

Non-Technical Summary

Cunlaghfadda Green
Energy Project, Co. Mayo



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1. NON-TECHNICAL SUMMARY

1.1 Introduction

This Environmental Impact Assessment Report (EIAR) has been prepared by MKO on behalf of Cunlaghfadda Green Energy Ltd., hereafter referred to as the Applicant, who intends to apply to Mayo County Council (MCC) for planning permission to construct a renewable energy development that will comprise 7 no. wind turbines and all associated infrastructure in the townlands of Cunlaghfadda, Cloonbaul, Harefield, Knockaunakill and Knockroe under the Provisions of Section 34 of the Planning and Development Act 2000, as amended ('the Planning Act').

A separate Strategic Infrastructure Development (SID) application will be submitted to An Coimisiún Pleanála (ACP) under the provisions of Section 182A of the Planning Act for the connection of the proposed renewable energy development to the national electricity grid. This application will comprise an onsite 110kV substation, underground electrical cabling between the substation and the 110kV Cloon to Castlebar overhead line and all associated infrastructure.

This EIAR accompanies both applications and assesses both the Proposed Wind Farm and Proposed Grid Connection 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:

- Where the 'Proposed Wind Farm' is referred to, this refers to turbines and associated foundations and hardstanding areas, including access tracks, underground cabling, permanent meteorological mast, temporary construction compound, peat and spoil management, biodiversity enhancement, tree felling, site drainage, operational stage signage, turbine delivery route and junction accommodation works, and all ancillary works and apparatus. The Proposed Wind Farm is described in detail in Chapter 4, Section 4.4.1 of this EIAR.
- Where the 'Proposed Grid Connection' is referred to, this refers to the proposed 110kV onsite substation, underground 110kV cabling and end masts connecting the proposed 110kV substation to the 110kV Cloon to Castlebar overhead line, access tracks and all ancillary works and apparatus. The Proposed Grid Connection Route is described in detail in Chapter 4, Section 4.4.2 of this EIAR.
- Where the 'Proposed Project' is referred to, this encompasses the entirety of the project (Proposed Wind Farm and Proposed Grid Connection) for the purposes of this EIA in accordance with the EIA Directive. The Proposed Project is described in detail in Chapter 4 of this EIAR.
- Where 'the Site' is referred to, this relates to the primary study area for the EIAR, as delineated by the EIAR Site Boundary in green as shown on Figure 1-2 of the EIAR and encompasses an area of approximately 165 hectares.

This EIAR, along with the Natura Impact Statement (NIS), will accompany the applications for planning permission for the Proposed Project. Both the EIAR and NIS contain the information necessary for the Planning Authorities to complete the Appropriate Assessment and Environmental Impact Assessment (EIA) as required for the planning permission application.

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 EIAR Site Boundary identifies the primary EIAR study area for the Proposed Project and has been defined in consideration of the land ownership boundaries, natural features, such as field patterns, land-use, habitats, and man-made features, such as roads and national grid infrastructure. The EIAR Site Boundary encompasses an area of approximately 165 hectares (ha). 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 permanent footprint of the Proposed Project measures approximately 5.5 ha, which represents approximately 3% of the Site. The Proposed Project is described in detail in Chapter 4 of this EIAR.

The planning application Red Line Boundary consists of the Proposed Development. For the purposes of this planning application, this occupies a smaller area within the EIAR Site Boundary, with this being approximately 9.2 ha.

Applicant

The applicant for the Proposed Project, Cunlaghfadda Green Energy Ltd., is a subsidiary of Greensource Sustainable Developments Limited (Greensource Ltd).

Greensource is an innovative Irish renewable energy company based in Adare, Co. Limerick that specialises in the development of renewable energy projects, working with communities from pre-planning to operation, and creating long-lasting local partnerships. Greensource has over ten years development and operational experience. Greensource has a highly skilled and experienced team who are committed to developing projects with successful outcomes for all stakeholders. Working with integrity and care for the local environment, the team has a strong track record, having successfully completed wind energy and other renewable projects in the west of Ireland.

Brief Description of the Proposed Project

The Proposed Project will be subject to a number of consenting processes, with development relating to the Proposed Grid Connection being subject to a planning application under Section 182A of the Planning and Development Act, 2000, as amended. Development relating to the Proposed Wind Farm will be subject to a separate planning application under Section 34 of the Planning and Development Act, 2000, as amended. The planning application for the Proposed Grid Connection will be submitted to An Coimisiún Pleanála (ACP), while the planning application for the Proposed Wind farm will be submitted to Mayo County Council. The EIAR assesses both the Proposed Wind Farm and the Proposed Grid Connection.

The development description for the Proposed Wind Farm planning application to Mayo County Council will appear in the public notices as follows:

The development will consist of the provision of the following:

- i. 7 no. wind turbines with a top of foundation to blade tip height of 160 metres; a rotor blade diameter of 136 metres; and hub height of 92 metres, 1 no. meteorological mast with a height of 92 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. Turbine and meteorological mast foundations and associated temporary and permanent hard-standing areas;
- iii. All associated underground electrical and communications cabling and subsequent decommissioning of all underground cabling within the Site connecting the turbines to a proposed 110kV substation following a thirty five-year operational life from the date of full commissioning of the wind turbines;
- iv. 1 no. temporary construction compound;
- v. Upgrade and widening of existing internal tracks and provision of new permanent and temporary site access tracks and all associated site drainage;
- vi. Upgrade and temporary road widening works along the L15053 and provision of 1 no. passing bay;

- vii. 1 no. new temporary site entrance off the L-1505 in the townland of Knockroe to accommodate the delivery of abnormal loads and construction phase traffic;
- viii. 1 no. new site entrance on to an existing access track in the townland of Cloonbaul which will be retained for the operational lifetime of the wind farm for maintenance vehicles and farm access;
- ix. 1 no. borrow pit;
- x. 10 no. peat and spoil management areas;
- xi. 2 no. temporary security cabins;
- xii. Tree felling and vegetation removal;
- xiii. Biodiversity enhancement areas
- xiv. Site drainage;
- xv. Site fencing and signage; and
- xvi. All related site works above and below ground and all ancillary development.

The development description for the Proposed Grid Connection planning application to ACP will appear in the public notices as follows:

The development will consist of the provision of the following:

- i. 1 no. 110kV electrical substation compound consisting of 2 no. single storey control buildings with welfare facilities, all associated electrical plant and apparatus, underground cabling, lighting columns, lightning masts, fencing and access gates, signage, 2 no. wastewater holding tanks and 2 no. rainwater harvesting tanks;
- ii. The installation of c. 982 metres of 110kV underground cabling, 2 no. new end masts with a height of c. 16 metres and associated hard-standing areas to facilitate the new 'loop-in/loop-out' connection into the existing Castlebar to Cloon 110kV overhead line;
- iii. A telecommunications tower with a height of 36 metres and associated foundation, hard-standing area, fencing and access gate;
- iv. A temporary construction compound;
- v. Provision of new permanent and temporary construction site access tracks;
- vi. Tree felling and vegetation removal;
- vii. Site drainage; and
- viii. All related site works above and below ground and all ancillary development.

The applicant is seeking a ten-year planning permission for development. 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 Mayo's valuable renewable energy resource. If the Proposed Project were not to proceed, this opportunity to harness the wind energy resource of County Mayo'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 the respective local authority each year which will be redirected to the provision of public services. 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 2-3 jobs during operational and maintenance phases. During construction, additional indirect employment will be created in the region through the supply of services and materials. 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 Chapter 5 of this EIAR, Population & Human Health.

Cunlaghfadda Green Energy Ltd is committed to delivering local benefits and working in partnership with local communities. If the project receives planning permission and is constructed, Cunlaghfadda Green Energy Ltd will establish a Community Benefit Fund as part of their long-term commitment to the local area. The Community Benefit Fund will see funds from the project go towards supporting positive local initiatives and activities.

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 the Planning Authority, from the EIAR accompanying the planning application. The EIA is the assessment carried out by the competent authority, which includes an examination 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 EIA Directive, the direct and indirect significant effects of the 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.

1.2

Background to the Proposed Project

Chapter 2 Background to the Proposed Project presents the relevant policies and objectives which have been put in place at the international, national, regional and local level in relation to planning, renewable energy and climate change. It also summarises the scoping, pre-application and community

consultations undertaken and sets out the cumulative impact assessment process. This Chapter should be read in conjunction with the Planning Report which accompany the planning applications.

The Proposed Project is being brought forward in response to international, national, regional and local policy regarding Ireland's transition to a carbon-neutral and climate-resilient society, a key objective of the National Planning Framework First Revision ('Revised NPF'). The Northern and Western Region is allocated a target of installing an additional 1,389 Megawatts ('MW') of onshore wind energy by 2030 under the Revised NPF.

The need to decarbonise the economy and reduce emissions has always been imperative, however in recent years the urgency involved has become clearer to all stakeholders. The latest Climate Action Plan 2025 ('CAP25') sets out the detail for taking action to deliver the decarbonisation required under the carbon budgets and sectorial emissions ceilings. Central to this are the measures set out to increase the proportion of renewable electricity to up to 80% and a target of 9GW from onshore wind by 2030.

The Climate Action and Low Carbon Development Act 2015 (as amended) ('the Climate Act') commits Ireland to a legally binding target of net-zero emissions no later than 2050, and a cut of 51% by 2030 (compared to 2018 levels). To ensure that climate targets are met, Section 15 of the Climate Act requires all public bodies to exercise their functions in a manner consistent with, in so far as practicable, the national climate objective and the latest climate policy. Renewable energy projects such as the Proposed Project are key to helping Ireland achieve these legally binding climate targets.

Failure to meet binding European Union (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 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.

