For developments of this nature, the construction phase is the critical period with respect to the traffic effects experienced on the surrounding road network in terms of both the additional traffic volumes that will be generated on the road network, and the geometric requirements of the abnormally large loads associated with the wind turbine components. The requirements of the additional traffic and abnormal sized loads generated during the construction phase were assessed for the external highway network and at the proposed junctions that will provide access to the Site.

It is estimated that it will take 18 to 24 months to construct the Proposed Project, during which construction traffic will travel to and from the Site.

Traffic Route & Study Area

The proposed point of arrival for the wind farm plant is the port of Ringaskiddy in County Cork, with the Turbine Delivery Route (TDR) shown from the point that it exits off the N22 at Crookstown to the proposed Wind Farm Site access junctions in Figure 15-1a . From the Port of Ringaskiddy the TDR exits the Port onto the N28 and travels west for approximately 5.km to the Shannonpark roundabout. From this roundabout the route continues north on the N28 for a further 6.5km before heading west on the N40 and N22 for approximately 28.0km to the junction with the R585 which heads southwest to the village of Crookstown. The TDR continues southwest on the R585 for approximately 37km before reaching the Proposed Wind Farm in the townland of Maughanaclea where it turns left heading in a southwestern directions along an existing commercial forestry track via an improved existing junction to reach the southern turbine cluster, or turn right to head north at a new access junction off the R585 to reach the northern turbine cluster. For the northern turbine cluster, the TDR then crosses the L8777 via 2 no. proposed access junctions to access the northern turbine cluster.

A detailed assessment of the proposed haul route for the abnormally sized loads was made from this point where the route turns off the N22 to the north of Crookstown in County Cork.

The total length of the turbine delivery route is approximately 79km.

The delivery of turbine components is a specialist transport operation with the transportation of components carried out at night when traffic is at its lightest and the impact minimised. The deliveries will be made in consultation with the Local Authority and An Garda Síochána. It is estimated that 112 abnormal sized loads will be delivered to the Site, comprising 38 convoys of 3 vehicles, undertaken over 38 separate nights. These nights will be spread out over an approximate period of 8 weeks and will be agreed in advance with the relevant authorities. In order to manage each of the travelling convoys, for each there will be two Garda escort vehicles that will stop traffic when required at the front and rear of the convoy of 3 vehicles. There will also be two escort vehicles provided by the haulage company for each convoy.

All construction traffic, including the delivery of the abnormally sized loads, the delivery of all general construction traffic, all staff construction traffic, and for the purpose of all maintenance traffic during the operational phase, will be provided via the following site access junctions;

- Site Access Junction A – This proposed new junction off the R585, will provide access for all traffic generated during the construction and operational phases to the northern turbine cluster, including proposed Turbines T01 to T06.
- Site Access Junction B – The proposed improved existing junction off the R585, will provide access for all traffic generated during the construction and operational phases to the southern turbine cluster, including proposed Turbines T07 to T14.

- › Site Access Junctions C and D – These new junctions will facilitate the crossing of the L8777 for all traffic generated during the construction and operational phases of the northern turbine cluster, including proposed Turbines T01 to T06.

The Proposed Grid Connection includes a 110kV underground cabling connecting the proposed 110kV onsite substation to the existing Dunmanway 110kV Substation near Dunmanway, Co Cork, located in the townland of Ballyhalwick. The Proposed Grid Connection measures approximately 20.5 km, and is located primarily within the public road corridor, with a short section of the route (approximately 940m) located within the southern turbine cluster of the Proposed Wind Farm site, primarily within an access road.

Traffic impact on local network

For 205 days, when general construction works will take place simultaneously to the construction of the Proposed Grid Connection, an additional 250 PCUs will travel to/from the Proposed Wind Farm site via the identified construction delivery routes. This will result in a percentage increase in traffic volumes on the study network of between +1.4% on the N22, to +4.4% on the R585 in Crookstown and 3.9% through Gloun on the R585 travelling towards the site. It is forecast that this will have a temporary, slight, negative effect on existing traffic on the delivery routes and at the proposed access junctions off the R585 and L8777.

