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## Acronyms and Abbreviations

ACP	An Coimisiún Pleanála
AOD	Above Ordnance Datum
BESS	Battery Energy Storage System
BSc	Bachelor of Science
CAP24	Climate Action Plan 2024
CAP25	Climate Action Plan 2025
CEMP	Construction Environmental Management Plan
CLO	Community Liaison Officer
CLS	Community Liaison Strategy
CO <sub>2</sub> eq	Carbon Dioxide equivalent
CSO	Central Statistics Office
DECC	Department of Environment, Climate and Communications
DOEHLG	Department of the Environment, Heritage and Local Government
EDs	Electoral Divisions
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
ELF-EMF	Extremely Low Frequency-Electromagnetic Field
ELF	Extremely Low Frequency
EMF	Electromagnetic Field
EPA	Environmental Protection Agency
ESB	Electricity Supply Board
EU	European Union
EWEA	European Wind Energy Association
Grid Connection Route (GCR):	Refers to the proposed Grid Connection Route as defined in Chapter 1 of this EIAR.
GW	Gigawatt
GVA	Gross Value Added
HGVs	Heavy Goods Vehicles
HSA	Health and Safety Authority
HSE	Health Service Executive
IARC	International Agency for Research on Cancer
ICNIRP	International Commission on Non-Ionising Radiation Protection
IEMA	Institute of Environmental Management and Assessment
IWEA	Irish Wind Energy Association
LGVs	Light Goods Vehicles

Main Wind Farm Development Site	The site where the Proposed Development is located. As defined in Chapter 1 of this EIAR.
MCC	Mayo County Council
MCDP	Mayo County Development Plan 2022-2028
MW	Megawatt
MWh	Megawatt-hour
NESC	National Economic and Social Council
NHMRC	National Health and Medical Research Council
NPWS	National Parks and Wildlife Service
PPE	Personal Protective Equipment
Proposed Project	Refers to the Proposed Development including the GCR.
RESS	Renewable Energy Support Scheme
SEAI	Sustainable Energy Authority of Ireland
SEI	Sustainable Energy Ireland
SLR	SLR Consulting Limited
TDR	Refers to the proposed turbine delivery route as defined in Chapter 1 of this EIAR.
UN	United Nations
WAW	Wild Atlantic Way
WEI	Wind Energy Ireland
WHO	World Health Organisation
ZTV	Zone of Theoretical Visibility

## 4.0 POPULATION AND HUMAN HEALTH

### INTRODUCTION

#### Background

- 4.1 This chapter of the Environmental Impact Assessment Report (EIAR) provides an assessment of the potential impacts of the Proposed Project on population and human health. The aim of the assessment is to identify and evaluate the potential effects of the Proposed Project over its lifetime.
- 4.2 This chapter assesses the Proposed Project in accordance with the details outlined in **Chapter 2** in this EIAR. Turbine parameters for the three candidate turbines being proposed and all design permutations within that range as set out in **Table 2-1** of **Chapter 2** in this EIAR are also assessed and being applied for.
- 4.3 The assessment covers a range of factors including changes in population dynamics, potential health impacts due to changes in the environment, and the impact on general wellbeing and quality of life. The chapter is structured to provide a clear understanding of the existing environment, the potential impacts of the Proposed Project, and the proposed measures to mitigate any likely significant effects.
- 4.4 The assessment of Population and Human Health provides an overview appraisal of the potential impact of a type and scale of development on local residents and communities. Information is obtained from technical chapters, for example noise, air and landscape. Where there are variations in impacts depending on design parameters, those findings are incorporated into the assessment on amenity and/or human health as appropriate.
- 4.5 The findings presented in this chapter contribute to the overall understanding of the environmental impact of the Project, supporting informed decision-making and ensuring the Project is assessed in accordance with the requirements of the EIA Directive.
- 4.6 The likely effects arising from the Proposed Project during construction, operation and decommissioning are considered under the following headings:
- Population, Population Density, Household Statistics and Age Structure.
  - Socio-economics, Employment, Economic Activity, and Investment.
  - Land Use Patterns
  - Recreation, Amenity and Tourism; and
  - Human Health and Safety.

#### Statement of Authority

- 4.7 This chapter of the EIAR was prepared by the following individuals in SLR Consulting:
- Hugh O'Byrne BSc is a Graduate Planner, having completed a Master of Regional and Urban Planning (MRUP). He holds a Bachelor of Science degree in City Planning & Environmental Policy from University College Dublin.
  - Lynn Hassett is an EIA Co-ordinator (BSc, MSc) and has 16 years of experience of Environmental Impact Assessment, project management and planning in the UK and Ireland. She is a Practitioner member of the Institute of Environmental Management and Assessment, which she is a member of since 2001. She is also a Full Member of the Institution of Environmental Sciences, which she

joined in 2023. Lynn has written generalist chapters for a large number of EIARs for urban development, wind and quarry projects, including the Introduction, Project Description, Alternatives, Population and Human Health, Material Assets, and Major Accidents and Disasters, co-ordinating with the wider EIA team for input.

- This chapter was reviewed by Gareth Hughes, an EIA specialist with 18 years' experience in project management and EIA coordination.
- This chapter was also reviewed by Aislinn O'Brien. Aislinn is a chartered planner and has 18 years' experience in project management, EIA coordination, planning for large scale infrastructure and renewable energy projects and preparing environmental impact assessment chapters and reports for renewable energy and tourism projects.

## Summary of Proposed Project

- 4.8 A description of the Proposed Project is provided in **Chapter 2** of this EIAR. **Table 2-1** within that Chapter identifies the design parameters of the proposed wind turbines, given that the exact make and model of the turbine will be dictated by a competitive tender process.
- 4.9 The key elements of the Proposed Development include 13 no. wind turbines in two clusters, including foundations, hardstandings and access tracks, a 110kV onsite electricity substation and switch rooms, 2 no. temporary construction compounds, battery energy storage system (BESS), 3 no. site entrances, internal site access roads and underground 33kV collector and communications cabling to connect the wind farm and BESS to the onsite substation. It will also include 3 no. overrun areas along the Turbine Delivery Route (TDR) from Killibegs Port to the Main Wind Farm Development Site, although the Grid Connection Route (GCR) is assessed in this EIAR as part of the Proposed Project, it does not form part of the Proposed Development for which planning permission is sought.

## Scope and Consultation

### Community Consultation

- 4.10 Extensive community consultation has been undertaken since 2023 and a Community Liaison Officer was appointed when the Proposed Project was initially proposed. Feedback was passed on to the project design team and the EIAR team on an ongoing basis, in order to allow the consultation process to inform the design and environmental impact assessment process.
- 4.11 Further details of the community consultation carried out are included in **Chapter 3** of this EIAR, as well as in **Technical Appendix 3-7, Community Consultation Report**. The Community Consultation included three rounds of public consultation, incorporating the following activities:
- provision of a dedicated phone line, project website, e-mail address, and project brochure.
  - door to door consultation with community members within 2.5 km of the Main Wind Farm Development Site.
  - distribution of project materials to community members.
  - follow up meetings with community members where required; and

- liaison between local residents and the project team and communication of any project updates.

4.12 The timeline for community consultation activities is as follows:

- June 2023: Initial brochure and letter drop; door-to-door visits (67 households met).
- July 2023–August 2025: Email responses and meetings with individuals and groups.
- September 2025: Second letter drop with project update.
- Drop-in clinic located at the Broadhaven Hotel, Belmullet on 28 January 2026.

4.13 Engagement will continue throughout the life of the Proposed Project, continuing during development and extending into construction and operational phases. This is considered to be a very positive feature of the Proposed Project, in line with Institute of Environmental Management and Assessment (IEMA) Guide to Effective Scoping of Human Health in Environmental Impact Assessment, published in 2022, which states:

*"Engagement can also actively alleviate particular impacts upon mental health, by providing a sense of control, inclusion and participation".*

## EIA Scoping Consultation

4.14 Consultation responses received during the EIA Scoping Consultation have been given due consideration during the EIA as set out in **Chapter 3: Site Selection and Alternatives, EIA Scoping, Consultation and Key Issues**. A summary of the responses can be found in **Table 3-3** in that chapter.

## Limitations / Difficulties Encountered

4.15 This assessment is compiled based on published data and guidance documents. No difficulties were encountered in compiling the required information.

## Approach and Methodology

### Evaluation of Likely Effects

4.16 There are no published standards that define receptor sensitivity relating to population and human health assessments. Criteria for the determination of sensitivity (e.g. 'high', 'medium', or 'low') or of importance (e.g. 'international', 'national', 'regional', or 'authority area') have been established based on prescribed guidance, legislation, statutory designation and/ or professional judgement in the case of each of the potential identified impacts in this chapter.

4.17 The statutory criteria, *Guidelines on the information to be contained in Environmental Impact Assessment Reports* (EPA, 2022), for the assessment of impacts require that likely impacts are described with respect to their magnitude, nature (i.e. negative, positive or neutral), transboundary nature (if applicable), intensity and complexity, probability, duration, frequency, reversibility, cumulation and possibility of reducing the effects. The descriptors used in this chapter are those set out in the above mentioned guidelines.

## Likelihood of Effects

4.18 This assessment focuses on the probable or likely effects of the Proposed Project.

## Significance of Effects

4.19 The significance of effects is defined by the EPA Guidelines (2022) as shown in **Table 4-1** below.

**Table 4-1: Significance of Effects**

Significance Of Effects	
Imperceptible	An effect capable of measurement but without significant consequences.
Not Significant	An effect which causes noticeable changes in the character of the environment but without significant consequences.
Slight Effects	An effect which causes noticeable changes in the character of the environment without affecting its sensitivities.
Moderate Effects	An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.
Significant Effects	An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment.
Very Significant	An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment
Profound Effects	An effect which obliterates sensitive characteristics.

## Sensitive Receptors

4.20 In recognition of the fact that the potential influence of a large development is not limited to its physical boundaries, a study area of 1 km radius of the Main Wind Farm Development Site was reviewed for the existence of potentially sensitive receptors. Based on a desktop map and aerial photography, the character of the local community was considered in terms of dispersal of dwellings, main land uses within the study area, extent and location of community facilities and general connection between the Main Wind Farm Development Site and the community.

4.21 Local residences are identified within the study area in **Figure 4-3**. Other sensitive receptors such as hospitals, community facilities, schools and other less sensitive receptors such as telecommunications masts, amenities, recreation trails and tourism areas were less prominent in the study area. The village of Gweesalia, located to the south of the Main Wind Farm Development Site, features a community centre.

## Desk Based Research

4.22 This chapter has been prepared following a review of:

- National Planning Framework First Revision (Government of Ireland, April 2025);
- The Regional Spatial and Economic Strategy for the Northern and Western Region (Northern & Western Regional Assembly, 2020).
- Mayo County Development Plan 2022 – 2028 (Mayo County Council, 2022).
- Central Statistics Office (CSO) data.

- Pobal Profiling GIS Data<sup>1</sup>.