The application for the Proposed Wind Farm is covered by the provisions of the Renewable Energy Directive III (Directive (EU) 2023/2413) ('RED III') and the planning application is subject to a completeness check under section 34D of the Planning and Development Act 2000, as amended by the European Union (Planning and Development) (Renewable Energy) Regulations 2025.

Local Planning Policy

The Mayo County Development Plan 2022 – 2028 ('MCDP') was adopted by the Elected Members of Mayo County Council (MCC) on the 29th of June 2022 and came into effect on the 10th of August 2022. On the 8th of December 2025, MCC made Variation no. 1 to the MCDP ('MCDP (as varied)'). The MCDP (as varied) and associated Renewable Energy Strategy for County Mayo 2011-2020 ('Mayo RES') fully recognise the importance of tackling climate change through the increased supply of renewable energy. The MCC Local Authority Climate Action Plan 2024-2029 ('Mayo LACAP') outlines the County's commitment to climate action and the need to meet national objectives regarding a reduction in greenhouse gas emissions. MCC 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 is a range of policies in place which support the development of renewable energy.

The layout of the Proposed Wind Farm has been strategically developed, with the Proposed Wind Farm turbines being wholly located in an area classified as 'Tier 1- Preferred (Cluster of Turbines)' for wind energy development within the Mayo RES, demonstrating the site's appropriateness for wind energy development. Accordingly, the Proposed Project is considered to be compliant with the relevant

provisions of the MCDP (as varied) and represents proper planning and sustainable development in the functional area of MCC.

Wind Energy Development Guidelines

The relevant considerations under the Wind Energy Development Guidelines for Planning Authorities (Department of the Environment, Heritage and Local Government (DoEHLG), 2006) ('the Guidelines (DoEHLG, 2006)') have been taken into account during the preparation of the EIAR. The Guidelines (DoEHLG, 2006) were the subject of a targeted review. The proposed changes to the assessment of impacts associated with onshore wind energy developments were outlined in the document Draft Revised Wind Energy Development Guidelines (Department of Housing, Planning and Local Government (DoHPLG), 2019) ('the Draft Guidelines (DoHPLG, 2019)'). At time of writing, the Draft Guidelines (DoHPLG, 2019) have not yet been adopted, and the relevant guidelines, remain to be the Guidelines (DoEHLG, 2006). Notwithstanding this, however, due to the timelines associated with the planning process for renewable energy projects it is possible that the Draft Guidelines (DoHPLG, 2019) may be adopted during the consideration period for the current planning application. Should the Draft Guidelines (DoHPLG, 2019) be adopted in advance of a planning decision being made on this application, the Proposed Wind Farm will be capable adhering to the relevant noise and shadow flicker standards. While the final updated Guidelines have not yet been published it should be noted that noise and shadow flicker are controllable and are discussed further in Chapter 12 and Chapter 5 of the EIAR, respectively. The Proposed Wind Farm achieves the recommended separation distance of 4 times turbine tip height from the Proposed Wind Farm turbines to third party sensitive receptors, which has become a recognised standard for the purposes of protecting residential visual amenity, as currently outlined in the Draft Guidelines (DoHPLG, 2019).

Planning History

A planning search was carried out through the national planning application database and An Coimisiún Pleanála's (ACP) online planning portal in April 2026 for relevant planning applications submitted within the past 10 years that fall within the planning application red line boundaries of the Proposed Project.

A planning search was carried out to establish proposed, permitted and operational wind energy developments within 25km of the Proposed Wind Farm turbines. In total, 14 no. applications relating to wind energy developments were identified within 25km of the Proposed Wind Farm turbines, 11 no. of which relate to proposed, permitted or existing multiple turbine wind farm developments and a further 3 no. of which relate to existing or permitted single turbine developments.

Scoping and Consultation

An EIAR scoping document, providing details of the Proposed Project, was prepared by MKO and circulated in May 2023. 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. A revised scoping exercise was carried out in February 2026 due to time elapsed from when previous scoping was carried out, updates in local and national policy and legislation, updates in relevant EIAR guidance, changes in the environmental baseline and refinement of the Proposed Project layout and design. Consultees were invited to contribute again to the EIAR, following these changes.

Pre-planning meetings were undertaken with MCC under the provisions of Section 247 of the Planning and Development Act 2000, as amended ('the Planning Act'), and ACP under the provisions of Section 182E of the Planning Act. A letter received from ACP dated the 4th of July 2024 stated that under Section 182E, it is the opinion of ACP that the Proposed Grid Connection falls within the scope of the Section 182A of the Planning Act. This confirmed that the Proposed Grid Connection constitutes

Strategic Infrastructure Development and therefore the planning application should be made directly to ACP.

Community engagement has been undertaken by the Applicant, details of which can be found in Appendix 2-2 of the EIAR. The consultation process has been an extremely valuable exercise and has provided a detailed, and enhanced understanding of the key issues and concerns of the local community. There is currently on-going consultation with the local community, and it is the intention of the Applicant to continue with the consultation for the entire lifespan of the Proposed Project. The development of the Proposed Project will provide an enduring economic benefit to the communities surrounding the Proposed Project, through the community benefit package for residents and community groups, employment during the construction and operation of the Proposed Project and through the annual rates payable to the Local Authority.

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 the description of likely significant effects should include an assessment of cumulative impacts that may arise.

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 the EIAR includes a cumulative impact assessment where appropriate. The potential for cumulative impacts arising from other projects has therefore been fully considered within the EIAR.

The Proposed Project has been designed to avoid and mitigate impacts on the environment, and a suite of mitigation measures is set out within the EIAR. The mitigation measures set out in the EIAR will ensure that significant cumulative effects do not arise during the construction, operational or decommissioning phases of the Proposed Project. Additional detail in relation to the potential significant cumulative effects arising and, where appropriate, the specific suite of relevant mitigation measures proposed are set out within each of the relevant chapters of the EIAR.

1.3

Consideration of Reasonable Alternatives

Chapter 3 of the EIAR introduces the reasonable alternatives studied by the Applicant which are relevant to the Proposed Project and its specific characteristics and an indication of the main reasons for the option chosen, taking into account the environmental effects. The consideration of alternatives typically refers to alternative design, technology, location, size and scale. A 'Do-Nothing Alternative' i.e., an outline of what is likely to happen to the environment should the Proposed Project not be implemented, has also be considered.

Alternative Renewable Energy Technologies

To achieve the same maximum estimated electricity output from solar energy as is expected from the Proposed Wind Farm (c. 31.5MW), a larger development footprint would be required. The permanent footprint of the Proposed Project measures approximately 5ha, which represents approximately 3% of the Site. A solar PV array of the scale necessary to provide the same electricity output would require a footprint of approx. 63 hectares¹ or 38% of the overall Site.

¹ 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:

The Applicant, Cunlaghfadda Green Energy Ltd. is an Irish owned developer with extensive experience in the design, construction and operation of onshore wind energy developments throughout Ireland. The Applicant is committed to playing a key role in helping the State achieve its CAP25 objectives while building upon its proven record of generating clean renewable energy to the national grid. As such, the option of an offshore project is not considered to be a reasonable alternative at this time.

Alternative Site Locations

The process of identifying a suitable wind farm site is influenced by a number of factors, while wind speeds, the area of suitable or available land, proximity to a grid connection point and planning policy are all very important, a wind farm project must be commercially viable/competitive, as otherwise it will never attract the necessary project finance required to build it.

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.

Site selection for the development of a wind farm must be suitable for consideration under a number of criteria, such as:

- > **Local Policy:** alignment with the wind energy strategy (i.e., in an area deemed ‘open to consideration’) of the relevant local authority;
- > **Environmental Sensitivities:** Located outside of EU Natura 2000 sites; locations outside of National designations; Article 17 Annex I Habitats present within the Site;
- > **Grid Connection:** Access to and capacity of the national electricity grid possible within a viable distance;
- > **Sensitive Receptors:** Capable of complying with required setbacks from sensitive receptors;
- > **Site Scale:** Sufficient area of unconstrained land that could potentially accommodate a wind farm development and turbine spacing requirements.

From the review of the criteria set out above, the Site is considered a suitable location for the provision of a renewable energy development of the scale proposed. The Proposed Project is located on agricultural land and cutover bog and utilises the public road corridor which allows the Proposed Project to take advantage of the existing public roads and tracks (some of which will be upgraded) and highlights the suitability of the Proposed Project as it can make sustainable use of established items of infrastructure.

The Site is not located within or adjacent to EU or National protected areas, but please note that Annex I Transition mires and quaking bogs and Annex I Molinia meadows are present within the Site. Siting of infrastructure has been avoided within these areas, however, proposed biodiversity enhancement and management proposals do encompass a portion of this area. These measures include marsh fritillary enhancement. Other enhancement proposals on site include the planting of natural woodland and treeline/ hedgerow.

The Site is comprised of a mix of pastoral agriculture, peatlands and small-scale private forestry. Required setbacks from sensitive receptors, as set out above have been applied, with a 4 x TH setback being achieved from all sensitive receptors.

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 Proposed Project intends to connect to the national grid via a loop-in 110kV connection to the Cloon to Castlebar 110kV OHL in the townland of Cloonbaul, Co. Mayo. The Proposed Grid Connection does not interact with any EU or National protected areas.

Alternative Turbine Numbers and Model

It is proposed to install 7 no. 4.5MW turbines at the Proposed Wind Farm which will have an estimated installed capacity of 31.5MW. Such a wind farm could also be achieved on the Site by using smaller turbines (for example 2.5 MW machines). However, this would necessitate the installation of over 12 turbines to achieve a similar output. A larger number of smaller turbines would result in the wind farm occupying a greater footprint within the Site, with a larger amount of supporting infrastructure being required (i.e., tracks etc) and increasing the potential for environmental impacts to occur.