For 14 days when concrete is delivered to the Proposed Wind Farm for the construction of the turbine foundations via the identified construction delivery routes, on average an additional 584 PCUs will travel on the local highway network, resulting in an increase in daily traffic volumes on the study network of between +3.3% on the N22, to +10.3% on the R585 in Crookstown and 9.2% through Gloun on the R585 travelling towards the site. It is forecast that this will have a temporary, slight, negative effect on existing traffic on the delivery routes and at the proposed access junctions off the R585 and L8777.

On the 38 nights that the abnormal loads carrying the large turbine components travel to the Proposed Wind Farm via the TDR at the same time as general construction traffic continues during the day, an additional 222 PCUs will travel to/from the Site. This will result in a percentage increase in traffic volumes on the study network of between +1.3% on the N22, to +3.9% on the R585 in Crookstown and 3.5% through Gloun on the R585 travelling towards the site.

For 14 days when general site construction continues at the same time that the delivery of smaller turbine components are made to the Site by standard HGVs, it is forecast that an additional 156 PCUs will travel to/from the Proposed Wind Farm via the TDR and the general construction routes.

During this period it is determined that the additional traffic will result in an increase in traffic volumes ranging from +0.9% on the N22, to +2.7% on the R585 in Crookstown and 2.5% through Gloun on the R585 travelling towards the site.

For the remaining 112 days when general site construction only takes place on the Site it is forecast that an additional 137 PCUs will travel to/from the Proposed Wind Farm via the TDR or general construction routes.

During this period it is determined that the additional traffic will result in an increase in traffic volumes ranging from +0.8% on the N22, to +2.4% on the R585 in Crookstown and 2.2% through Gloun on the R585 travelling towards the site.

With respect to the traffic volumes that will be generated during the construction of the Proposed Grid Connection, it is estimated that there will be approximately 14 daily return trips made by a truck transporting materials, and 8 return trips made by a car to transport construction staff, to and from the site. Short term diversions are required for local traffic, although the traffic volumes that will be

impacted on the local road network are low. Therefore, by its nature the effects of these additional trips and diversions on the network will be transient, will be temporary and will be slight.

Once the Proposed Project is operational the traffic impact created by maintenance staff will be imperceptible. There will be no significant traffic related impacts during the construction, operational and decommissioning phases of the Proposed Project.

15.2 Telecommunications and Aviation

Wind turbines, like all large structures, have the potential to interfere with broadcast signals, by acting as a physical barrier or causing a degree of scattering to microwave links. The most significant effect at a domestic level relates to a possible flicker effect caused by the moving rotor, affecting, for example, radio signals. The most significant potential effect occurs where there are proposed turbines directly in line with the transmitter radio path.

During the development of any large project that holds the potential to effect telecoms or aviation, the developer is responsible for engaging with all relevant telecom operators and the relevant aviation authorities to ensure that the proposal will not interfere with television or radio signals by acting as a physical barrier. In the event of any potential impact, the developer for each individual project is responsible for ensuring that the necessary mitigatory measures are in place. Therefore, as each project is designed and built to avoid impacts arising, a cumulative impact cannot arise.

The Proposed Project will have no residual impact on aviation as all lighting requirements will be met by the Applicant.

Consultation regarding the potential for electromagnetic interference and impact on aviation Proposed Wind Farm was carried out which confirmed that no proposed turbines are proposed within the areas requested to be left clear of turbines. Therefore, no impacts were identified to telecommunications or aviation from the Proposed Wind Farm.

The potential for electromagnetic interference from proposed turbines may only occur during the operational phase of the Proposed Wind Farm and the Proposed Grid Connection. There are no electromagnetic interference impacts for telecommunications and aviation assets or operations associated with the construction phase of the Proposed Wind Farm or Proposed Grid Connection and therefore no mitigation required.

15.3 Other Material Assets

This section of the Material Assets chapter considers other utilities or built services in the area such as electricity supply and transmission, water, gas and underground telecommunications. This section also considers waste management during the construction, operational and decommissioning phases of the Proposed Project.