4.23 This chapter has also been carried out in accordance with the following guidelines:

- Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (Environmental Protection Agency, August 2022).
- Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (Department of Housing, Planning and Local Government, August 2018).
- Wind Energy Development Guidelines Ireland 2006.
- Draft Revised Wind Energy Development Guidelines Ireland 2019.
- Guidelines for the Consideration of Tourism and Tourism Related Projects in EIA (Fáilte Ireland, 2023).
- Determining Significance for Human Health in EIA Institute of Environmental Management and Assessment (IEMA), 2022.
- Institute of Environmental Management and Assessment (IEMA) Effective Scoping of Human Health in EIA (2022).
- Determining Significance for Human Health in EIA (IEMA, 2022).

4.24 Demographic data has been sourced from the Central Statistics Office (CSO)'s Census of Ireland publicly available records. Data relating to the State, County Mayo, and the Study Area has been assessed to establish the existing demographic trends. The lowest level breakdown of demographic data available is at the Electoral Division (ED) level, hence the baseline demographic data described later is based on ED information sourced from each of the three EDs that intersect the 1 km study area. The study area and relevant EDs are illustrated in **Figure 4-1** and **Figure 4-2**, respectively.

4.25 A socio-economic profile of the existing environment was established using Census 2022 data to identify existing employment makeup and other conditions in the study area. Land use in the area was examined, using Corine Land Cover data (2018), as shown on **Figure 4-4**<sup>2</sup>, to determine the likely effects on existing land use patterns which may arise as a result of the Proposed Development.

4.26 The assessment on human health and safety has had regard to CSO data (2022) and reports published by the Department of Health were examined to establish a baseline health profile of the study area. Peer-reviewed literature was also assessed in considering likely effects on human health, such as publications by the Australian Government National Health and Medical Research Council (NHMRC), Climate and Health Alliance and Massachusetts Departments of Environmental Protection and Public Health.

## Study Area

4.27 The Main Wind Farm Development Site predominantly consists of two areas of cutover lowland blanket bog, small areas of scrub and wet grassland, and conifer plantation bisected by a local road (L5252). The Main Wind Farm Development Site is generally flat

<sup>1</sup> <https://maps.pobal.ie/> [Accessed: December 2025]

<sup>2</sup> Note that the Corine Land Cover data used shows different land use for some of the site (Coniferous Forest) than what exists on the ground (Peatland).

with levels ranging from ranging from c. 3 m AOD at the southern end to c. 33 m AOD at the northeastern portion.

- 4.28 For the purposes of identifying sensitive receptors, a Study Area has been defined by a 1 km buffer zone from the Main Wind Farm Development Site. This has been selected as it is the area that will have the main potential for disturbance given the relative timescale and extent of works and long-term infrastructure to be located within it. As shown on **Figure 4-2**, three Electoral Divisions (EDs) are represented within this buffer zone. These are the EDs of Glencastle, Goolamore and Rathhill.

## Grid Connection Route and Turbine Delivery Route

- 4.29 The Proposed Project also includes the Turbine Delivery Route (TDR) and Grid Connection Route (GCR).
- 4.30 The construction works associated with the GCR will be undertaken on a rolling basis with short sections being developed for short periods before moving onto the next section. The population along the GCR will receive a slight increase in population numbers during working hours, however the nature of construction along the proposed GCR, which works as a “rolling” construction site, means that these works will not be concentrated in any one area of the route.
- 4.31 For the GCR, public safety will be addressed by restricting access to the public in the vicinity of the site works during the construction stage and appropriate warning signs will be posted at the construction site, directing all visitors to the site manager. For the TDR, appropriate signage will be provided on public roads approaching site entrances and along haul routes.
- 4.32 Potential health and safety hazards may occur on public roads and adjacent land uses including agricultural lands and forestry lands and associated recreation uses (forestry tracks). Construction works taking place on the public road (GCR and TDR) and the delivery of heavy/bulky goods (TDR) and machinery on narrow roads may lead to temporary limited access to farmlands and forestry lands creating a potential hazard. This has the potential to cause a short-term effect on public safety. However, for both the GCR and TDR, extra safety measures will be employed when large loads are being transported, For instance, Garda escort will be requested for turbine delivery and a comprehensive turbine delivery plan will be utilised to avoid potential impact to human safety for road users and pedestrians. For the installation of the GCR in the public road (subject to a separate application), a detailed traffic management plan will be developed in discussion with locals who will be directly impacted by the works. and the local authority.
- 4.33 Public consultation will be conducted along GCR to inform local residents ahead of construction works. A Construction Traffic Management Plan (CTMP) will be implemented, covering vehicle routing, signage, road condition monitoring, and engagement with Mayo County Council. A CTMP is provided in **as Technical Appendix 14-4**.
- 4.34 Given the transient and limited scale of works required along the GCR and TDR routes, the effects on the local population are considered to be negligible. They are therefore scoped out of detailed assessment in this chapter. However, where construction works associated with the GCR and TDR have potential to impact on nearby dwellings with regard to air quality, noise and traffic and these potential effects are fully assessed in **Chapter 8: Air Quality and Climate**, **Chapter 9: Noise and Vibration** and **Chapter 14: Traffic and Transport**.
- 4.35 There are no expected works to take place along the GCR or TDR during the operational phase of the Proposed Project. If maintenance works are required in these areas or bulky equipment is required to be delivered, proper safety protocols will be put in place in line with

the mitigation measures set out in the Mitigation Measures section outlined in this chapter. Therefore no long-term operational impacts are anticipated for the TDR or GCR after construction and operational effects on population and human health receptors have been scoped out of detailed assessment.

## Socio-economics, Employment and Economic Activity

### Community Benefit Scheme

- 4.36 An important means of incentivising support for wind farm development is the Community Benefit Scheme. The main benefits of the scheme include support for local community groups and support for local educational funds. The concept of directing benefits from wind farms to the local community is promoted by the Department of Environment, Climate and Communications (DECC), the Sustainable Energy Authority of Ireland (SEAI), the National Economic and Social Council (NESC) and Wind Energy Ireland (WEI), among others.
- 4.37 As set out in the terms of the Renewable Energy Support Scheme (RESS), all renewable energy projects must establish a Community Benefit Fund prior to commercial operations of any proposed development. RESS requires a contribution of €2/MWh of Loss-Adjusted RESS Metered Quantity. Furthermore, the Community Benefit Fund will provide a minimum payment of €1,000 to all dwellings located within a one-kilometre radius of the project. It also states that households located outside a distance of 1 kilometre but within a distance of 2 kilometres from such RESS Projects shall receive an annual payment of an amount lower than €1,000. The amount of this payment shall decrease progressively as the distance from the Project increases, ensuring a proportional allocation based on proximity for all projects. The RESS Terms and conditions also set out that a minimum of 40% of the funds shall be paid to not-for-profit community enterprises, whose primary focus or aim is the promotion of initiatives towards the delivery of the UN Sustainable Development Goals. The Applicant supports and endorses this approach to the delivery of community benefit funding and endeavours to work with local communities in a proactive and engaging way to deliver early and tangible benefits for communities in the local area. If the Proposed Project does not proceed under RESS, the Applicant commits to the payment of a Community Benefit Fund to a similar value in line with best practice.
- 4.38 At the earliest stages of the development process, the Applicant seeks to obtain positive engagement from the community in terms of considering what associated Community Benefit funds could mean to the communities in the local area. Given that local people understand their community best, consultation on the form that the community benefit package should take has formed an integral part of the Proposed Project. As detailed in **Chapter 3**, public consultation and engagement with the local community and businesses began at a very early stage in the development process. The Applicant supports the development of a funding process firmly into the hand of local communities. The project brochure provided to local residents provided information on how community benefits would be administered. A panel of local community representatives would form a committee to decide how best to invest the fund in a variety of projects that could benefit residents, local businesses and the community. This could include skills development and creating job opportunities, tourism initiatives and area regeneration projects.

### Predicted Fund Value

- 4.39 The total fund per annum will depend on the power output of the Proposed Project overall which may vary due to the installed turbine output and the number of permitted/constructed turbines.

- 4.40 The Community Benefit Fund for the local area, assuming the export capacity will be approximately 74.1-91 MW (based on the proposed layout and working assumptions), which if developed under RESS will be approximately €453,768 to €558,012 per year for the communities in the local area for the first 15 years of the project in line with Government policy. To put this in perspective, €2.5 million would become available within the first 5 years of operation and €5 million within 10 years with a total funding allocation of in the region of €7.5 million being delivered within 15 years of operation. Post RESS, the Applicant will also commit to maintaining a Community Benefit Fund for the duration of the Proposed Project in line with best practice and guidelines. The value of this fund will be directly proportional to the energy output of the Proposed Project on it being successful in securing RESS support, and on the duration of that support. However if the Proposed Project does not proceed under RESS, the Applicant commits to the payment of a Community Benefit Fund to a similar value in line with best practice and guidelines.
- 4.41 The development of renewable energy to replace conventional fossil fuels is considered essential and represents a positive move for Ireland given the role that it plays in effective climate action. The Applicant also believes that it is important to provide the positive benefits of renewable energy to local communities. The Proposed Project Community Benefit Fund will provide a meaningful new investment into the local community directly targeting and passing on the benefit of renewable energy development to those in the local area.

## Population, Population Density, Household Statistics and Age Structure

- 4.42 Population relates to the people living in an area. Assessing the demographic makeup of an area can reveal relevant information to help guide environmental assessments of a proposed development. This section provides a comprehensive overview of the population profile of the study area and compares these with corresponding topics within the administrative area of County Mayo and the State. This is required to create a baseline demographic profile of the receiving environment and identify likely effects on demographic trends arising as a result of the Proposed Project.

### Population

- 4.43 In the years between the 2016 and 2022 Census, the population of Ireland increased by 8.1%. During this time, the population of Mayo County grew by 5.6% to 137,970 persons as shown in **Table 4-2** below. For the purposes of demographic baseline data, the Study Area comprises the combined EDs of Glencastle, Goolamore and Rathhill as shown in **Figure 4-2** and described in section 4.43. In contrast with the population growth nationally and at county level, the period between the 2016 and 2022 Census saw the population of the study area decreasing from 1,340 to 1,324, a decline of -1.2% as shown in **Table 4-2** below.

**Table 4-2: Population 2016 v 2022**

AREA	2016	2022	% CHANGE
State	4,761,865	5,149,139	8.1
Mayo County	130,500	137,970	5.6
Study Area	1,340	1,324	-1.2

- 4.44 The population growth rate of the study area varied across its EDs between the 2016 and 2022 Census years. Glencastle (493 in 2016; 499 in 2022) and Goolamore (135 in 2016; 130 in 2022) experienced similar growth rates of 1.2% and 3.8% respectively. The growth rate is significantly higher for the State (8.1%), and Mayo County (5.6%) between 2016 and 2022. In contrast, Rathhill (712 in 2016; 695 in 2022) experienced a decline of population at a rate of -2.3%.
- 4.45 **Figure 4-3** shows the identified residential receptors as those within 1 km of the Main Wind Farm Development Site. The closest of these receptors have been selected as representative locations for the prediction of noise impacts (**Chapter 9**) and shadow flicker (**Chapter 11**). The assessments of general disturbance to the local community in this chapter have been based on those technical assessments.