Alternative Turbine Layout and Development Design

The design of the Proposed Project has been an informed and collaborative process from the outset, involving the designers, developers, engineers, landowners, environmental, hydrological and geotechnical, archaeological specialists and traffic consultants. The aim being to reduce potential for environmental effects while designing a project capable of being constructed and viable.

Following the mapping of all known constraints, detailed site investigations were carried out by the project team.

The ecological assessment of the Site encompassed habitat mapping and extensive surveying of birds and other fauna. This assessment, as described in Chapters 6 and 7 of this EIAR on Biodiversity and Birds, optimised the decision on the siting of turbines and the carrying out of any development works, such as the construction of tracks. The hydrological and geotechnical investigations of the Site examined the proposed locations for turbines, tracks and other components of the Proposed Project. Where specific areas were deemed as being unsuitable for the siting of turbines or tracks, etc., alternative locations were proposed and assessed, taking into account the areas that were already ruled out by constraints. The proposed turbine layout has also been informed by the results of noise assessments, landscape and visual and the separation distance to be maintained between proposed turbines. Thus, the baseline environmental assessment of the Site and wind farm design was an iterative process, where findings at each stage of the assessment were used to further refine the design, always with the intention of minimising the potential for environmental impacts.

Alternative Grid Connection Design Options

The Proposed Project will connect to the national grid via a loop in connection to the existing Cloon to Castlebar 110kV OHL located 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 Cloon to Castlebar 110kV OHL, via a 110kV underground electrical cabling route, measuring approximately 982m 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. While overhead lines are less expensive and allow for easier repairs when required, underground cabling will have no visual impact. The Guidelines (DoEHLG, 2006) indicate that underground cables are the preferred option for connection of a wind energy development to the national grid. For this reason, it was considered that underground cabling would be a preferable alternative to overhead lines.

The chosen 110kV underground electrical cabling route is located across private land within the Site, thereby minimising the use of public roads, and will have a reduced permanent visual impact due to the placement of the cabling route underground.

Additionally, consideration was given to a 38kV grid connection, with a 38kV onsite substation being considered with 2 potential 38kV underground grid cabling routes to the existing Dalton 110kV

Substation. However due to the number of constraints identified in both routes considered to Dalton 110kV Substation, this option was ruled out with a 110kV loop-in connection being preferable with reduced potential for environmental impacts

The chosen Proposed Grid Connection design was considered to be the most environmentally prudent and practical option for a grid connection.

Alternative Ports of Entry and Site Access

The ports considered for the port of entry of wind turbine components into Ireland for the Site include, Dublin Port, Shannon-Foyes Port, County Limerick, Cork and the Port of Galway. Shannon Foyes Port is the principal deepwater facility on the Shannon Estuary and caters for dry bulk, break bulk, liquid, and project cargoes. The Port of Galway 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 Galway, Co. Galway was selected as the port of entry for the proposed turbines and has been assessed in detail in Chapter 15 of this EIAR.

The Site is located approx. 7km west of the N17 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 will travel northwest through Galway City along the R339 and R336 Regional Roads before reaching the N6 National Road at the Bothar na dTreabh/Tuam Road junction. The delivery vehicles will continue west along the N6/M6 Motorway before merging onto the M17 at the M6/M17/M18 intersection. From here, the delivery vehicles will continue north on the M17 and N17 Tuam bypass. The delivery vehicles will continue on the N17, travelling through Claremorris town on the L1519 before turning east onto the L1506. The delivery vehicles will travel on the L1506 for approximately 2.5 km before turning north onto the L1505, followed by taking a turn on to the L15053 towards the proposed Site entrance (detailed in Section 4.5.1 in Chapter 4).

General Construction and Operational Entrances

There are a number of existing access points to the Proposed Project. These comprise private farm access points off the L15053, L15052 and the L5536. An initial review of these existing locations was carried out to identify the most suitable locations for wind farm operation site entrances.

The existing farm entrances off the L15053, L15052 and L5536 were deemed unsuitable for construction traffic due to the lack of adequate sightlines and the proximity to residential properties giving rise to potential dust, noise and traffic impacts.

Therefore, a new construction site entrance was proposed along the L1505 which would have traffic management measures in place for the duration of the construction phase. This site entrance will be temporary and will be reseeded or left to revegetate, as appropriate, following the construction phase. Should this site entrance be required for works associated with the decommissioning phase, this site entrance can be reinstated.

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 in the Site, this has been mitigated

with the proposal of habitat enhancement and improved habitat connectivity with hedgerow replanting on the 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 is sustainable.

1.4

Description of the Proposed Project

Ch 4 Description of the Proposed Project describes the Proposed Project and all of its component parts. The Proposed Project will be subject to a dual consenting process, with elements relating to the Proposed Grid Connection being subject to a planning application under Section 182A of the Planning and Development Act, 2000, as amended. Elements relating to the Proposed Wind Farm will be subject to a separate planning application under Section 34 of the Planning and Development Act, 2000, as amended. The planning application for elements relating to the Proposed Grid Connection will be submitted to An Coimisiún Pleanála (ACP), while the planning application for elements relating to the Proposed Wind farm will be submitted to Mayo County Council. This EIAR accompanies both applications and assesses both the Proposed Wind Farm and the Proposed Grid Connection.

The Site is located within a rural, agricultural setting in Co. Mayo, approximately 5.3km northwest of the town of Claremorris, and 16km southeast of the town of Castlebar. The nearest Natura 2000 site to the Site, i.e., Special Area of Conservation (SAC) or Special Protection Area (SPA), is the River Moy SAC which is located approximately 2.2km west of the nearest proposed turbine (T1). Elevations within the Site are relatively flat and low-lying, ranging from approximately 60mOD (metres above Ordnance Datum) to 70mOD.

The Proposed Grid Connection includes for underground 110kV electrical cabling from the proposed onsite 110kV substation, in the townland of Cloonbaul, Co. Mayo to connect into the existing Cloon - Castlebar 110kV Overhead Line (OHL) which runs from the northwest to the southeast adjacent to the site in the townland of Cloonbaul, Co. Mayo. The Proposed Grid Connection will facilitate the connection of the Proposed Wind Farm to the national electricity grid. The OHL will be broken with 2 no. new end masts (lattice-type towers) to facilitate the connection to the proposed onsite substation via the underground electricity cabling. The Proposed Grid Connection is located entirely within private land. The nearest Natura 2000 site to the Proposed Grid Connection is the River Moy SAC, which is located approximately 2.1km west of the Proposed Grid Connection.

Current land-use on the Site is predominantly agricultural pastures and rough grazing, with areas of turbary lands used for private peat cutting and private forestry also present. Current land-use along the Proposed Grid Connection comprises pastures and private land principally used by agriculture. Land-use in the wider landscape comprises a mix of pastoral agriculture and low-density residential.

The existing uses of the Site will continue in conjunction with the Proposed Project.

The overall layout of the Proposed Project is shown on Figure 4-1, this illustrates the Proposed Wind Farm and the Proposed Grid Connection. This drawing shows the proposed locations of the 7 no. wind turbines and associated hardstands, the proposed onsite 110kV substation, the grid connection cabling route and end masts, meteorological (met) mast, peat and spoil management areas (PSMAs), the onsite borrow pit, temporary construction compounds, access tracks, hardstand areas and the proposed site entrance. Detailed site layout drawings of the Proposed Project are included in Appendix 4-1 of this EIAR.

The Proposed Wind Farm layout has been optimised using industry standard 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 ITM Grid Reference coordinates of the proposed turbine locations are listed in Table 4-1 below. The final finished top of foundation level of the 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 4-1. This difference will be negligible and will not impact any assessments carried out as part of this EIAR.

Table 2 Proposed Wind Turbine Locations and top of foundation level

Turbine	ITM Coordinates		Top of Foundation Elevation (mOD)
	Easting	Northing	
T1	528306	777860	63m
T2	528467	778197	69m
T3	528831	777975	59m
T4	529101	778181	59m
T5	529174	777777	63m
T6	528789	778419	60m
T7	528327	778643	66m

The proposed wind turbines to be installed on the Site will have a ground-to-blade tip height, hub height and blade length as follows:

- Tip Height – 160m
- Hub Height – 92m
- Rotor Diameter – 136m

Modern onshore 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 Site and will be determined by the selected manufacturer. For the purposes of this EIAR, a rated generating capacity of 4.5MW has been chosen to calculate the potential capacity of the proposed 7 no. turbine renewable energy development, which would result in an estimated installed capacity of 31.5 MW.

The Proposed Project makes use of the existing access track network insofar as possible. It is proposed to upgrade approximately 1km of existing site access tracks, and to construct approximately 3.7km of new access tracks as part of the Proposed Project. It is also proposed to upgrade approximately 772m of the existing L15053 public road. As part of the access track network, approximately 615m of temporary construction tracks will be constructed as part of the Proposed Project. Furthermore, there is 0.37ha of temporary widening areas proposed as part of the construction phase. These temporary construction tracks and widening areas will be utilised during the construction phase for the purpose of delivering turbine components and abnormal loads. These tracks and widening areas will be covered over and reseeded or allowed to naturally revegetate following the construction phase of the Proposed Project. Following that, permanent operational tracks will be used during the operational phase of the Proposed Project. If there is turbine maintenance required during the operational phase that requires the use of any temporary construction tracks or widening areas, these areas may be reinstated as required. Some temporary construction tracks or widening areas may also need to be reinstated as part of the

decommissioning phase. This decision will be made at the time of decommissioning in line with best practise at the time and will be assessed as part of a decommissioning plan.