In order to assess the potential for significant effects on built services and waste management in the vicinity of the Proposed Project, scoping requests were made to EirGrid, Uisce Éireann, and numerous sections of Cork County Council, including the Roads Department and Environment Department. Please refer to Section 2.8 of Chapter 2: Background to the Proposed Project of this EIAR for details in relation to the EIA scoping exercise.

No scoping response was received from EirGrid. A scoping response was received from Uisce Éireann and Waterways Ireland identifying that there is no relevant infrastructure within the Site. A scoping and consultation exercise was conducted with utilities operators. A full description of the scoping and consultation exercise is provided in Section 2.8 of Chapter 2 of this EIAR.

There are no 110kV or 38kV overhead electricity lines within or adjacent to the Proposed Wind Farm site. The Proposed Grid Connection underground cabling route passes under 1 no. 38kV overhead electricity line twice in the townland of Demesne and again in the townland of Ballyhalwick, Co. Cork. The Proposed Grid Connection will travel alongside 1 no. 110kV underground electricity cable (connecting the 110kV Carrigdangan Substation to the 110kV Dunmanway Substation). The two cables will run side by side in the public road corridor for approximately 135m before turning right into the 110kV Dunmanway Substation. The Proposed Grid Connection does not interact with any other 38kV or higher existing underground services. The Proposed Project has been designed to avoid/where possible existing underground electricity cables.

A data request was sent to Gas Networks Ireland in 2025. The data returned in Q4 2025 concluded there are no gas pipelines within or near the Site.

The Proposed Wind Farm site is located in 2 subcatchments with 10 no. of its proposed turbines located in the Coomhola_SC_010 subcatchment and upstream of Kealkill Public Water Supply (PWS) abstraction, 4 no. proposed turbines located in the Mealagh_SC_010 subcatchment and upstream of the Zone 1 Bantry Cahernacrin abstraction. The Proposed Grid Connection is located upstream of Bandon Regional Water Supply (RWS) abstraction on the Bandon River. The Kealkill PWS abstraction is located 0.7km to the northwest of the Proposed Wind Farm site southern turbine cluster which is approximately 2km downstream of the closest Proposed Wind Farm infrastructure. The Mealagh River abstraction is located approximately 8.5km downstream of the Proposed Wind Farm site. The Proposed Grid Connection passes through the Bandon_020 sub-basin where the Bandon River abstraction is located.

There are no EPA-licensed or local authority-authorized waste facilities or activities located within the Site. The closest, authorized municipal waste facility is located approximately 23.9km northeast of the Site at Macroom, Co. Cork.

A Waste Management Plan (WMP) has been prepared and forms part of the Construction and Environmental Management Plan (CEMP) in Appendix 4-3 of the EIAR.

The WMP outlines the methods of waste prevention and minimisation by recycling, recovery and reuse at each stage of construction of the Proposed Project. Disposal of waste will be a last resort.

All waste generated onsite during the construction phase will be contained in a waste skip at a waste storage area onsite. This waste storage area will be kept tidy with a skip clearly labelled to indicate the allowable material to be disposed of therein. The expected waste volumes generated onsite are unlikely to be large enough to warrant source segregation at the Proposed Project. Therefore, all waste streams generated onsite will be deposited into a single waste skip. The waste material will be transferred to a Materials Recovery Facility (MRF) by a fully licenced waste contractor where the waste will be sorted into individual waste stream for recycling, recovery or disposal.

Site personnel will be instructed at induction that under no circumstances can waste be brought onsite for disposal in the onsite waste skip. It will also be made clear that the burning of waste material onsite is forbidden.

Further details on waste management are presented in the CEMP which is included as Appendix 4-3.

It is not anticipated that any significant volume of waste will be generated within the Site during the operational phase of the Proposed Project as only a small number of operational and maintenance personnel will be present within the Proposed Project at certain times. Any waste generated due to the operation and maintenance of the Proposed Project will be disposed of in a covered skip. The waste material will be transferred to a MRF by a fully licenced waste contractor where the waste will be sorted into individual waste stream for recycling, recovery or disposal.