### Population Density

- 4.46 The population densities recorded within the State, Mayo County and the study area during the 2016 and 2022 Census are set out in **Table 4-3** below. The population density of the State increased slightly from 2016 to 2022 (1.7%). The population density of Mayo County also increased in the same period, but at a much higher rate (5.5%).

For the Study Area, the data for the 2016 and 2022 Census are set out in **Table 4-3** below. In 2016, Glencastle’s population density stood at 14 persons per km<sup>2</sup>, Goolamore’s population density stood at 4 persons per km<sup>2</sup> and Rathhill population density stood at 17 persons per km<sup>2</sup>. These densities remained unchanged in 2022.

**Table 4-3: Population Density 2016–2022 (Source: CSO)**

Area	Year	Population density (persons km <sup>2</sup> )	% change
State	2016-2022	70 to 71.2	1.7
Mayo County	2016-2022	23.4 to 24.7	5.5%
Study Area	2016-2022	11.6 to 11.6	0%

- 4.47 The Study Area has seen no change in population density between the years 2016 and 2022. Furthermore, the population density of the study area is significantly lower than the population density of Mayo County and the State as shown in **Table 4-4**. This context is important in understanding the potential impacts of the Proposed Development on the local population and infrastructure.

### Household Statistics

- 4.48 The number of households and average household size (in persons) for the State, Mayo County, and the Study Area for 2016 and 2022 are set out in **Table 4-4** below:

**Table 4-4: Number of Household and Average Household Size 2016–2022 (Source: CSO)**

Area	2016	Average	2022	Average
	Avg. Size (persons)	No. of Households	Avg. Size (persons)	No. of Households
State	2.7	1,697,665	2.7	1,751,399
Mayo County	2.7	48,899	2.6	52,114
Study Area	2.5	528	2.5	532

- 4.49 The total number of households within the study area increased from 528 in 2016 to 532 in 2022, a growth of 0.75%, while Mayo County experienced the largest increase in terms of total number of households at 6.6%, and the State at 3.2%. The average household size within the Study Area across 2016 and 2022 is slightly lower than that of the State-wide and County Mayo data.

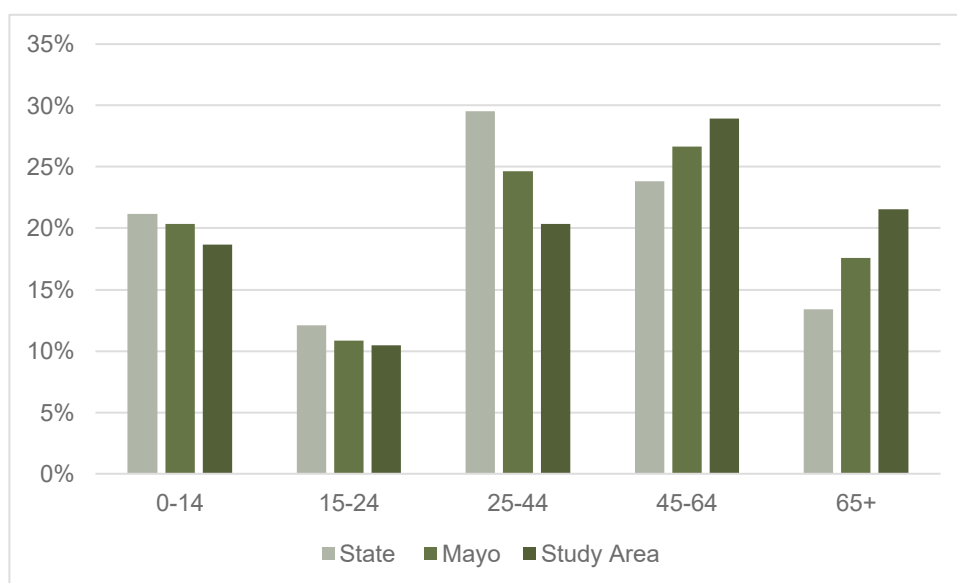
## Age Structure

- 4.50 The age structure of the Study Area recorded in 2016 and 2022 is largely in line with that of the national age structure and age structure of Mayo as detailed in **Tables 4-5 and 4-6**. In 2016, the Study Area was composed of a higher percentage of persons in the 45 - 64 age cohort, at 28.9%, compared to that of Mayo and the State recorded at 26.6% and 23.8%, respectively. It was also higher in 2022 at 27.6% in comparison to Mayo and the State at 26.8% and 25.1%, respectively.
- 4.51 Compared to the other age cohorts, as highlighted in **Plate 4-1** below, in 2016 the Study Area had a slightly lower percentage of persons in the 15-24 age cohort at 10.4% compared to that of the State and Mayo, recorded at 12.1% and 10.8% respectively. In 2022 this figure stayed the same in the Study Area, which was lower than the State and Mayo, which were 12.5% and 10.9%, respectively.
- 4.52 In 2016 the Study Area was also composed of a lower percentage of persons in the 25-44 age cohort, at 20.4%, compared to that of the State and Mayo, recorded at 29.5% and 24.6% respectively. In 2022 this slightly increased to a share of 20.6% in the Study Area, compared to shares of 27.6% and 23.5% within the State and Mayo respectively.
- 4.53 However, it should be noted that the population of the study area is far less than that of the State and Mayo in absolute numbers, as highlighted in **Tables 4-6 and 4-7**. The proportion of individuals aged 65 and over in the Study Area is significantly higher than the State and Mayo across 2016, at 21.5% compared to 13.4% and 17.6% within the State and Mayo respectively, and 2022, at 24.7% compared to 15% and 19.8% within the State and Mayo respectively.

**Table 4-5: Population Distribution by Age Category 2016 (Source: CSO)**

AREA	0-14	15-24	25-44	45-64	65+
State (2016)	1,006,788	576,642	1,405,722	1,134,927	637,786
Mayo (2016)	26,554	14,137	32,155	34,752	22,909
Study Area (2016)	250	140	273	388	289

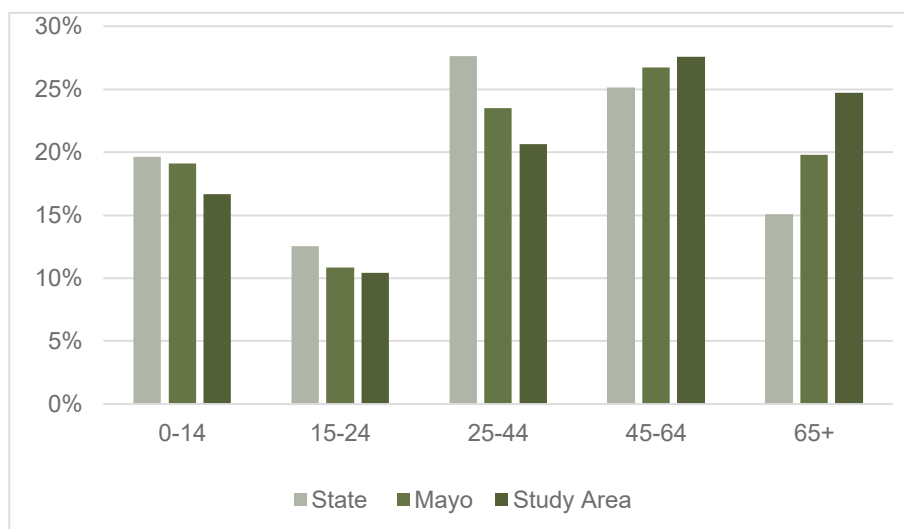
**Plate 4-1: Population Distribution by Age Category in Percentage Terms – 2016 (Source: CSO)**



**Table 4-6: Population Distribution by Age Category 2022 (Source: CSO)**

Area	0-14	15-24	25-44	45-64	65+
State (2022)	1,012,287	644,771	1,422,424	1,293,342	776,315
Mayo (2022)	26,362	14,984	32,388	36,908	27,328
Study Area (2022)	221	138	273	365	327

**Plate 4-2: Population Distribution by Age Category in Percentage Terms – 2022 (Source: CSO)**



4.54 In summary, it is noted that the population growth rate and increase in population density over the last period of census data has been relatively low within the Study Area as a whole, with a comparatively low rate of household numbers increase compared to wider trends. The average household size within the Study Area is slightly lower than the State and County Mayo. The proportion of individuals aged 65 and over in the Study Area is also significantly higher than the State and County.

**Economic Status of Population**

4.55 As shown in **Table 4-7**, the population within the study area has high levels of unemployment when compared to the County and State.

**Table 4-7: Economic Status of the Total Population Aged 15+ in Percentage terms - 2022 (Source CSO)**

Economic status	Study area	Mayo	State
At work	43%	52.3%	56.1%
Looking for first regular job	0.6%	0.8%	0.8%
Short term unemployed	2.4%	1.6%	1.7%
Long term unemployed	3.4%	2.7%	2.6%
Student	10%	9.7%	11.1%
Looking after home/family	9.2%	6.7%	6.6%
Retired	23.9%	20.7%	15.9%
Unable to work due to permanent sickness or disability	6.3%	4.8%	4.6%
Other	1.1%	0.8%	0.7%

## Land Use

- 4.56 The Proposed Project is located in an area that is generally flat, and primarily consists of cutover lowland bog, which is extensively drained and subject to scrub encroachment. Small areas of wet grassland are also present. Habitat within the immediate vicinity of the Main Wind Farm Development Site comprises conifer plantation and peatland.
- 4.57 **Figure 4-4** shows the various Corine (2018) land uses indicated on EPA within the Main Wind Farm Development Site, which include:
- Code 312 'Coniferous forests.
  - Code 412 'Peat bogs.
  - Code 324 'Transitional woodland scrub'.
- 4.58 It covers an area of approximately 454 hectares (ha), primarily consisting of a mixture of cutover bog and conifer plantation, with a mixture of conifer plantation, recolonising bare ground and wet grassland in the Southern Cluster.

## Recreation, Amenity and Tourism

- 4.59 Tourism is one of the major contributors to the national economy and is a significant source of full time and seasonal employment. The Irish Tourism Industry Confederation estimates that in 2024, expenditure by international visitors reached €6.2 billion. Overseas tourist visits to Ireland grew from 2023 to 2024 by 1.7% to 6.6 million for the year. Ireland is divided into seven tourism regions. The Study Area is located within the West Region which comprises counties Mayo, Galway and Roscommon. **Table 4-8** provides total revenue and breakdown of visitor numbers for the region during 2024. These figures reflect the substantial increase in both the volume and value of tourism to the region.