No new natural watercourse crossings are required within the Site to facilitate the construction of the Proposed Project. However, there are several field drains within the Site which will be crossed by appropriately sized pipe crossings. All new proposed culverts and proposed culvert upgrades at field drain crossings required for the Proposed Project will be suitably sized for the expected peak flows in the relevant drain.

There are 2 no. temporary construction compounds proposed as part of the Proposed Project. All temporary construction compounds will be removed as part of the post-construction reinstatement works of the Proposed Project.

Each turbine and the meteorological mast (refer to Section 4.4.1.4 below) will be connected to the on-site 110kV electricity substation (part of the Proposed Grid Connection) via underground 20/33 kV (kilovolt) electricity cabling. Fibre-optic cables will also connect each wind turbine and the met mast to the proposed onsite 110kV substation. The electricity and fibre-optic cabling connecting to the proposed on-site 110kV substation compound will be run in cable ducts approximately 1.2 metres beneath ground level, along the sides of access track or under the access tracks. 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. Figure 4-7 shows two variations of a typical cable trench, one for off-access track trenches and one for on-access track trenches. The cabling may be placed on either side of the access tracks, on both sides of the access track and/or within the access track. The exact configuration of the underground cabling will be set by the requirements of the electrical designers at detailed design stage.

One meteorological (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 proposed met mast will be located at E528428, N778335 (ITM), as shown on the Proposed Project layout drawing in Figure 4-1 above and in the detailed site layout drawings included as Appendix 4-1 of this EIAR. The mast will be a free-standing slender lattice structure 92 metres in height. The mast will be constructed on a hard-standing area sufficiently large to accommodate the equipment that will be used to erect the mast. The proposed meteorological mast is shown in Figure 4-12.

There will be 2 no. temporary security cabins with traffic barriers for the control of traffic into and out of the wind farm site during the construction phase, one of which will be located approximately 281m east of T01 at the internal wind farm access junction, and the second of which will be located approximately 615m north of this, approximately 243m west of T04. The detail of the proposed security cabin is shown in Figure 4-10.

It is proposed to construct a 110kV substation within the Site as shown in Figure 4-2. The proposed 110kV substation is located at the northwest of the Site, in the townland of Cloonbaul. The construction and exact layout of electrical equipment in the on-site electricity substation will be to Eirgrid/ESB Networks specifications. Access to the substation will be through internal wind farm access tracks which are accessed from the L-15053 to the south of the Site. Upon decommissioning of the Proposed Wind Farm, the 110kV substation within Cloonbaul townland will remain in situ and form part of the national grid infrastructure.

The footprint of the proposed onsite 110kV substation compound measures approximately 12,405m² in area and will include 2 no. control buildings and the electrical substation components necessary to consolidate the electrical energy generated by each wind turbine, and export that electricity from the proposed onsite 110kV substation to the national grid. The layouts and elevations of the proposed onsite 110kV substation are shown in Figures 4-12 - 4-14.

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

Planting and Bolstering of Treeline and Hedgerow

The field boundaries within the Site are largely delineated by mature (managed and unmanaged) hedgerow and treeline habitats. It is anticipated approximately 1.256 of linear habitat will be permanently removed to accommodate the Proposed Project, including turbines and associated bat buffers, wind farm roads and other key infrastructure.

It is proposed to plant approximately 2,500m of new and bolstered hedgerow and treeline habitat within the Site. The hedgerow planting areas are depicted on Figure 3-2 of Appendix 6-4 and have been strategically chosen to link up existing areas of bat activity. The hedgerows will be replanted within suitable areas and in consultation with the landowners who are supportive of the hedgerow planting proposals.

Native woodland planting

It is proposed to plant 3.5ha of native trees within the Site as shown on Figure 3-2 of Appendix 6-4 of the EIAR. Over time these areas will establish into native woodland and scrub. Planting and establishment of woodland within the woodland planting areas will follow the recommendations and specifications of the native woodland scheme.

Enhancement of *Molinia* Meadow Habitats

It is proposed to implement a suitable management regime in the *Molinia* meadows/marsh fritillary enhancement areas (c1.16ha) via grazing. The aim will be to create an uneven patchwork of short and long vegetation by the end of the grazing period.

1.5

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 Site is located within a rural setting, approximately 5.3km to the northwest of Claremorris town centre, in County Mayo. The settlement of Mayo Abbey is located approximately 2.3km northwest of the Site. Please refer to Figure 1-1 of Chapter 1 Introduction for the Site Location map. The Site measures approximately 165 hectares. The Site falls within the townlands listed in Table 1-1 of Chapter 1. Land use at the Site predominantly comprises a mix of pastoral agriculture, peat bogs and private forestry. Land-use in the wider landscape of the site comprises a mix of agriculture, peat cutting, quarrying, low density residential and commercial forestry. Nearby roads will be used for the construction and operational phases of the Proposed Project including a new temporary site entrance via the local L1505 road and upgrades to the existing L15053 road consisting of road widening works.

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 12-18 months. During construction, additional employment will be created in the

region through the supply of services and materials to the Proposed Project. 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 moderate 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 1.36km (10 x rotor diameter 1.36km). There are 90 no. sensitive receptors located within 1.36km 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 90 no. sensitive receptors located within the Shadow Flicker Study Area. The predicted shadow flicker model results indicate:

- 33 no. properties are theoretically predicted to experience zero shadow flicker;
- 57 no. properties are theoretically predicted to experience some shadow flicker;
 - It should be noted that of these properties, 3 no. are in derelict condition. Please see Table 5-9 below for details.
- Of the 90 sensitive receptors, 40 sensitive receptors are theoretically predicted to experience shadow flicker that exceeds the Guidelines (DoEHLG, 2006) thresholds for daily shadow flicker. Please see Table 5-9 for details.

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. There are no existing, permitted, or proposed wind farms within 5km of the proposed turbines. Therefore, there is

no potential for cumulative shadow flicker effects to occur and no potential for cumulative shadow flicker effects. The nearest operational wind farm to the site is the Mace Upper Wind Farm (MCC. Pl. Ref. 062476) which is located approximately 7.5km to the northeast of the Site. Due to the separation distance between the proposed turbines and all surrounding proposed, permitted, or operational wind farms (i.e., when applying a 10x rotor diameter study area to all other wind farms within 5km, the respective study areas do not overlap with the Study Area), there is no potential cumulative shadow flicker effects.

Section 5.5.3.2.7 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.

1.6

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, which are assessed separately in Chapter 7 of the EIAR). The chapter also sets out the mitigation measures proposed to avoid, reduce or offset any potential significant effects identified.

To inform the assessment, a comprehensive desk study, consultation and a suite of field surveys were undertaken. Desk studies included a review of available ecological records and information in relation to designated sites within the surrounding area. Field surveys were undertaken between 2023 and 2026 and included multi-disciplinary ecological walkover surveys, habitat mapping and dedicated surveys for protected species including bats, otter, badger and marsh fritillary. Aquatic ecological surveys were also undertaken, including fisheries and aquatic macroinvertebrate surveys, to assess the ecological status of watercourses adjacent to and downstream of the Site.

The surveys were carried out in accordance with TII's *Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes* (TII, 2008)². The habitats within the Site were subject to detailed survey and habitat mapping. This mapping was undertaken following the classification system set out in *A Guide to Habitats in Ireland* (Fossitt, 2000)³. Surveys also included a search for Invasive Alien Species listed under the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations 2011 as amended, and the First Schedule of the European Union (Invasive Alien Species) Regulations 2024. Where habitats were considered to have potential to conform to habitats protected under Annex I of the EU Habitats Directive, reference was made to the European Commission's Interpretation manual of European Union habitats (2013)⁴, the latest NPWS

² TII (2008) *Guidelines on Ecological Surveying Techniques for Protected Flora and Fauna on National Road Schemes*. Dublin: National Roads Authority.

³ Fossitt, J.A. (2000). *A Guide to Habitats in Ireland*. Dublin: The Heritage Council.

⁴ EC (2013). *Interpretation Manual of European Union Habitats*. Version EUR 28. European Commission, DG Environment.

Article 17 Habitats Assessments (NPWS, 2025)⁵ and habitat-specific assessment guidance from Irish Wildlife Manuals.

The Site is comprised primarily by areas of cutover bog and agricultural grassland habitats. Cutover bog habitats dominate the southern sections of the Site, and largely encompass areas of dry, revegetating peatlands with some areas of bare peat also present where turbary activities are ongoing. Areas of species-rich cutover bog and an area of transition mires and quaking bogs (which was also found to correspond to the Annex I habitat Transition mires and quaking bogs [7140]) were identified within some parts of the cutover bog, as well as small areas of remnant uncut raised bog, creating a complex of habitats. A larger area of uncut remnant raised bog is present in the southwest of the Site and extends beyond the Site boundary. Much of the north of the Site is characterised by improved agricultural grasslands, with small sections of conifer plantation and scrub also present in the northeast. In the southeast of the Site, wet grasslands dominate and vary from species-poor agricultural wet grasslands to species-rich Annex I *Molinia* meadows [6410]. These habitats are traversed and bordered by a network of stone walls, treelines and hedgerows, with existing roads and tracks present through the centre of the Site.

The construction of the Proposed Project will result predominantly in the loss of improved grassland habitats, and cutover bog habitats which have been heavily drained, are species-poor and subject to ongoing peat extraction / cutting activities. Additional habitats assessed as Key Ecological Receptors include watercourses, scrub habitats, species-rich grasslands, treelines and hedgerows. A 5m buffer on the proposed infrastructure has been allowed for to incorporate potential temporary habitat loss during construction due to tracking of vehicles outside the development footprint. This potential additional loss will be avoided where sensitive habitats such as *Molinia* meadows are concerned, through the erection of fencing and monitoring throughout construction. Due to an iterative design process, mitigation by design has allowed the retention of all high biodiversity value habitats within the Site. Habitat losses as a result of the Proposed Project represent a small proportion of the similar habitats present within the wider Site and surrounding landscape and there is no potential for significant effects as a result of habitat loss.