Major Accidents and Natural Disasters

Ch. 16: Major Accidents and Natural Disasters of the EIAR describes the likely significant effects on the environment arising from the vulnerability of the Proposed Project as detailed in Chapter 4: Description of the Proposed Project, to risks of major accidents and/or natural disasters, as well as the potential of the Proposed Project itself to cause potential major accidents and/or natural disasters.

Major accidents or natural disasters are hazards which have the potential to affect the Proposed Project and lead to environmental effects directly and indirectly. These include accidents during construction, operation and decommissioning of the Proposed Project caused by operational failure and/or natural hazards. The assessment of the risk of major accidents and/or disaster is considered in relation to the information required to be provided in the EIAR, i.e., population and human health, biodiversity, land, soil, water, air and climate and material assets, cultural heritage and the landscape.

A desk-study has been completed to establish the baseline environment for which the proposed risk assessment is being carried out. This will influence both the likelihood and the impact of a major accident or natural disaster. Local and regional context has been established prior to undertaking the risk assessment to develop an understanding of the vulnerability and resilience of the area to emergency situations.

Further detail on the baseline environment is provided in Section 16.3.

The scenarios with the highest risk score in terms of a major accident and/or natural disaster during the construction, operation and decommissioning phase of the Proposed Project were identified as 'Contamination During Construction and Decommissioning', 'Peat Stability During Construction' and 'Fire/Explosion During Construction and Operation'.

The Proposed Project has been designed and will be built in line with current best practice and as such, mitigation against the risk of major accidents and/or disasters will be embedded through the design. A Risk Management Plan will be prepared and implemented on site to ensure an effective response to disasters or the risk of accidents. The plan will include sufficient preparedness and emergency planning measures.

The risk of a major accident and/or disaster during the construction of the Proposed Project is considered 'low' in accordance with the Department of Housing, Local Government and Heritage (2024). *A Framework for Major Emergency Management – A Guide to Regional Risk Assessment*⁶

All elements of the Proposed Project were assessed to identify any cumulative effects. A wind farm including all its various components including the grid connection works, substation, roads, turbines etc is not a recognised source of pollution. It is not subject to Industrial Emissions Directive regulation or any other Environmental Protection Agency environmental regulatory consent. Should a major accident or natural disaster occur the potential sources of pollution onsite during the construction, operational and decommissioning phases are limited and of low environmental risk. Sources of pollution with the potential to cause significant environmental pollution and associated negative effects such as bulk storage of hydrocarbons or chemicals, storage of wastes, management of flammable materials etc. are limited and so there is an inherent low level of environmental risk associated with major accident or natural disaster.

When the implementation of best practice measures, and all proposed mitigation and monitoring measures detailed in the EIAR are implemented, the residual effect(s) associated with the construction, operation and decommissioning of the Proposed Project are not significant.

⁶ DoHLGH (2024) *A Framework for Major Emergency Management – A Guide to Regional Risk Assessment*. Available at: https://assets.gov.ie/static/documents/Guide_to_Regional_Risk_Assessment_September_2024.pdf

Interactions of the Foregoing

Ch. 17: Interaction of the Foregoing identifies the potential significant environmental effects that may occur in terms of Population & Human Health, Biodiversity, Birds, Land, Soils & Geology, Hydrology and Hydrogeology, Air Quality, Climate, Noise & Vibration, Landscape & Visual, Cultural Heritage, Material Assets and Major Accidents & Natural Disasters, as a result of the Proposed Project. All potential significant effects of the Proposed Project and the measures proposed to mitigate them have been outlined in the main EIAR. However, for any development with the potential for significant environmental effects there is also the potential for interaction between these potential significant effects. The result of interactive effects may exacerbate the magnitude of the effects or ameliorate them or have a neutral effect. A matrix is presented in Ch. 17: Interactions of the Foregoing of the EIAR to identify interactions between the various aspects of the environment already discussed in the EIAR. The matrix highlights the occurrence of potential positive or negative impacts during the construction, operational and decommissioning phases of the Proposed Project. Where any potential interactive impacts have been identified, appropriate mitigation is included in the relevant sections (Chapters 5–16) of the EIAR.