**Table 4-8: Tourism Revenue and Numbers (Source: Key Tourism Facts 2024, Fáilte Ireland, 2024)**

West region		
Market	Numbers (000's)	Revenue (€m)
Britain	270	143
Mainland Europe	419	263
North America	454	378
Other Areas	83	64
All Overseas	1226	847
Northern Ireland	100	30
Domestic	2461	618

- 4.60 Section 5.4 Tourism, of the Mayo County Development Plan 2022 – 2028 (MCDP), states that the County has much to offer as a tourist destination and has great potential to further develop its tourism industry as a key economic sector for the County. It also states that County Mayo possesses a wealth of natural resources, unspoilt environment, scenic and sensitive landscapes. The marketing of the Wild Atlantic Way (WAW) offers unprecedented

opportunities for Mayo, particularly as it has been identified as ‘*The heartbeat of the Wild Atlantic Way*’.

4.61 Relevant tourism objectives from the MCDP include:

### **TRP 3**

*To support the work of Fáilte Ireland and the strategic growth of tourism development in the county through*

- a. To support the implementation of the Wild Atlantic Way Tourism Strategy.*
- b. The implementation of Fáilte Irelands Destination & Experience Development Plans (EDP’s) for Clew Bay and North Mayo/Erris.*

### **TRP 6**

*To promote and support the continued strategic development of Westport, Ballina and Castlebar as tourist destinations through:*

*[...]*

*Promote the significant tourism potential of Ballina and its location as a prominent stop on the Wild Atlantic Way, a gateway to Northwest Mayo, the Céide Fields, and internationally renowned salmon fishing, through investment in tourism related infrastructure, including Monasteries of the Moy Greenway from Belleek to Killala, incorporating EuroVelo1 Atlantic Coastal Route, Mountain Biking Trail via Ballina connecting the Wild Nephin Ballycroy National Park to the National Mountain Bike Trail at Coolaney and ongoing development of the Wild Atlantic Way, including Discovery Points at Crockets Town.*

*[...]*

## **Tourism Infrastructure**

4.62 Section 5.4.3.2 of the MCDP states that services and infrastructure should be clustered in visitor destination towns and villages where possible, providing for a suitable range and critical mass of services that will strengthen visitor destinations. Relevant policies related to tourism infrastructure are as follows:

### **TRP 22**

*To support the implementation of priority infrastructural developments and tourism facilities identified by the Tourism Section of Mayo County Council, including the development of new tourist facilities or upgrading/extension of existing tourist facilities at tourist sites within the county, within proper planning and sustainable development principles.*

### **TRP 24**

*To encourage the clustering of tourism products and services within identified hubs, to facilitate the sharing of infrastructure and services where possible, to increase linkages within and reduce leakage from the local economy.*

## Local Amenities

4.63 In addition to the tourist attractions detailed in subsequent sections, the Study Area is located within proximity to several local community amenities that serve the day-to-day needs of the local population.

4.64 A review of the local area identified the following amenities:

- **Schools:** Glencastle National School is located approximately 4.7 km from the Main Wind Farm Development Site. The nearby town of Belmullet (just under 10 km away) contains six additional schools ranging from Montessori to secondary level education.
- **Community Facilities:** The Geesala Community Centre is situated approximately 4.6 km from the Main Wind Farm Development Site.
- **Accommodation:** The Erris Coast Hotel is located 4.6 km away, and the Belmullet Coast Guard Station self-catering accommodation is approximately 5.6 km from the Main Wind Farm Development Site.

## Local Recreational and Sports

4.65 A number of specific recreational and sporting assets are present within the surrounding area:

- **GAA Clubs:** The Kiltane GAA Club is located approximately 10 km from the Main Wind Farm Development Site, and the Belmullet GAA Club is approximately 12 km from the Main Wind Farm Development Site.
- **Water Sports:** 360 Kitesurfing Lessons / Kiteboarding Ireland operate coastal areas, with activities approximately 3 km from the Main Wind Farm Development Site.
- **Walking Trails:** The Main Wind Farm Development Site is located approximately 2.6 km from the coastline, which offers several beaches and walking amenity areas, including Doolough Beach.

## Culture & Heritage

4.66 Section 5.4.3.1 of the MCDP states that Mayo is a county with a rich heritage and owing to the remote and rural character of the county, much of this has remained intact to this day. The Ballycroy and Nephin National Park, Dark Sky Park, woodlands, rivers and lakes such as Lough Conn, Corrib and Cullen are all given as examples of Mayo's richly diverse landscape. Buildings and museums of cultural and heritage value include the Jackie Clarke Museum, Museum of Country Life, Westport House, Moore Hall, and Enniscoe. It is a policy of the Council:

### **TRP 15**

*To support the implementation of the opportunities and actions identified in the Mayo Tourism Strategy and Action Plan – Destination Mayo 2015-2021, SEA and AA, regarding the development of cultural and amenity tourism and the Wild Atlantic Way in Mayo, in conjunction with the Tourism section of Mayo County Council and other relevant stakeholders*

4.67 Relevant cultural and amenity tourism objectives include:

**TRO 8**

*To investigate the further potential of the Wild Nephin Ballycroy National Park and Dark Sky initiative in a sustainable manner. This approach should demonstrate good practice in terms of eco-tourism and wilderness and seek to gain recognised accreditation on same.*

**TRO 10**

*Encourage sensitively designed and located development which provides for the appreciation, interpretation, upgrade and provision of access to natural habitats, scenic vistas and heritage and geoheritage features for the benefit of rural tourism, subject to normal planning and nature conservation consideration.*

**TRO 11**

*To utilise Mayo's natural and heritage resources to foster the development of tourism as a viable sustainable sector of the economy, in a sustainable manner, which complements the scale, quality and unique features of the county.*

4.68 According to the MCDP, the WAW has been a very successful tourism initiative, showcasing the natural assets and outstanding scenery of the West and has been an important economic driver for Mayo. The section of the WAW that runs through Mayo is 543 km of coastal drive, spanning from Killary Harbour in the south, to Ballina in the north and beyond into County Sligo.

4.69 Policy TRP 27 includes actions to help improve the WAW in its role to grow the economic contribution of tourism along its route, such as:

- The development of signature discovery points to assist and secure Mayo's position as 'The Heartbeat of the Wild Atlantic Way'.
- Working with relevant landholders and recreational / tourism agencies to increase access to the countryside and our coastal areas, and to ensure maintenance and access to the existing network of trails, paths, and tourist sites along the Wild Atlantic Way.
- Supporting the exploration of the development of new tourist services, parking and facilities or upgrading/extension of existing tourist services, parking and facilities at tourist sites along the WAW.

4.70 The WAW is in close proximity to the Main Wind Farm Development Site to its south, located just over 1.2 km northwest of the nearest turbine at its closest point. A number of discovery points as part of the route are in the proximity of the Main Wind Farm Development Site, as well as amenity walking routes, visitor centres and historical landmarks, as laid out in **Table 4-9**.

**Table 4-9: Approximate Distance of Tourism Sites to Main Wind Farm Development Site**

Approximate Distance of Tourism Sites to Main Wind Farm Development Site in km	
WAW Route	1.2 km
Doolough Beach	4 km
Troiste Megalithic Court Tomb	4 km
Claggan Island (WAW discovery point)	5 km
Doohoma Head (WAW discovery point)	7 km
Blacksod Harbour (WAW discovery point)	11 km
Carrowteige Loop Walk	12 km
Elly Beach (WAW discovery point)	12 km
Ballycroy Visitor Centre - Wild Nephin National Park	12 km
Falmore (WAW discovery point)	12 km
SOLAS Visitor Centre	13 km
Erris Head Loop Walk	16 km
Achill Aquarium	19 km
Céide Fields	32 km

## Human Health

- 4.71 Human health in relation to this assessment refers to the nature and possibility of adverse health effects on humans. In the context of existing human health, the most recent update from the Department of Health in Ireland regarding the 'Health in Ireland, Key Trends' report<sup>3</sup> was published on February 14, 2025, and last updated on February 17, 2025. The 2024 edition of the report provides summary statistics on health and health care over the past 10 years. The report highlights selected trends and topics and includes data from newly available sources.
- 4.72 Ireland has the highest self-perceived health status in the EU, with 79.5% of people rating their health as good or very good<sup>4</sup>. The number of people reporting a chronic illness or health problem is also lower than the EU average (35%), at around 28.4% of the population.
- 4.73 Generally speaking, Ireland has a high level of good/very good health demonstrated in self-evaluation statistics included in Census data, which has been provided below in **Table 4-10**. The data below shows the self-reported health status of individuals within County Mayo to be slightly better than within the Study Area (**Figure 4-1**). Health status reported as being bad or very bad is marginally higher in the Study Area when compared to County Mayo and the State.

<sup>3</sup> <https://www.gov.ie/en/department-of-health/collections/health-in-ireland-key-trends-2024/> [Accessed: December 2025]

<sup>4</sup> [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Self-perceived\\_health\\_statistics#:~:text=More%20than%20two%20thirds%20\(67.9.chronic\)%20health%20problem%20in%202023](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Self-perceived_health_statistics#:~:text=More%20than%20two%20thirds%20(67.9.chronic)%20health%20problem%20in%202023) [Accessed: December 2025]

**Table 4-10: Self-perceived health status in Ireland (CSO, 2022<sup>5</sup>)**

Area	Very Good	Good	Fair	Bad	Very Bad	Not Stated
State	53.2%	29.7%	8.6%	1.4%	0.3%	6.7%
County Mayo	51.4%	32.1%	10.2%	1.6%	0.3%	4.5%
Study Area	45.5%	33.8%	14.4%	2.2%	0.9%	3.1%

- 4.74 With respect to health and safety, the Health and Safety Authority of Ireland monitor fatal workplace injuries throughout Ireland. In relation to construction activities, in the past 10 years (2010 to 2019) an average of 8.1 fatal workplace injuries have occurred per year throughout Ireland. It is likely that there is a reduction in reported incidents in 2020 and 2021, largely due public health measures introduced as a result of the COVID-19 pandemic, therefore incidents pertinent to 2020 and 2021 were not considered.
- 4.75 This is above average in relation to other economic sectors. The average number of fatal workplace injuries throughout all economic sectors over the same period in Ireland has been 4.5 fatal workplace injuries per year. This indicates the above average danger levels which workers are exposed to on construction sites.

## Assessment of Effects

### Population, Population Density, Household Statistics and Age Structure

#### Potential Effects – Construction

##### Main Wind Farm Development Site

- 4.76 The potential effects on population and demographic trends arising from the Proposed Project during its construction phase relate to potential population increase or decrease.
- 4.77 During the construction phase of the Proposed Project, it is likely that the majority of workers travelling to the site will do so from outside of the study area.
- 4.78 It is expected that workers from within the study area will be employed at the Main Wind Farm Development Site. However, the relatively low population available in the study area, combined with a high percentage of employed persons, see **Paragraph 4.105**, which indicates that there is a limited available work force in the study area and therefore many workers employed at the construction sites are likely to travel from the surrounding towns and city.
- 4.79 **Table 2-1 of Chapter 2** of this EIAR sets out a range of turbine dimensions associated with the Proposed Project. This assessment considers the effects of the three candidate turbines outlined therein. It has been determined that the permutation of sizes between the turbine types, foundations and turbine hardstandings will have no measurable effect on population, population density, household statistics or age structure. The higher output turbine of 7MW would not result in an increase in workers attending the site over the lower 5.7MW turbine type.