A number of areas of degraded uncut raised bog habitat occur within the Site. The Proposed Project has been designed to avoid all areas of uncut raised bog, however, the potential for drainage effects has been assessed within the chapter. Due to the nature of the adjacent works and their predicted drainage effect, it is concluded that there will be no significant hydrological impacts to remnant raised bog habitats within or adjacent to the Site.

A Biodiversity Management and Enhancement Plan (BMEP) is proposed as part of the Proposed Project. The plan includes measures to enhance biodiversity within the Site through the planting of approximately 3.5ha of native trees which over time will develop into native scrub and woodland habitat. The plan also includes the planting and bolstering of approximately 2.5 km of linear treeline and hedgerow habitats and management measures to enhance suitable marsh fritillary habitat and degraded *Molinia* meadows in an area of 1.16ha. These measures are intended to provide long-term biodiversity enhancement within the Site.

Bats were recorded commuting and foraging across the Site, with a species assemblage dominated by common pipistrelle, soprano pipistrelle and Leisler's bat, with lower levels of activity recorded for *Myotis* spp., brown long-eared bat, lesser horseshoe bat and Nathusius' pipistrelle. Emergence surveys

⁵NPWS (2025). *The Status of EU Protected Habitats and Species in Ireland. Volume 2: Habitats Assessments. Unpublished NPWS report.*

undertaken in 2025 confirmed the use of two structures within 268 m of the proposed turbines by roosting bats, specifically soprano pipistrelle and Leisler's bat however, these structures will be retained as part of the Proposed Project. Limited roosting potential was identified within trees along the Proposed Grid Connection and Turbine Delivery Route accommodation areas; however, no evidence of bat roosts was recorded in these features during surveys, and no such features will be directly impacted by the Proposed Project. With regard to construction impacts, no significant effects are anticipated in relation to the loss of commuting or foraging habitat, the loss or disturbance of roosts, or displacement of bat populations. During operation, there is potential for collision risk with turbine blades. A range of mitigation measures will be implemented including habitat buffers around turbines, turbine blade feathering at low wind speeds, targeted curtailment for Leisler's bat during the principal peak activity period. A post-construction monitoring programme will also be implemented. With these measures in place, no significant residual effects on bat populations are predicted.

No badger setts were recorded within the Site, however signs of badger indicate the presence of a local population. Pre-construction surveys will be undertaken to confirm the status of badgers within the Site and appropriate protection measures will be implemented during construction if any breeding sites are identified. No significant effects on badger are anticipated.

The network of bog and agricultural drains within the Site do not provide suitable habitat for otter, and no otter holts or resting sites were identified during otter surveys undertaken for the Proposed Project. All natural watercourses are located over 300m from the nearest proposed infrastructure within the Site. With the implementation of mitigation measures to protect water quality, no significant effects on otter are anticipated.

A breeding population of smooth newt were identified within a pond on site, with potential winter hibernacula for the species also within an adjacent stone wall. No drainage effects are anticipated on this pond as a result of the Proposed Project, therefore this breeding site will be retained long-term. A number of mitigation measures have been prescribed in order to protect any terrestrial smooth newt in the vicinity of the pond during construction, and the section of stone wall to be lost will be replaced nearby in order to retain potential hibernacula. As a result, there is no potential for significant effects on smooth populations.

A number of marsh fritillary larval webs were identified within the Site during dedicated surveys in 2025. No webs were identified within the footprint of the Proposed Project. While there will be some short-term loss of suitable habitat for this species, the BMEP includes measures to enhance marsh fritillary suitable habitat within the Site. This will result in a net gain and enhancement of suitable marsh fritillary habitat within the Site. Additional mitigation measures have also been prescribed to protect habitat immediately adjacent to the proposed infrastructure footprint during construction, as well as protection of larval webs, should they occur. As a result, there is no potential for significant effects on marsh fritillary populations.

Aquatic ecology surveys found that Meander River which flows along the southern boundary of the Site is of relatively low ecological value at this location, with limited habitat for fish or other sensitive aquatic species. The closest infrastructure to this watercourse is located over 300m away and therefore the main potential impact pathway relates to deterioration in water quality during construction or operation on downstream watercourses and aquatic receptors. A range of best-practice pollution prevention and drainage design measures will be implemented during construction and operation to protect surface water and groundwater quality, and a full hydrological assessment of the Proposed Project is provided in Chapter 9 of this ELAR. Along the proposed Turbine Delivery Route, an existing

culvert is proposed to be extended, which will involve small-scale in-stream works in this location. A suite of mitigation measures have been prescribed in order to protect the aquatic habitats and any species which may reside within the watercourse during construction. With these measures in place, no significant effects on rivers, streams or associated aquatic habitats and species are anticipated.

The Proposed Project is not located within any European Sites or nationally designated sites. The River Moy SAC, Balla Turlough SAC and Lough Mask SPA have been fully assessed within the Appropriate Assessment Screening and Natura Impact Statement (NIS) that accompanies this planning application. This report has been prepared to provide the 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.

A cumulative assessment was undertaken to consider the potential for the Proposed Project to interact with other plans and projects in the surrounding area, including other wind farms and large-scale developments. Following this assessment, no significant cumulative effects on biodiversity, flora or fauna have been identified.

It is therefore concluded that, provided the Proposed Project is constructed and operated in accordance with the design, best practice and mitigation measures described within this application, significant individual or cumulative effects on biodiversity are not anticipated at international, national, county or local scales on any of the identified Key Ecological Receptors.

1.7

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 the results is then provided, which discusses the ecological significance of the birds recorded within the Survey Area. The potential effects of the Proposed Project are then described in terms of the construction, operation and decommissioning phases of the development. 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 Survey Area. 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 habitat loss, disturbance displacement, collision risk and cumulative effects have been assessed to be no greater than long-term slight negative effect (EPA, 2017) and low effect significance (Percival, 2003).

The implementation of the prescribed mitigation measures will render any potential effects on avian receptors to low significance. In conclusion, no significant effects as a result of the Proposed Project are foreseen on Key Ornithological Receptors of the Site.

1.8

Land, Soils and Geology

This chapter assesses the likely significant effects that the Proposed Project may have on land, soils and geology and sets out the mitigation measures proposed to avoid, reduce or offset any potential significant effects that are identified.

The land, soils and geology of the Site has been characterised using a combination of desk study and site investigation data. Several walkover surveys have been completed as well as peat probing, shear vane testing, trial pit excavations, laboratory analysis of recovered soil samples and borehole drilling.

The Site currently comprises a mix of agricultural land, peat bogs and private forestry. The Site predominantly consists of cut peat bogs separated by elevated ridges comprising agricultural pastures. Ground elevations within the Site are relatively flat and low-lying, ranging from approximately 60mOD (metres above Ordnance Datum) to 70mOD. The topography slopes very gently in an easterly direction towards Drumady Lough.

Based on site investigations, peat is present at the Site and ranges in depth from 0 to 6.1m, with an average peat depth of 1.2m. Approximately 91% of the peat depth probes recorded peat depths of less than 3.0m. A number of localised readings recorded peat depths were between 3.5 and 6.1m. The layout of the Proposed Project was designed to avoid the areas of deepest peat. The subsoils encountered beneath the peat comprise of cohesive deposits, typically described as brownish grey, slightly sandy, gravelly CLAY/SILT with cobbles and boulders, and granular deposits, described as grey, clayey, sandy, subangular to subrounded, fine to coarse GRAVEL with cobbles and boulders.

Bedrock was encountered at a depth of 10.6mbgl at the proposed borrow pit location. The bedrock was described as medium strong to strong, thinly to thickly bedded, light grey, fine grained LIMESTONE with clay infill.

The Proposed Project will involve the removal of soils, subsoils (spoil) and the excavation of rock for the construction of the internal cable network, hardstanding emplacement, turbine foundations, substation, crane hardstands and construction compounds. Rock for construction purposes will be sourced from the proposed onsite borrow pit and from offsite local licensed quarries.

The estimated volume of peat and spoil to be excavated within the Site approximately 94,200 m³. It is proposed to manage overburden generated through construction activities locally within the Site, in the designated peat and spoil management areas, for landscaping at the proposed turbine locations and along proposed access tracks and in the reinstatement of the proposed borrow pit. The handling and storage of spoil will be done in accordance with the Peat and Spoil Management Plan.

Storage and handling of hydrocarbons/chemicals will be carried out using best practice methods. The base of the substation transformer will be bunded and capable of holding 110% of the stored oil volume. Turbine transformers are fully bunded located within the enclosed turbines, so any leaks would be contained within the turbine and there is no potential pathway to receptors associated with the Land, Soils and Geological environment. Measures to prevent soil and subsoil erosion during excavation and reinstatement will be undertaken to prevent water quality effects.

The Proposed Project has a very small development footprint when compared to the overall area of the Site. Therefore, no significant effects on land will occur during the construction, operation or decommissioning phases of the Proposed Project.

The peat and mineral soil/subsoil deposits at the Site are not designated in this area (i.e. they do not form part of a designated site). For this reason, and with the implementation of the mitigation measures detailed in this EIAR and the best practice measures detailed in relation to spoil management, no significant effects on soils or subsoils will occur during the construction, operation or decommissioning phases of the Proposed Project.

Similarly, with the implementation of the mitigation measures outlined in this EIAR, no significant effects on the underlying siltstone bedrock geology will occur during the construction, operation, or decommissioning phases of the Proposed Project.