<sup>5</sup> <https://visual.cso.ie/?body=entity/ima/cop/2022> [Accessed: December 2025]

- 4.80 With respect to the potential construction impacts of the Proposed Project on population density, household statistics and age structure, construction works will give rise to brief/short term population increase in the study area during working hours. It is unlikely that workers will take up residence in the study area, however, it is possible that some workers will stay in accommodation within the Study Area. Workers may also stay in accommodation in the County Mayo area during the construction phase resulting in potential temporary population increases in these areas. This is associated with the direct employment of construction workers, trades people, labourers and specialised contractors.
- 4.81 According to the European Wind Energy Association's (EWEA) Report 'Wind at Work' (2009), 1.2 jobs per MW are created during installation of wind energy projects<sup>6</sup>. The Institute for Sustainable Futures document (2019) estimates a higher rate of 3.0 job per MW of wind energy development during the construction and installation phase<sup>7</sup>. For the construction phase therefore, job creation can be estimated to range from 1.2 to 3.0 direct jobs per megawatt (MW). For a wind farm with a capacity between 74.1MW and 91MW, using the lower estimate of 1.2 jobs/MW, the project might create approximately 89 jobs at 74.1MW and using the higher estimate of 3.0 jobs/MW, the project might create approximately 273 jobs at 91 MW. Thus, a wind farm in Ireland with a capacity of 74.1MW to 91MW could result in the creation of between approximately 89 and 273 jobs during its construction phase.
- 4.82 The population of the study area, as recorded in the 2022 Census, was 1,324 persons. The construction phase of the Proposed Project is estimated to create between 89 and 273 direct jobs. These workers could potentially increase the population of the study area by between 6.7% and 22% during working hours.
- 4.83 However, this increase is expected to be short term and limited to the construction phase, with the population returning to normal levels outside of working hours. Given the short-term nature<sup>8</sup> of the construction work, it is unlikely that workers will take up permanent residence in the study area. However, it is plausible that some workers may choose to stay in temporary accommodation within the study area or in the wider County Mayo area, potentially leading to short term population increases in these areas as well.
- 4.84 The age structure of the study area may also see a slight adjustment in the 20-55 age bracket due to the influx of construction workers. However, this effect is expected to be slight and short term, lasting only for the duration of the construction phase.
- 4.85 In summary, the construction phase of the Proposed Project is likely to result in a slight, short-term increase in population, primarily during construction hours and in the 20-55 age bracket. However, these effects are expected to return to baseline levels following the completion of the construction phase.

## Construction of Substation and BESS

- 4.86 The construction works associated with the substation and BESS for the Proposed Project will be undertaken at a fixed location. It is expected that these works will be conducted over a 24-month period once the proposed turbines are acquired via a competitive tender

<sup>6</sup> [https://www.ewea.org/fileadmin/files/library/publications/reports/Wind\\_at\\_work.pdf](https://www.ewea.org/fileadmin/files/library/publications/reports/Wind_at_work.pdf) [Accessed: December 2025]

<sup>7</sup> <https://www.greenpeace.org/static/planet4-africa-stateless/2019/04/6cd35f47-jt-global-employment-report.pdf> [Accessed: December 2025]

<sup>8</sup> Environmental Protection Agency (2022) Guidelines on the information to be included in Environmental Impact Assessment Report: pg. 51

process. The construction phase of the Proposed Project is expected to create between 89-273 jobs, which could lead to a temporary increase in the local population. However, as these jobs are temporary, this increase in population is likely to be short term. However, it is unlikely that a permanent impact on the population in the study area will occur, in terms of changes to population trends, density, household size, or age structure as a result of the construction phase.

- 4.87 Overall, while the construction work on the substation and BESS may bring about temporary changes in the local population dynamics, these impacts are expected to be minimal and short-lived. The Applicant is committed to minimizing these impacts as much as possible and will continue to engage with the local community throughout the construction phase to address any concerns and provide updates on the progress of the Proposed Project.

## Potential Effects – Operational

### Main Wind Farm Development Site

- 4.88 Once constructed, it is envisaged that there will be direct and indirect employment associated with the operational phase of the Proposed Project. According to the European Wind Energy Association's (EWEA) Report 'Wind at Work' (2009, see earlier reference), 0.4 long-term jobs are likely to be created per MW of total installed capacity.
- 4.89 A study carried out by the Institute for Sustainable Futures (2015) estimates that the operational and maintenance job output for a wind farm is likely to be 0.3 jobs per MW of total installed capacity based on an average of 6-7 studies.
- 4.90 Based on these figures, it is expected that the operational phase of the Proposed Project could create approximately 22-36 long term jobs (with an installed capacity of 74.1-91 MW). These jobs include operations and maintenance, back-office support and indirect jobs created by other activities related to installed turbines including IPP/utilities, consultancy firms, research institutions, universities and financial services.
- 4.91 Although only a small proportion of these jobs are likely to be based in the Study Area, the operational phase will give rise to a slight increase in population within the Study Area during working hours as a result of operations and maintenance. This effect is expected to be slight and long term.
- 4.92 As is the case for the construction phase, the permutation of sizes between the turbine types, foundations and turbine hardstandings will have no measurable effect on population, population density, household statistics or age structure.

### Operation of Substation and BESS

- 4.93 Once the substation and BESS are constructed there are unlikely to be further works during operation, therefore no potential population effects are envisaged during the operational period.

## Potential Effects – Decommissioning

### Main Wind Farm Development Site

- 4.94 The decommissioning phase of the Proposed Project is described in **Chapter 2** of this EIAR and provides for the removal of turbines and associated infrastructure from the Main Wind Farm Development Site. The potential impacts associated with the decommissioning phase in relation to population and demographics will be similar to those associated with the construction phase but of a reduced magnitude.

- 4.95 A construction crew will be required for dismantling and decommissioning the infrastructure. As the decommissioning of the Proposed Project is expected to be less intensive than the construction phase, it is likely that fewer construction workers than the 89-273 construction jobs noted in the construction section will be required for this phase. During the decommissioning phase, the population of the study area will increase daily during working hours and return back to normal outside of working hours.
- 4.96 As removal works will be of relatively short duration, it is unlikely that workers will take up residence in the study area, however, it is possible that some workers will stay in accommodation within the study area. Workers may also stay in accommodation in the County Mayo area during the decommissioning phase, resulting in potential temporary population increases in these areas also.
- 4.97 The decommissioning phase is therefore likely to result in a slight, temporary increase in population within the study area, producing a slight temporary effect on population trends. It is not likely that the decommissioning phase will result in any permanent impact to population in terms of changes to population trends, density, household size, or age structure.
- 4.98 As is the case for construction and operational phases, the permutation of sizes between the turbine types, foundations and turbine hardstandings will have no measurable effect on population, population density, household statistics or age structure. The higher output turbine of 7MW would not result in an increase in workers attending the site over the lower 5.7MW turbine type (1.2-3.0 jobs per MW range as set out earlier).

## Substation

- 4.99 The substation will remain in situ on a permanent basis. There is no expected impact on population trends, density, household size, or age structure associated with the Proposed Substation and Grid Connection Route as a result of the decommissioning phase.

## Mitigation Measures

### Main Wind Farm Development Site

- 4.100 As there will be no significant effect on population trends, density, household size or age structure, no mitigation measures are required.

### Substation and BESS

- 4.101 As there will be no significant effect on population trends, density, household size or age structure, no mitigation measures are required.

## Residual Effects

- 4.102 The residual effect during construction and decommissioning is expected to be a slight, short-term population increase, which is **not significant** in EIA terms.
- 4.103 The residual effects of the Proposed Development with respect to population are associated with the operation and maintenance jobs during the operational phase. This is likely to result in a temporary, slight population increase in the study area during working hours, which is **not significant** in EIA terms.
- 4.104 As per the assessment of operational effects, any impact to the population of the study area in terms of changes to population trends, density, household size, or age structure will be imperceptible and long term and **not significant** in EIA terms. It is unlikely that long term

residual effects will occur to population and demographic trends as a result of the Proposed Development.

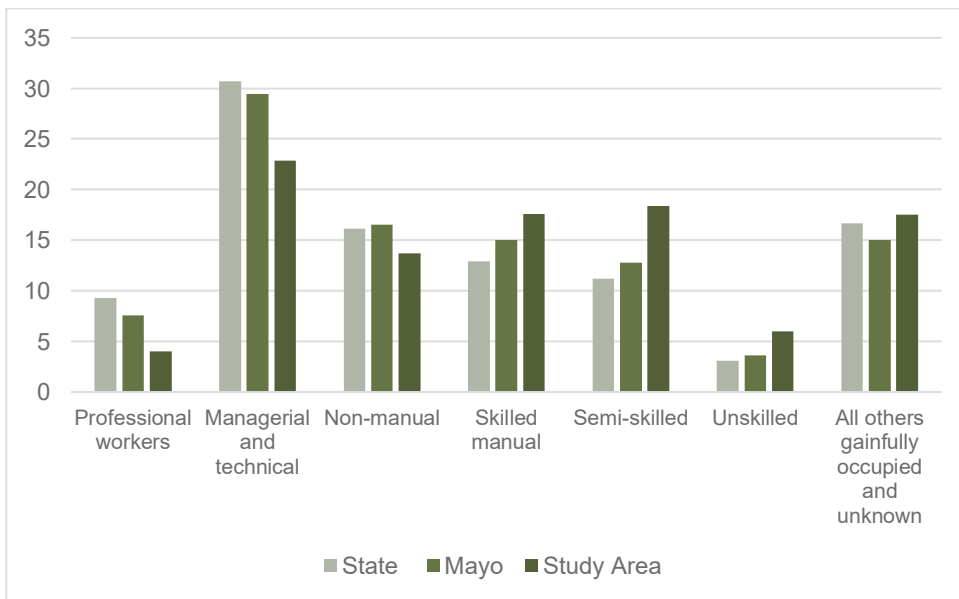
## Socio-economics, Employment and Economic Activity

4.105 This section provides a comprehensive overview of the socio-economic, employment and economic activity associated with the Study Area, County and State, in order to provide an understanding of the overall socio-economic profile of the receiving environment and the potential effects arising from the Proposed Project.

### Baseline Conditions Employment and Economic Activity

4.106 The socio-economic profile of the study area considers employment and economic activities including skill or educational attainment. **Plate 4-3** illustrates the percentages of those employed in each socio-economic group in the State, Mayo and the study area, as per the 2022 Census.

**Plate 4-3: Percentages employed in each socio-economic group in the State, Mayo and the Study Area (2022 Census)**



4.107 In the Study Area, the largest employment group is the Managerial and Technical group, making up 22.8% of the total employment. This is lower than the proportion of those in the same group in the State (30.7%) and in the County (29.4%).