An assessment of potential cumulative effects associated with the Proposed Project and other developments on land, soils and geology has been completed. The land, soils and geology assessment confirms there will be no significant cumulative effects on land, soil and geology as a result of the Proposed Project.

1.9

Water

This chapter assesses the likely significant effects that the Proposed Project may have on hydrology and hydrogeology and sets out the mitigation measures proposed to avoid, reduce or offset any potential significant effects that are identified.

The hydrological and hydrogeological environment at the Site has been characterised using a combination of desk study and site investigation data. The site investigation data comprised of site walkover surveys and drainage mapping, intrusive site investigations (peat probing, trial pit excavations and borehole drilling), surface water flow monitoring, field hydrochemistry monitoring, surface water grab sampling and groundwater sampling.

The Site currently comprises of mix of agricultural land, peat bogs and private forestry. The Site predominantly consists of cut peat bogs separated by elevated ridges comprising agricultural pastures. Ground elevations within the Site are relatively flat and low-lying, ranging from approximately 60mOD (metres above Ordnance Datum) to 70mOD. The topography slopes very gently in an easterly direction towards Drumady Lough.

On a regional scale, the Site is located within 2 no. regional surface water catchments. The north and south of the Site are mapped in the Moy and Killala Bay Catchment whilst the centre of the Site is located in the Corrib Catchment. More locally the Site drains towards 3 no. lake water bodies, Drumady Lough, Lough Nambrackkeagh and Lough Fark. There are no EPA mapped watercourses within the Site. Drainage within the Site is facilitated by a network of agricultural and forestry drains which direct surface water towards the local lake water bodies which in turn discharge into the local rivers including the Meander and Robe rivers.

The bedrock underlying the Site is classified as a Regionally Important Aquifer - Karstified (conduit). However, within the Site the bedrock aquifer, is overlain by peat and thick low permeability subsoils which restrict groundwater recharge. No karst features were recorded at the Site or during the site investigations. The substantial thickness of overburden at the Site creates a low vulnerability hydrogeological setting, where the superficial layers act as a protective barrier and prevent recharge to the underlying karst system.

The Site is not mapped within the source protection areas associated with any public or group groundwater supplies. Due to the local hydrogeological regime, which is characterised by low rates of groundwater recharge, combined with the prescribed mitigation measures for the protection of water quality, there will be no effects on any public or group groundwater supply or any private groundwater well supply.

The River Moy SAC is located downstream and is hydrologically connected to the Site. There are also several local groundwater dependent designated sites including Mountpleasant School Turlough pNHA, Slisheen Turlough pNHA, Balla Turlough SAC/pNHA and Carrowkeel Turlough SAC/pNHA. Following implementation of the appropriate mitigation measures as outlined in the EIAR no significant effects on these downstream/downgradient designated sites will occur as a result of the Proposed Project.

Surface water abstractions for drinking water are located downstream of the Site on the Meander River. These abstractions are associated with the Cullentra and Rathnacreeva schemes. The assessment found that with the implementation of the prescribed mitigation measures that there would be no significant effect on any surface water drinking water supply.

A flood risk assessment has been completed for the Proposed Project and concluded that the Site is located in Flood Zone C and is at low risk of flooding. The Proposed Project drainage system will ensure that all surface water runoff at the Site is attenuated and there will be no increase in the downstream flood risk as a result of the Proposed Project.

During each phase of the Proposed Project (construction, operation, and decommissioning) a number of activities will take place at the Site, some of which will have the potential to significantly affect the hydrological/hydrogeological regime or water quality at or downstream of the Site. These significant potential effects generally arise from sediment input from runoff and other pollutants such as hydrocarbons and cement-based compounds.

Surface water drainage measures, pollution control and other preventative measures have been incorporated into the project design to minimise significant effects on water quality (surface and groundwater), downstream designated sites and water resources. A self-imposed 50m watercourse buffer and a 100m lake buffer were used during the design of the Proposed Project, thereby largely avoiding sensitive hydrological features. Where works are proposed within the buffer zone additional mitigation measures will be implemented for the protection of surface water quality. The surface water

drainage plan will be the principal means of significantly reducing sediment runoff arising from construction activities and to control runoff rates. The key surface water control measure is that there will be no direct discharge of wind farm runoff into local watercourses or into the existing site drainage network. This will be achieved by avoidance methods (i.e. stream buffers) and design methods (i.e. surface water drainage plan). Preventative measures also include fuel and concrete management and a waste management plan which will be incorporated into the Construction and Environmental Management Plan.

No significant effects to surface water (quality and flows) and groundwater (quality and quantity, and any local groundwater wells) will occur as a result of the Proposed Project provided the proposed mitigation measures are implemented. This EIAR presents proven and effective mitigation measures to mitigate the release of sediment which will reduce the concentration of suspended solids to acceptable levels. The storage and handling of hydrocarbons/chemicals will be carried out using best practice methods which will ensure the protection of surface and groundwater quality. The base of the substation transformer will be bunded and capable of holding 110% of the stored oil volume. Turbine transformers are fully bunded located within the enclosed turbines, so any leaks would be contained within the turbines. The proposed wind farm drainage system will be designed to slow surface water runoff from the Site by providing greater attenuation. This will ensure that the Proposed Project does not alter downstream surface water flows and will not contribute to downstream flooding.

A Water Framework Directive (WFD) Compliance Assessment has been completed for all water bodies (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 water bodies 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.

An assessment of potential cumulative effects associated with the Proposed Project and other developments on the hydrological and hydrogeological environment has been completed. With the implementation of the mitigation measures detailed in this EIAR, the cumulative assessment found that there will be no significant effects on the hydrological and hydrogeological environments.

No significant effects on the water environment will occur during the construction, operation or decommissioning of the Proposed Project.

1.10

Air Quality

Chapter 10 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 Site is typical of that of rural areas in the west 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 2025. The EPA reports provide SO₂, PM₁₀, NO₂ and O₃ concentrations for areas in Zone D. These can be seen in Section 10.2 of Chapter 10.

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 4-5). 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 Chapter 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 Chapter 10 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 19,731 tonnes of Carbon Dioxide (CO₂) per annum, or 690,588 tonnes of carbon dioxide over the proposed 35 year lifecycle of the Proposed Project

Climate

This chapter identifies, describes, and assesses the potential 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 2024, the Environment Protection Agency (EPA) released ‘*Ireland’s Greenhouse Gas Emissions Projections 2023-2050*’. 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 forecasts Ireland emissions including all national policies and measures implemented by the end of 2021, the latest inventory year. 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 2025 (CAP 2025), that are not yet implemented. As implementation of policies and measures occurs, they will be migrated into the WEM Scenario.

The latest EPA projections show that currently implemented policies and measures (WEM) will result in Ireland achieving a total GHG reduction of 9% on 2005 levels by 2030, significantly short of Ireland’s 2030 target under the EU Effort Sharing Regulation (ESR), i.e., 42% reduction of emissions compared to 2005 levels by 2030, and also lower than the 10% reduction projected in the 2023 report.⁶ If policies and measures in the higher ambition (WAM) scenario are implemented, EPA projections show that Ireland can achieve a reduction of 25% by 2030, still short of the 42% reduction target and also lower than the 30% reduction projected in last year’s estimates. The EPA projections show that agriculture and transport emissions form the majority of ESR emissions; combined they represent 78% and 80% of emissions in 2022 (latest inventory data) and 2030, respectively. Decarbonisation of power generation is a key measure, not only in the energy sector, but for other energy intensive sectors, such as transport and agriculture, whose activities result in high levels of greenhouse gas emissions.

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 2.15.0) which has

⁶ Ireland’s Greenhouse Gas Emission Projections 2022-2024 (June 2023) <https://www.epa.ie/publications/monitoring-assessment/climate-change/air-emissions/EPA-GHG-Projections-2022-2040_Finalv2.pdf>

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 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 64,062tCO₂e, the details of these carbon losses are provided in Table 11-5 of Chapter 11 of the EIAR. 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 Chapter 11.

The Proposed Project will have an export capacity of approximately 31.5MW 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 19,731tCO₂e per annum, or 690,588 tCO₂e over the proposed 35-year operational life. Carbon losses to the atmosphere will be offset by the Proposed Project in approximately 39 months of operation. Please see Section 11.4.3.2 for details on carbon savings/offset calculations.

During the construction phase of the Proposed Project, there will be a permanent, imperceptible, negative effect on climate as a result of greenhouse emissions. During the operational phase of the Proposed Project, there will be a long-term, Moderate Positive Effect on Climate as a result of reduced greenhouse gas emissions from the operation of the Proposed Project and the habitat enhancement proposed. Any impact and consequential effects that occurs during the decommissioning phase are similar to that which occur during the construction phase, be it of less impact.

1.12

Noise and Vibration

This chapter assesses the potential noise and vibration effects associated with the Cunlaghfadda Green Energy Project, Co. Mayo during the construction, operational, and decommissioning phases, with particular regard to nearby noise-sensitive locations (NSLs).

Baseline noise surveys confirm that the existing environment is generally quiet and rural in nature. Noise and vibration assessments have been undertaken in accordance with Irish and international best-practice guidance.

During the construction phase, temporary noise and vibration will arise from activities such as turbine foundation works, access track construction, borrow pit operations, grid connection works, and construction traffic. These activities will occur intermittently and move progressively across the site. The assessment demonstrates that predicted noise and vibration levels at NSLs will generally remain within accepted limits. Where noise may be temporarily noticeable at an NSL, effects will be short-term and not significant.