4.108 Semi-skilled and skilled manual workers make up the next largest groups in the study area at 18.4% and 17.6% respectively. Both groups are more highly represented in the Study Area than within Mayo and the State.

4.109 All others gainfully occupied and unknown account for the fourth largest group of total employment in the study area (17.5%), with a slightly higher rate than within Mayo and the State.

4.110 Professional workers make up the smallest proportion of the total employment in the study area, and a lower proportion than within Mayo and the State.

## Employment and Investment Potential in the Irish Wind Energy Industry

- 4.111 The Sustainable Energy Authority of Ireland (SEAI) estimates, in their *Wind Energy Roadmap 2011-2050*<sup>9</sup>, that onshore and offshore wind could create 20,000 direct installation and operation/maintenance jobs by 2040 and that the wind industry would also have an annual investment potential of €6-12 billion by the same year.
- 4.112 A 2014 report titled *The Value of Wind Energy to Ireland*<sup>10</sup>, published by Pöyry, stated that growth of the wind sector in Ireland could support 23,850 jobs (construction and operational phases) by 2030. If Ireland instead chooses to not develop any more wind energy, by 2030 the country will be reliant on natural gas for most of its electricity generation, at a cost of €671 million more per annum in fuel import costs.
- 4.113 Siemens, in conjunction with WEI, published a report in 2014 titled *An Enterprising Wind: An economic analysis of the job creation potential of the wind sector in Ireland*<sup>11</sup>, which concluded, “a major programme of investment in wind could have a sizeable positive effect on the labour market, resulting in substantial growth in employment.”
- 4.114 The report considers the three potential types of direct employment created, as a result of increased investment in wind energy, to be:
- Wind Energy Industry Employment:
    - Installation.
    - Development.
    - Planning
  - Operation and Maintenance.
  - Investor activity.
  - Electricity Grid Network Employment.
  - Potential Wind Turbine Manufacturing Employment.
- 4.115 WEI released a report in March 2021 titled *Our Climate Neutral Future Zero by 50*<sup>12</sup> in light of the Government’s announcement of new, ambitious energy targets in the same month. The report outlines the potential for 50,000 jobs to be created in the renewable energy industry in order to meet the build out requirements to achieve net-zero carbon emissions by 2050. The report estimates that at least 25,000 jobs will be in the onshore and offshore wind energy sector.

<sup>9</sup>Sustainable Energy Authority of Ireland (2011) *Wind Energy Roadmap to 2050*, Available at: [https://www.seai.ie/publications/Wind\\_Energy\\_Roadmap\\_2011-2050.pdf](https://www.seai.ie/publications/Wind_Energy_Roadmap_2011-2050.pdf) [Accessed: December 2025]

<sup>10</sup>Poyry Management Consulting (2014) *The Value of Wind Energy to Ireland*: A report to Irish Wind Energy Association 2014. Available at: <https://windenergyireland.com/images/files/9660bd6b05ed16be59431aa0625855d5f7dca1.pdf> [Accessed: December 2025]

<sup>11</sup>Siemens, IWEA (2014) *An Enterprising Wind: An economic analysis of the job creation potential of the wind sector in Ireland*. Available at: <https://www.esri.ie/system/files/media/file-uploads/2015-07/BKMNEXT250.pdf> [Accessed: December 2025]

<sup>12</sup>Wind Energy Ireland, MaREI (2021) *Our Climate Neutral Future Zero by 50*. Available at: <https://windenergyireland.com/images/files/our-climate-neutral-future-0by50-final-report.pdf> [Accessed: December 2025]

- 4.116 KPMG released a report with WEI in April 2021 titled *Economic impact of onshore wind in Ireland*<sup>13</sup> which states that the wind sector currently supports 5,130 jobs (not including employment in grid development) and further emphasises that this includes “a strong foothold in rural Ireland”. It states that through its direct and indirect activities and employment, the sector supports payment of labour incomes totalling €225 million.

## Economic Value

- 4.117 A 2009 Deloitte report in conjunction with the Irish Wind Energy Association (now Wind Energy Ireland, WEI) titled ‘Jobs and Investment in Irish Wind Energy – Powering Ireland’s Economy’ states that the construction and development of wind energy projects across the island of Ireland would involve approximately €14.75 billion of investment from 2009 up to 2020, €5.1 billion of which would be retained in the Irish economy (€4.3 billion invested in the Republic of Ireland and €0.8 billion in Northern Ireland).
- 4.118 The report also states that increasing the share of our energy from renewable sources will deliver significant benefits for the electricity customer, the local economy and society. It estimates that between 25 and 30% of capital investment is retained in the local economy. This typically flows to companies in construction, legal, finance and other professional services. The report states:
- 4.119 “...the framework acknowledges the need to put the energy/climate change agenda at the heart of Ireland’s economic renewal. Every new wind farm development provides a substantial contribution to the local and national economy through job creation, authority rates, land rents and increased demand for local support services. More wind on the system will also result in lower and more stable energy prices for consumers while helping us achieve our energy and emissions targets.”
- 4.120 A 2022 report by Baringa, titled *Bridging the Gap: Towards a Zero-Carbon Power Grid*<sup>14</sup>, has analysed the financial impact for end consumers of the deployment of wind energy generation in Ireland over the period 2022-2030. The report calculates how the costs and benefits for consumers would have differed if no wind farms had been built. The analysis indicated that the deployment of 5 GW of wind generation capacity (and 3 GW solar) in Ireland between 2022-2030 will result in a total net cost saving to consumers of €600 between 2022 and 2030 and exceed the 2 million tonnes of CO<sub>2</sub> displacement set out in the Climate Action Plan 2021 (noting that since the time this report was published, the Climate Action Plan 2025 has been published). As such, the economic benefit of renewable energy to consumers is greater than what would have been if Ireland did not invest in wind power.
- 4.121 The April 2021 KPMG report<sup>15</sup> introduced above states that by 2030, the onshore wind energy industry along will bring a Gross Value Added (GVA) of €550million per annum to the Irish economy, will contribute €305million total payment in incomes across the supply chain and has the potential to contribute approximately €100million to local authority rates, if 2030 targets are reached. Furthermore, it is estimated that €2.7billion in capital would be invested in the country through to 2030 if Climate Action Plan targets are reached.

<sup>13</sup> KPMG, Wind Energy Ireland (2021) Economic impact of onshore wind in Ireland. Available at: <https://windenergyireland.com/images/files/economic-impact-of-onshore-wind-in-ireland.pdf> [Accessed: December 2025]

<sup>14</sup> Baringa (2022). Bridging the Gap: Towards a Zero-Carbon Power Grid. Online. Available at: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://windenergyireland.com/images/files/bridging-the-gap-a4-report-final.pdf. [Accessed 30/1/2023].

<sup>15</sup> KPMG (2021). Economic Impact of Onshore Wind in Ireland. Wind Energy Ireland. Available at: <https://windenergyireland.com/images/files/economic-impact-of-onshore-wind-in-ireland.pdf>. Date Accessed 31/01/2023

## Energy Targets

- 4.122 In March 2021, the Government of Ireland approved the Climate Action and Low Carbon Development (Amendment) Act 2021 which aims for net-zero emissions by 2050 and an Interim Target of 51% reduction to be reached by 2030, relative to a baseline of 2018. The Government is required to adopt a series of economy-wide five-year carbon budgets, with the first two five-year carbon budgets correlating to the Interim Target. The Act also provides the framework for Ireland to meet its international and EU climate commitments and to become a leader in addressing climate change. The Act states that Local Authorities must prepare individual Climate Action Plans which will include both mitigation and adaptation measures and these must be updated every five years. Local Authority Development Plans must align with their Climate Action Plan.
- 4.123 The Climate Action Plan 2025<sup>16</sup> (CAP25) is the most recent update to the original Climate Action Plan 2019 and the third to be prepared under the Climate Action and Low Carbon Development (Amendment) Act 2021. CAP25 lays out a roadmap of actions towards meeting the national climate objective of transitioning to a climate neutral economy by 2050.
- 4.124 CAP25 builds upon the previous CAP24, updating measures and action required to deliver the carbon budgets and sectoral emission ceilings. Among the most important measures in the plan of relevance to the Proposed Project is an increase to 80% in renewable electricity share by 2030, and a target of 9 GW from Onshore Wind. The Onshore Wind targets to 2030 are a commitment of at least a further 3 GW of onshore wind energy above 2025 levels.
- 4.125 According to the Climate Change Advisory Council Annual Review 2024, in order to meet emissions reduction targets to 2030 the electricity sector needs to achieve the largest reduction in emissions of all sectors: a 75% decrease by 2030 compared with 2018. In 2023, emissions from the sector fell by just over a fifth from 2022 to the lowest level since records began in 1990 and generation from renewable sources increased slightly compared to 2022. The extent of renewables was significantly lower than that required to satisfy 2030 targets for emission reductions. Delays and appeals in the planning process for onshore wind energy projects were cited as significantly hindering progress.

## Potential Effects – Construction

### Main Wind Farm Development Site

- 4.126 Site preparation and installation of the Proposed Project will provide employment for technical consultants, contractors and maintenance staff.
- 4.127 **Table 2-1 of Chapter 2** of this EIA sets out the dimensions of the three candidate turbines assessed in this EIA for the Proposed Project. This assessment considers the effects of the range between the dimensions shown in this table.
- 4.128 As set out earlier, 1.2 to 3.0 jobs per MW are estimated to be created during installation of wind energy projects from general trends within Ireland. Using this figure, a projection of approximately 89 - 273 jobs could be created as a result of the construction of the Proposed Project (for an installed capacity of 74.1-91MW).

<sup>16</sup> Government of Ireland (2025). Climate Action Plan 2025 (online). Available at: [https://assets.gov.ie/static/documents/Climate\\_Action\\_Plan\\_2025\\_updated\\_cover.pdf](https://assets.gov.ie/static/documents/Climate_Action_Plan_2025_updated_cover.pdf). [Accessed: 21/5/2025]

- 4.129 Therefore, it is considered that between approximately 89-273 staff/contractors could be employed during the construction phase of the Proposed Project. The employment of tradespeople, labourers, and specialised contractors for the construction phase will have a direct short term, positive impact on the local economy, bringing significant benefits to local service providers and businesses with a direct and indirect financial benefit to the local community and local businesses / service providers.
- 4.130 It is likely that there will be direct employment for people living in the study area who may be qualified for construction-related roles. Materials will also be sourced in the locality where possible. This will assist in sustaining employment in the local construction trade. As a result, the construction phase of the Proposed Project will have a beneficial, albeit slight and short-term effect on the employment profile of the area and a short term, slight effect on local businesses and services in the study area and in nearby towns located in County Mayo.
- 4.131 The variance in output of the turbines whether 5.7MW, 6MW or 7MW selected may have only a very slight increase in workers attending the site as noted above. The permutation of sizes between the turbine types, foundations and turbine hardstandings will have no measurably different effect on socio-economics, employment or economic activity.
- 4.132 The turbine delivery route will undergo temporary accommodation works along the route to facilitate the delivery of turbines and substation components. Once all components are delivered to the Main Wind Farm Development Site, these works will be reinstated where available. The potential effect on socio-economics in terms of increased employment and economic activity, are considered to be beneficial albeit slight and short term.
- 4.133 Construction works will be conducted over an 18–24-month period. The construction employment associated with the Proposed Development forms a large proportion of the overall 89-273 figure for the Proposed Project, which represents a beneficial, slight, short-term effect on the employment profile of the area and a short term, slight effect on employment and economic activity, which is the same regardless of permutations of turbine type, foundation type or turbine hardstanding.

## Potential Effects – Operational

### Main Wind Farm Development Site

#### Economic Value and Employment Potential

- 4.134 The Proposed Project will contribute to achieving Ireland’s energy target as set out in the Climate Action Plan 2025, which has a target of 80% renewable electricity for the country by 2030. With a target increase in onshore wind capacity of up to 9GW by 2030, the Proposed Project has the potential to substantially contribute to these ambitious targets.
- 4.135 Once the Proposed Project is constructed, it is envisaged that there will be direct and indirect employment associated with the operational phase of the Proposed Project. Opportunities for mechanical-electrical contractors and craftspeople to become involved with the operation and maintenance of the Proposed Project will arise.
- 4.136 The assumptions and references used to estimate job creation associated with the construction and operational stages of the Proposed Project have been set out in **Paragraph 4.80**.
- 4.137 Although only a small proportion of these jobs are likely to be directly taken by occupants in the Study Area, it is likely that the indirect jobs that the operational phase will support, such as consultants, research institutions, universities and financial services, will provide

an indirect benefit to the local economy. It is likely that there will be direct employment available for people living in the Study Area and County who may be qualified for jobs associated with operation and maintenance. There may be opportunities for local residents to train / retrain in order to take local employment associated with the Proposed Project. It is therefore considered that the operational phase of the Proposed Project has potential for a slight positive indirect impact on employment in the Study Area and County Mayo for all turbine permutations listed in **Table 2.1 of Chapter 2** of this EIAR.

- 4.138 Rates and development contributions paid by the operator of the Proposed Project will provide substantial funds to Mayo County Council. These funds will be used to enhance the services available to the residents of the county.
- 4.139 All of the proposed wind turbines are situated within County Mayo. The Mayo County Council Development Contribution Scheme 2023 took effect on 30<sup>th</sup> June 2023 and includes a specific category for energy development, with a contribution rate of €10,000 per MW. This suggests that a significant Development Contribution of between €741,000 and €910,000 (based on an installed capacity of 74.1MW to 91MW) will be made payable by the Applicant. Business rates will also contribute significantly to the local authority's revenue.
- 4.140 Development contributions paid on the Proposed Project will benefit various general council services such as road maintenance, fire services, environmental protection, street lighting, and footpath works. The Applicant will provide assistance to landowners through lease agreements and wayleave agreements associated with the Proposed Project and also support local community initiatives through the Community Benefit Scheme.
- 4.141 As is the case with the construction phase, the permutation of sizes between the turbine types, foundations and turbine hardstandings will have no measurably different effect on socio-economics, employment or economic activity.

### Proposed Community Benefit Scheme

- 4.142 An important part of renewable energy development is its Community Benefit Scheme. The concept of directing benefits from renewable energy developments to the local community is promoted by the National Economic and Social Council (NESC) and the Irish Wind Energy Association (IWEA) among others.
- 4.143 As set out in the terms of the fifth Renewable Energy Support Scheme (RESS), all renewable energy projects applying for RESS will require a Community Benefit Fund prior to commercial operations of the Proposed Project. The contribution for RESS, the fifth renewable energy auction under the support program, requires a contribution of €2/MWh for all onshore wind energy projects. Furthermore, as part of RESS, the Community Benefit Fund will provide a minimum payment of €1,000 to all dwellings located within a distance of 1 kilometre radius from RESS projects. Households located outside a distance of 1 kilometre from the RESS Project but within a distance of 2 kilometres from such RESS Project shall receive an annual payment of an amount lower than €1,000. The amount of this payment shall decrease progressively as the distance from the RESS Project increases, ensuring a proportional allocation based on proximity.
- 4.144 A minimum of 40% of the funds shall be paid to not-for-profit community enterprises, whose primary focus or aim is the promotion of initiatives towards the delivery of the UN Sustainable Development Goals. The characteristics of the Community Benefit Fund are not expected to change significantly in future RESS auctions. If the Proposed Project does not proceed under RESS, the Applicant commits to the payment of a Community Benefit Fund to a similar value in line with best practice.

- 4.145 As detailed in **Chapter 3** of this EIAR, public consultation with the local community began at an early stage in the development process, with engagement commencing during the initial feasibility and scoping stages of the Proposed Project. Through this process, feedback was actively sought on ideas regarding the form that the Community Benefit Scheme should take and how best to achieve maximum potential benefit from the available funding. This will pave the way for the establishment of a local committee to ensure dispersal of the fund throughout the community.
- 4.146 Assuming that the export capacity of the Proposed Project will be approximately 74.1MW to 91MW and is contracted under the RESS, it is anticipated that the community benefit fund for the Proposed Project could deliver between approximately €454,000 to €558,000 per year (based on an output of 5.7 to 7MW per turbine) for the duration of the Renewable Energy Support Scheme which is expected to be for 15 years. Post RESS, the Applicant will also commit to maintaining a Community Benefit Fund for the duration of the Proposed Project in line with best practice and guidelines. However if the Proposed Project does not proceed under RESS, the Applicant commits to the payment of a Community Benefit Fund to a similar value in line with best practice and guidelines.
- 4.147 The Proposed Project Community Benefit Fund will provide a meaningful new investment into the local community directly targeting and passing on the benefit of renewable energy development to those in the immediate locality. This effect will be long-term and have a **significant** beneficial effect for the community.

## Substation

- 4.148 Once complete, the substation will form an integral part of the national electricity grid and is considered to represent a long term slight positive economic effect given its contribution to the adapting electricity infrastructure need of the country.

## Potential Effects – Decommissioning

### Main Wind Farm Development Site

- 4.149 The potential impacts associated with the decommissioning phase in relation to socio-economics, employment and economic activity will be similar to those associated with the construction phase but of a reduced magnitude.
- 4.150 A construction crew will be required for dismantling the infrastructure and carrying out remediation where necessary. As the decommissioning of the Proposed Project is expected to be less intensive than the construction phase, it is likely that fewer construction workers will be required for this phase. During the decommissioning phase employment opportunities will be available in the study area and outlying areas of County Mayo. The presence of construction workers to the study area will have an indirect impact on local businesses and services contributing to the local economy, similar to that of the construction phase but of lesser magnitude.
- 4.151 The variation in output of 5.7-7MW per turbine has the potential to increase the export capacity of the Proposed Project, which may result in a very slight increase in the size of the construction crew responsible for decommissioning works.
- 4.152 There will be a slight, positive short-term impact to socio-economics, employment and economic activity in the Study Area associated with the employment of construction workers within the vicinity of the development during the decommissioning phase.

- 4.153 As is the case with construction and operational phases, the permutation of sizes between the turbine types, foundations and turbine hardstandings will have no measurably different effect on socio-economics, employment or economic activity.

## Substation and BESS

- 4.154 The Substation will be a permanent installation. The BESS will be decommissioned along with the rest of the wind farm infrastructure. The decommissioning of the BESS is included within the overall assessment above and is not expected to significantly increase the magnitude of the decommissioning workforce beyond the slight, positive, short-term impact already identified.

## Mitigation Measures

- 4.155 Given that the potential impacts of the Proposed Project at construction, operation and decommissioning phases are predominantly positive, and there are no significant adverse effects, in respect in respect of socio-economics, employment and economic activity, no other mitigation measures are considered necessary for the Proposed Project.

## Residual Effects

- 4.156 The residual effects of the Proposed Project in relation to socio-economics are considered to be slight and positive (**not significant** in EIA terms) with respect to employment and reduced dependency on fossil fuels. This is a result of the employment opportunities associated with the operation and maintenance of the Proposed Project. There will also be a short term positive economic effects from income spent by construction and decommissioning operations workers in the local area (**not significant** in EIA terms).
- 4.157 The community benefit fund associated with the Renewable Energy Support Scheme (RESS) will provide a long-term slight positive effect to the study area and wider community. As set out in the terms of the latest RESS auction (RESS 5, 2025), the Community Benefit Fund provides for payments to near neighbours of the RESS 5 projects and will provide funding to benefit the surrounding community as a whole, in support of UN Sustainable Development Goals, in particular education, energy efficiency, sustainable energy and climate action initiatives.
- 4.158 Overall, it is considered that the effects of the Proposed Project on socio-economics, employment and economic activity in terms of the Community Benefit Fund will be long-term and have a beneficial **significant** residual effect for the community.
- 4.159 Rates, payments and development contributions have potential to improve service provision throughout County Mayo and in the local area. This is considered a moderate positive residual effect. The provision of the substation, BESS and grid connection to it will form an integral part of the national electricity grid. This is considered to represent a **significant** positive economic effect given its contribution to the adapting renewable electricity generation need of the country.
- 4.160 In accordance with the EPA Guidelines (2022), these long terms investments are considered to have a moderate effect, *“An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends.”*

## Land Use

- 4.161 This section assesses the compatibility of the proposed use with the current land use at the Main Wind Farm Development Site. The determination of the potential effects on the existing land use is assessed for the construction, operation and decommissioning phases of the Proposed Project
- 4.162 6 no. turbines and their hardstandings are to be located within forestry and consequently, tree felling will be required as part of the Proposed Development.
- 4.163 There is an overhead network of low voltage electricity transmission lines throughout the surrounding local area. Within the Main Wind Farm Development Site, these transmission lines run parallel to the local road L5252 in a northwest to southeast direction.