During the operational phase, noise will primarily arise from wind turbines and the onsite 110kV substation. Predicted turbine noise levels at all NSLs are within applicable DOEHLG and IOA GPG noise criteria for both daytime and night-time periods. Noise from the substation is predicted to be low and well below relevant assessment criteria. No perceptible vibration effects are anticipated during operation. Post-commissioning monitoring will be undertaken to confirm compliance, and any complaints will be investigated in accordance with best practice.

The decommissioning phase is expected to result in noise and vibration effects similar to, or lower than, those experienced during construction. These effects will be temporary and not significant.

Cumulative noise and vibration effects with other nearby developments have been considered and are not expected to give rise to significant impacts.

Overall, with the application of best-practice measures and monitoring, the Proposed Project is not expected to result in significant noise or vibration effects at nearby noise-sensitive locations during any phase of development.

1.13 Landscape and Visual

Chapter 13 assesses the likely significant landscape and visual impacts arising as a result of the Proposed Project. Although all elements of the Proposed Project are assessed, Chapter 13 focusses upon the proposed turbines, as they are deemed to be the primary essential aspects of the proposal under assessment from a landscape and visual perspective. Chapter 13 also assesses the proposed onsite 110kV substation that forms part of the Proposed Grid Connection. Chapter 13 describes the baseline landscape and assesses the direct effects on the landscape of the Proposed Wind Farm, as well as effects on landscape character and the impact on sensitive landscape receptors (i.e designated Vulnerable Features). Visibility of the proposed turbines was assessed from receptors within an LVIA Study Area extending 20km from the proposed turbines; and visual effects were determined from information gathered during multiple site visits as well as other tools such as ZTV mapping, photomontages and photowires.

The Proposed Project site is located within the sparsely populated, undulating landscape within the plains of County Mayo, characterised by a network of agricultural fields, cutover bogs, and commercial forestry. It is a landscape which has undergone a degree of human modification. The proposed turbines are located within Policy Area 4, designated as Medium sensitivity to wind in the Landscape Appraisal for County Mayo (LACM), which is the lowest sensitivity classification for this development type. The proposed turbines are not located within any protected landscapes within any local landscape policy, and no sensitive landscape designations (designated Vulnerable Features) fall on the proposed turbines. Furthermore, the Proposed Project is located with an area classified as ‘Tier 1 – Preferred’ for wind farm developments within the Mayo County Development Plan Renewable Energy Strategy 2011-2020. The landscape sensitivity of the Proposed Project is deemed ‘Low’.

In terms of location, spatial extent, spacing and layout, the siting and design of the Proposed Project adheres to the guidance for the siting of wind farms in ‘Hilly and Flat Farmland’ as set out in the Guidelines (DoEHLG, 2006) and the Draft Guidelines (DoHPLG, 2019). As discussed in Section 13.7.4 of Chapter 13, residual effects upon the landscape in which the proposed turbines are located is deemed to be ‘Long-term’, ‘Negative’ and ‘Moderate’. On balance, these effects are not considered significant.

On-site visibility appraisals, ZTV mapping, a Route Screening Analysis and photomontage viewpoint locations determined that visibility of the proposed turbines will be very limited from locations beyond 5 km from the Proposed Project site. Siting of the proposed turbines within a relatively flat landscape with localised undulations (arising from the drumlin landscape) largely restricts visual exposure in the wider landscape. Visibility of the proposed turbines beyond the immediate landscape setting of the

Proposed Project site is limited to localised areas of high elevation where open views across the flat and highly vegetated landscape are available from elevated vantage points.

Photomontages were used to assess the visual effects arising as a result of the Proposed Project from 19 no. viewpoint locations. The assessment concluded that no ‘Significant’, ‘Very Significant’, or ‘Profound’ effects occurred at any of the 19 photomontage viewpoints. In all instances, the Proposed Project exceeds the recommended 500m set back distance in the Guidelines (DoEHLG, 2006) and also is in line with the 4 times tip height set-back distance set out for residential visual amenity prescribed by the Draft Guidelines (DoHPLG, 2019). Residual ‘Moderate’ effects occurred at 5 of the 19 No. viewpoints. All other viewpoints were assessed as resulting in ‘Imperceptible’ (1), ‘Not Significant’ (5), and ‘Slight’ (8) residual effects. Cumulative visual effects have greatest potential to arise with other existing developments. However, given the setting of the Proposed Project and limited visibility with the extensive flat landscape, cumulative effects are only mostly limited to elevated vantage points within the LVIA Study Area.

Mayo Abbey Church and Ruins is located 2km northwest from the nearest proposed turbine, however, as discussed throughout this Chapter and the accompanying appendices, the Proposed Project will not alter the physical fabric or key features of the monuments, and any change will be limited to the wider landscape setting, where the proposed turbines will be seen beyond the immediate visual context of the Mayo Abbey Church and Ruins.

Overall, the LVIA in Chapter 13 determined that no Significant landscape and visual effects were identified. Overall, the Proposed Project is effectively accommodated within the landscape without any Significant effects on the key scenic or landscape sensitivities of receptors identified in the 20km LVIA Study Area. The Proposed Project is appropriately designed and suitably scaled, and it has been demonstrated that no significant landscape and visual effects are likely to arise.

1.14

Archaeological, Architectural and 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 Project and turbine delivery route accommodation areas.

There are no recorded archaeological sites, or groups of sites, within the Proposed Wind Farm. There are 94 no. archaeological sites, or groups of sites, within the 5km study area of the Proposed Wind Farm. None are located within the 50m study areas of the Proposed Grid Connection or the Turbine Delivery Route accommodation areas.

There are 20 no. recorded structures of architectural merit within the 5km study area of the Proposed Wind Farm. None are located within the 50m study areas of the Proposed Grid Connection or Turbine Delivery Route. Additionally, 46 no. previously unrecorded sites of cultural heritage significance have been identified within the 2km study area as part of this assessment, with a further one site within the 50m study area of the Turbine Delivery Route accommodation areas.

There are no predicted direct or indirect effects for the following sites:

- AH36, AH50, AH54, AH96
- BH2.1, BH5.1, BH9, BH13
- CH40–CH44
- TB2–4, TB6–7

The Proposed Wind Farm occupies marginal bog and pasture, with no archaeological evidence for past human activity within the Proposed Wind Farm. Evidence for post-medieval activity/modern human activity does exist in the form of several vernacular buildings. The presence of archaeological remains within the study area, and the vicinity of large waterbodies, existing and former, slightly increase the archaeological potential. One area within the Proposed Wind Farm has been subject to commercial forestry activity, which is likely to have disturbed potential sub-surface archaeological remains. As such, the overall archaeological potential of the wind farm site is considered medium. It remains possible that some previously unknown archaeological sites and features may survive below the current ground level across the Proposed Wind Farm. It should be noted that due to the environmental conditions within bogs, potential sub-surface archaeological features may be well-preserved. Ground disturbance associated with the Proposed Project, such as the construction of access tracks and excavations for turbines bases and the borrow pit, 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. Potential effects will be limited due to the restricted nature of the Proposed Wind Farm.

The construction of the Proposed Wind Farm will result in 4 no. direct effects upon previously unidentified CH sites which are situated within the footprint of proposed works, comprising CH8 (the site of a well); CH9 (the site of two vernacular buildings); CH10 (possible field boundaries or animal pens); and CH39 (the site of vernacular buildings). These effects are not assessed as significant, and prior to the application of mitigation measures the effects are slight, which is not significant.

It is not required to cross any natural watercourses to facilitate the construction of the Proposed Project. Watercourses have an enhanced archaeological potential, due to the prehistoric and historic use of watercourses. There will therefore be no direct effects to natural watercourses.

Proposed new access tracks pass through a c. 50m section and a c. 20m section of one upstanding townland boundary (TB1). This comprises a hedgerow to the west and east of an existing track. Ground disturbance associated with construction of the Proposed Project will have a direct, negative, permanent effect on TB1. Prior to the application of mitigation, this effect will be moderate, which is not significant.

The underground cabling of the Proposed Grid Connection will be c. 982m in length and will pass through previously undisturbed pasture and an area of coniferous plantation. It is possible that previously unknown archaeological sites and features may survive below the current ground level along the cabling route, particularly in areas of pasture which have not been previously disturbed. Ground disturbances 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 Grid Connection.

The accommodation works of the proposed TDR will result in direct effects on one previously CH47 (a section of drystone wall) and DL5 (Claremount House demesne) which are located along the route. Prior to the application of mitigation, these effects will be slight, which is not significant.

Prior to the commencement of construction, a programme of archaeological test trenching will be carried out at greenfield locations of the Site, including the location of the proposed turbine hardstands, proposed temporary construction compounds, proposed borrows pit, along the proposed access roads and along the underground cabling route. These works will include targeted test trenching of CH8, CH9, CH10 and CH39. This work will be carried out under licence to the National Monuments Service of the DoHLGH. Dependent on the results of the testing assessment, further mitigation may be required, such as preservation by record or in-situ and/or archaeological monitoring. Any further mitigation will require agreement from the DoHLGH. Where archaeological test trenching is not possible, such as areas dominated by forestry and bog, archaeological monitoring of topsoil stripping will be carried out. This will include works at the location of TB1.

A pre-construction survey of CH10 will be carried out, resulting in the compilation of a detailed photographic and written record. This will be carried out by a suitably qualified archaeologist.

An upstanding drystone wall (CH47/TB5/TB6) is located within the footprint of proposed Turbine Delivery Route accommodation works and will be removed during construction of the proposed project. The remains will be subject to a detailed photographic and written record prior to the construction of the proposed project, carried out by a suitably qualified archaeologist. Following the delivery of the turbine components the wall will be reinstated using the original materials from the removed section of wall. Where additional material is required, the same stone type will be used. The photographic and written record will be used as a reference for reconstruction of the wall.

Direct effects have been identified to townland boundary TB1, as part of the construction of the Proposed Project. Works will be subject to archaeological monitoring, and a detailed photographic and written record will be made of the section of the townland boundary that is removed. This work will be carried out by a suitably qualified archaeologist under licence to the NMS.

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 moderate are predicted, however no significant impacts have been identified. Slight indirect negative effects have been identified to AH95 (a round tower subject to Preservation Orders and recorded as a National Monument) and AH97 (a ringfort subject to Preservation Orders). These are not significant. No indirect negative effects have been identified to AH96 (a crannog subject to Preservation Orders).

Following the implementation of the above mitigation measures, there will be no significant residual effects on the previously unrecorded archaeological resource.

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.

1.15 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 effects on the existing road network of the additional traffic volumes and delivery of abnormal loads during the construction phase were assessed and at the proposed new junctions (3 No.) that will provide access to the Site.

It is estimated that it will take 12 to 18 months to construct the Proposed Project, during which construction traffic will travel to and from the Site.

Traffic Route & Study Area

The Turbine Delivery Route (TDR) will travel northeast through Galway City along the L5056 and L5048 Local Roads, followed by the R339 Regional Road. It will then travel along the L5034 before reaching the R336. The TDR route will then enter the N6 National Road at the Bothar na dTreabh/Tuam Road junction (c.3.3 km). The delivery vehicles transporting the abnormally sized loads will continue east along the N6/M6 Motorway for approximately 15km, before merging onto the M17 at

the M6/M17/M18 intersection. From here, the delivery vehicles will continue north on the M17 and N17 Tuam bypass and the N17 for approximately 55 km before turning west off the N17 to the north of Claremorris onto the L55512. The route then travels northwest on the L55512 for approximately 0.7 km to the junction with the L1519 when the route then travels south on the L1519 and the R331 for approximately 2.2km. At this point the route heads west on the L1506 for approximately 2.8 km before continuing northwest on the L1505 for approximately 3.6 km. At this point the route turns right via the temporary construction site entrance and on to the L15053 and continues northeast for approximately 0.2 km before turning left onto the L15053.

The total length of the turbine delivery route is approximately 83km.

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 abnormal load deliveries will be made in consultation with the relevant Local Authorities and An Garda Síochána. It is estimated that 56 abnormal sized loads will be delivered to the Site, comprising 19 convoys of 3 vehicles, undertaken over 19 separate nights. These nights will be spread out over an approximate period of 4 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;

- **Access Junction A** – This junction is located off the north side of the existing track approximately 650m east of the junction the L15053 / L15054 junction. This junction will provide for all construction traffic and operational traffic for all 7 turbines. See Figure 15-9 for detail.
- **Access Junction B** – This junction is located off the northside of the existing track approximately 400m east of Access Junction A. This junction will provide for construction traffic and operational traffic for 3 turbines. See Figure 15-11 for detail.
- **Access Junction C** – This junction is located off the southern side of the existing track approximately 100m to the east of Access Junction C. This junction will also provide for construction traffic and operational traffic for 3 turbines. See Figure 15-13 for detail.

The preliminary swept path analysis indicates that third-party land is required on the northeast corner of the L1505 to facilitate the delivery of abnormal loads to the Site. All land take requirements have been secured by the Applicant. Temporary road widening and the removal of a wall, gate and hedge is required in order to accommodate the abnormally sized turbine loads. It is also proposed that standard HGV deliveries will be made via this temporary widened area, with a temporary controlled link between the L1505 and the L15053 providing access for standard HGVs during the construction phase. Please refer to Figure 15-6 for further detail.

Furthermore, the preliminary swept path analysis indicates that third-party land is required on the southern side of the L15053 and at the northwestern corner of the L15053 / L15054 junction in order to accommodate the abnormally sized turbine loads, as shown in Figure 15-7. All land take requirements have been secured by the applicant. The proposed layout also includes an improved junction layout for all general construction deliveries and will also be left in place for the operational stage. The junction design includes a 13m junction radius on the western corner and a 1:10 taper in accordance with TII Junction Design Guidelines (TII DN-GEO-03060) for junctions with HGV turning movements. STOP road markings and signs are as per Figure 7.35 of the Traffic Signs Manual.

The assessment provided in Chapter 15 considers the potential effects of traffic generated by the Proposed Project during the following phases:

- > Construction of the Proposed Project
- > Transportation of turbine components on the public road network between the Port of Galway and the Site of the Proposed Project.
- > Temporary accommodation works for the transportation of turbine components on the public road network between the Port of Galway and the Proposed Project.
- > Operation and maintenance of the Proposed Project.
- > Decommissioning of the Project.

The assessment has been carried out in accordance with EPA Guidelines 2022 and is supported by a Traffic Management Plan (TMP) and Route Access Survey. The environmental effects of the traffic generated by the Proposed Project has been assessed in Chapter 10 Air Quality, Chapter 11 Climate and Chapter 12 Noise and Vibration.

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. Due to the Proposed Grid Connection route being located entirely off the public road network and within third-party agricultural lands, there will be no requirement for short term diversions during the construction phase of the Proposed Grid Connection.

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.

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.

An Aviation Review Statement was undertaken for the Proposed Project following feedback received during the scoping exercise which concluded that the Proposed Project will have no residual impact on aviation. Furthermore all lighting requirements requested by the IAA and the Department of Defence will be met by the Applicant.

Consultation regarding the potential for electromagnetic interference of the Proposed Project 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 from the Proposed Wind Farm.

There are no electromagnetic interference impacts for telecommunications and aviation assets or operations associated with the construction phase of the Proposed Project and therefore no mitigation is required. There are no operators with telecommunication links traversing the Site. No impacts to

telecommunications from the Proposed Wind Farm are anticipated. In the event of interference occurring to telecommunications, the Guidelines (DoEHLG, 2006) acknowledge that *'electromagnetic interference can be overcome'* by the use of divertor relay links out of line with a wind farm. Additionally, a standard Protocol Document has been prepared by 2m for the Proposed Wind Farm, which has been signed by Cunlaghfadda Green Energy Ltd. (the Applicant). A copy of the Protocol Document is presented in Appendix 15-5 of this EIAR.

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 and gas. 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, Gas Networks Ireland (GNI) and numerous sections of Mayo County Council, including the Roads Department and Environment Department. Please refer to Section 2.7 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 identifying that there is Uisce Éireann infrastructure within the Site. If the Proposed Project receives a grant of permission, the Applicant commits to liaise with Uisce Éireann with regards to a permit to divert the pipe, before commencement of construction work to maintain water supply during construction, in accordance with Uisce Éireann.

The Pollavaddy Group Water Scheme and Source Protection Area are located approximately 5km northwest of any proposed infrastructure associated with the Proposed Project. The Site does not fall within the Claremorris urban wastewater treatment catchment

A data request was sent to Gas Networks Ireland in Q1 2026. The data returned in April 2026 identified 3 gas pipelines adjacent to the Site. The Applicant has been able to achieve a 400m setback from the closest turbines (T1) which exceeds the requirements requested by GNI. No crossing of any existing gas pipeline will be required during the construction phase of the Proposed Project. Prior to construction, the Applicant will engage with GNI via the 'Dial Before You Dig' procedure online. GNI will be contacted on 1800 42 77 47 **before** excavating near the identified gas pipelines. Furthermore, the 'Safety advice for working in the vicinity of natural gas pipelines' guidance document and the GNI 'Code of Practice'⁷ standards will be adhered to during all proposed works during the construction phase of the Proposed Project in vicinity of gas pipelines..

The Castlebar to Cloon 110kV overhead line (OHL) traverses the Site in a northwest to southeast orientation in the townlands of Cloonbaul. It is proposed to connect into the National Grid via this existing 110kV OHL via a loop-in loop-out grid connection as part of the Proposed Grid Connection. There are no other 38kV or higher known existing underground electricity cables present within the Site. The Proposed Project has been designed to avoid existing underground electricity cables.

There are no EPA-licensed or local authority-authorised waste facilities or activities located within the Site. The closest, authorised municipal waste facility, McGrath Industrial Waste Facility (IE Licence No. W0143), is located approximately 15km northwest of the Site in Turlough, Co. Mayo.

A Waste Management Plan (WMP) has been prepared and forms part of the Construction and Environmental Management Plan (CEMP) in Appendix 4-5 of the EIAR. The WMP outlines the

⁷ Gas Networks Ireland (2021) <https://www.gasnetworks.ie/sites/default/files/docs/safety/Code-of-Practice-for-Working-in-the-Vicinity-of-the-Transmission-Network.pdf>

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 4-5.

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.

1.16

Major Accidents and Natural Disasters

Chapter 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 to risks of major accidents and/or natural disasters.

Major accidents or natural disasters are hazards which have the potential to impact the Proposed Project and consequently have potential impacts on the environment. This assessment also identifies the potential of the Proposed Project to impact major accidents or natural disasters. These include accidents during construction and operation caused by operational failure and/or natural hazards. The assessment of the risk of major accidents and/or disaster considers all factors defined in the EIA Directive that have been considered in this EIAR, i.e., population and human health, biodiversity, ornithology, land and soil, water, air quality, climate, material assets (including traffic and transport), 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 of this Chapter.

The scenarios with the highest risk score in terms of the occurrence of major accident and/or disaster during construction, were identified as 'Fire/Explosion', 'Peat Stability' and 'Contamination'.

The Proposed Project has been designed and will be built in accordance with the best practice measures set out in this EIAR and, as such, mitigation against the risk of major accidents and/or disasters is embedded through the design.

The risk of a major accident and/or disaster during the construction of the Proposed Project is considered 'low' in accordance with the 'Guide to Risk Assessment in Major Emergency Management' (DoEHLG, 2010).

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

1.17

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, Water, 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.