## Potential Effects – Construction

### Main Wind Farm Development Site

- 4.164 The existing land-uses in proximity to the Proposed Project will remain broadly unchanged during the construction phase of the Proposed Project. However, tree felling will occur in order to facilitate the construction of wind turbines and their associated infrastructure that are located in forested areas. Namely T1, T2, T3 and T7 in the Northern Cluster and T10, T11, T12 and T13 in the Southern Cluster. It is likely that between 27.17 ha and 31.37 ha of forestry located on the site (the majority of which is plantation forestry) will be felled during the construction stage, depending on the permutation of turbine used. Under the 2014 Forestry Act, the planting of alternative land(s) is stipulated and forestry lost will be replaced elsewhere prior to operation of the Proposed Project. These effects are considered moderate but temporary in nature (**not significant** in EIA terms for all permutation of sizes between the turbine types, foundations and turbine hardstandings). It is noted that the felling of trees for wind farm construction is subject to, and can only occur following, the granting of a felling licence by the Minister for the Department of Agriculture, Food and the Marine (DAFM). Any land take for the three Over-run Areas is considered to be temporary as tracks are required for delivery of turbine components.
- 4.165 Additionally, 1.95 kilometres of existing internal agricultural tracks will be upgraded, and 6.80 kilometres of new site access tracks and associated drainage infrastructure will be constructed. All access tracks will be approximately 6m wide along straight sections and wider at turning points. All tracks will be constructed to a 6-metre surface, inclusive of a minimum 5 metre running track and space for stone shoulders where required. Existing drainage infrastructure will be retained and utilised, where possible, and improved, as necessary. New drainage infrastructure will be required on all new access tracks. The site consists of deep peat and soft substrate in areas which influences the track makeup. The majority of the access tracks will be constructed on peatland and as such will result in a change in land use. These effects are considered to be localised, slight and long term (**not significant** in EIA terms) for all permutation of sizes between the turbine types, foundations and turbine hardstandings.
- 4.166 Some land use in close proximity to the site (<500 m) may be temporarily disrupted during the construction phase of the Proposed Development. This is likely to occur on agricultural and forestry lands.
- 4.167 Each turbine will have a turbine hardstanding area constructed at the base to provide solid area for the main installation crane that will be used for the assembly of the turbine. The dimensions of these crane hardstandings are 82m by 35m which are of sufficient area to cover all three candidate turbines. It is proposed that these hardstandings will remain in

place throughout the operational life of the Proposed Project to support ongoing maintenance activities. The effects on land use are considered slight and long term.

- 4.168 Blade laydown areas will be used temporarily for the safe unloading, storage, inspection, and pre-assembly of turbines. Once turbines are erected, the space will no longer be required. The effects on land use of laydown areas are considered to be negligible.
- 4.169 The construction activity that will be involved will represent a change of land use during the short term. The majority of forestry to be lost is of a commercial nature, which is readily replaceable. Replanting will be undertaken as per Forest Service Felling and Reforestation Policy. Remaining forestry practices will also benefit from the upgraded access tracks left in situ throughout the Main Wind Farm Development Site.

### Substation and BESS

- 4.170 The turbines will be linked through underground cabling to a newly constructed Substation and BESS within the Main Wind Farm Development Site in the Northern Cluster. It will serve as the connection point for electricity generated by the turbines to the national grid. The proposed substation compound will measure approximately 84.5 m wide on the southwest width and 82m wide on the northeast width by 149m long on the northwest length and 147.5 m on the southeast length, and will include two control buildings and the necessary electrical components for the grid connection. The proposed Battery Energy Storage (BESS) will be constructed next to the on-site substation and will measure 156m long on the northwest length, 153m long on the southeast length and 3m x 99m wide either side. The construction of these facilities will result in permanent, moderate effects to the existing land use of cutover bog (**not significant in EIA terms** for all permutation of sizes between the turbine types, foundations and turbine hardstandings). The construction of the GCR is expected to occur within the public road and therefore no residual effects are predicted.
- 4.171 The construction of the Proposed Substation could potentially cause short term disturbances to the electricity network in the area. **Chapter 13** of this EIAR has further information on the potential impacts to service users.

## Potential Effects – Operational

### Main Wind Farm Development Site

- 4.172 Once the Proposed Development is operational, the prevailing land use types will be restored, namely cutover bog and forestry, and the built aspect of the Proposed Development (in particular hardstanding) will represent a relatively small proportion of the Main Wind Farm Development Site. Areas of forestry that have been felled will be replanted. Turbine delivery may impact on land use temporarily due to the transportation of abnormal loads on the public road, however there will be **no significant effects** on land use in EIA terms due to the wind farm and TDR during the operational phase.

### Substation and BESS

- 4.173 An area of cutover bog within the Northern part of the Main Wind Farm Development Site will be changed to an area of hardstanding to facilitate the construction of the on-site substation and the BESS. In the context of the Main Wind Farm Development Site, the footprint of the substation and the BESS are small scale and will have a permanent, moderate effect. The GCR will be underground and will not have a long-term adverse impact.

## Potential Effects – Decommissioning

### Main Wind Farm Development Site

- 4.174 The decommissioning phase of the Proposed Project is described in **Chapter 2** of this EIAR and provides for the removal of turbines and associated infrastructure from the Main Wind Farm Development Site. The potential effects associated with the decommissioning phase in relation to land use will be similar to those associated with construction phase but of a reduced magnitude.
- 4.175 Decommissioning works will include removal of all above ground structures including the turbines, mountings and fencing. Substation will be taken in charge by EirGrid / ESBN and become part of the national grid and will therefore remain in situ. The turbine foundations will be covered over and allowed to re-vegetate naturally if required and access tracks will be left in situ. These works will require a construction crew on-site and may cause temporary disruption to surrounding land uses. Removal of infrastructure from the Main Wind Farm Development Site may temporarily impact on remaining forestry practices. During decommissioning works forestry access tracks may be in use by construction crews which may temporarily prohibit access to certain areas of forestry. These effects are considered to be slight and temporary.
- 4.176 Following decommissioning, areas of the Main Wind Farm Development Site cleared of forestry may be replanted, if suitable. Forestry practices will also benefit from the upgraded access tracks left in situ throughout the Main Wind Farm Development Site resulting in a minor, positive impact on the forestry industry in the local area.
- 4.177 The on-site underground 33kV collector cables will remain in situ following decommissioning.

### Substation and BESS

- 4.178 The substation will remain in situ following decommissioning and form part of the national grid. It is a small area, therefore, **no significant effects** in EIA terms on land use would be associated with this element during the decommissioning phase.
- 4.179 The BESS and associated electrical equipment will be removed offsite for recycling. Therefore, **no significant effects** in EIA terms on land use would be associated with this element during the decommissioning phase.

## Mitigation Measures

### Main Wind Farm Development Site

- 4.180 The Proposed Project will alter the land use where proposed works will take place. Mitigation measures for land use have been incorporated within the design, through avoidance / prevention of unnecessary or inappropriate ground works or land use alterations. The layout of the Proposed Project has been designed to minimise the potential environmental effects of the wind turbines on the Main Wind Farm Development Site and the surrounding area. The construction footprint has been kept to the minimum necessary to avoid effects on existing land uses insofar as possible, while at the same time maximising the energy yield of the wind resource which passes over the Main Wind Farm Development Site.
- 4.181 Several embedded mitigation measures have been considered to reduce the potential for impact on sensitive receptors. These have evolved over the design process in response to

consultation. Measures adopted include avoiding sensitive areas of soils and the water environment, ensuring essential infrastructure is outside ecologically sensitive areas (see **Chapter 5** of this EIAR), and minimising the number of watercourses crossing points.

- 4.182 The construction and decommissioning works will be planned and controlled by a Construction and Environmental Management Plan (CEMP). A CEMP which provides details on day to day works and methodologies has been included in **Technical Appendix 2-1** found in Volume 3 of this EIAR. This will be updated where required by the contractor to produce a final CEMP prior to construction commencing. As part of these works, the public and other stakeholders will be provided with updates on construction activities which may impact on their properties. This will be communicated to members of the public through a community liaison officer.
- 4.183 Prior to the GCR installation works within public roads (subject to a separate application), all access points (domestic, business, farm) will be considered when finalising the temporary road closures and diversions, to maintain local access and avoid impacts on various land uses. All proposed works and deliveries along the TDR route will also be controlled by a CEMP to avoid undue impact to adjacent land uses.
- 4.184 Depending on which of the three candidate turbines is chosen as part of a competitive tendering exercise if the Proposed Development is consented, it is proposed to fell between approximately 27.17 ha to 31.37 ha of largely coniferous forestry. All areas due for infrastructure felling will need to be replaced through the compensatory afforestation of an equivalent area of alternative land. More details are provided in **Technical Appendix 2-2: Forestry Report** found in Volume 3 of this EIAR.

### Substation and BESS

- 4.185 In terms of environmental mitigation, the main potential impacts from the construction of the Proposed Project, including the substation and BESS, have been identified as the generation of turbid runoff during construction that could enter the water environment. Several designed-in measures have been considered to reduce the potential for impact on sensitive receptors. These have evolved over the design process in response to consultation. Measures adopted will include avoiding sensitive areas of soils and the water environment and minimising the number of watercourses crossing points. **Chapter 7** and **Chapter 6** of this EIAR contains further information on mitigation measures proposed to protect the water environment and land, soils and geology environment respectively.

### Residual Effects

- 4.186 The permutation of sizes between the turbine types, foundations and turbine hardstandings will have no measurably different effect on Land Use.
- 4.187 Residual effects will be associated with infrastructure that will remain in situ including turbine foundations and hardstands which will be covered over and vegetated. The substation will be taken in charge by EirGrid / ESB and the cable route will remain in situ and will become part of the national grid. Following short term disruption of existing land uses during construction and decommissioning, the vast majority of existing land uses will be restored at the Main Wind Farm Development Site during the operation and post-decommissioning phase. Therefore, the residual effect is for all three phases (construction, operation and decommissioning) is assessed as imperceptible (**Not Significant** in EIA terms).

## Recreation, Amenity and Tourism

- 4.188 This section provides an overview of the recreation, amenity and tourism value for the Study Area, County Mayo and the State in order to assess the likely effects arising from the Proposed Project. This section complied with Fáilte Ireland’s Guidelines on the Treatment of Tourism in an Environmental Impact Statement.
- 4.189 Of note from Fáilte Ireland’s Guidelines in respect of the assessment of potential effects arising from a proposed development on tourism, the following has been considered:
- Indicate the numbers of premises and visitors likely to be directly and indirectly affected by the Proposed Project.
  - Identify and quantify, where possible, the potential receptors of impacts, noting in particular transient populations, such as drivers, walkers, seasonal and other non-resident groups.
  - Describe any significant trends evident in the overall growth or decline of visitor numbers, or of any changes in the proportion of one type of activity relative to any other; and
  - Indicate any commercial tourism activity which is likely to be directly affected, with resultant environmental impacts.

## Potential Effects – Construction

- 4.190 The cultural heritage assessment that has been undertaken as part of this EIA (see **Chapter 12**) has examined the potential for the Proposed Project to impact on culturally important assets in the vicinity, and overall, no potential adverse direct or indirect significant impacts in terms of the EIA Regulations were identified. There will be no potential effects associated with the construction phase in relation to recreation, amenity and tourism.

## Potential Effects – Operational

- 4.191 In relation to tourism and wind energy development, the Wind Energy Development Guidelines for Planning Authorities (2006) states the following:

*“Wind Energy developments are not incompatible with tourism and leisure interests, but care needs to be taken to ensure that insensitively sited wind energy developments do not impact negatively on tourism potential. The results of survey work indicate that tourism and wind energy can co-exist happily”*

- 4.192 The Draft Revised Wind Energy Development Guidelines (2019) also maintain that wind energy development *“can co-exist happily”* with tourism and go on to detail the survey results also cited in the 2006 guidelines. The survey work referred to in the guidelines is the Sustainable Energy Ireland’s (SEI’s) Attitudes towards the Development of Wind Farms in Ireland (2003). The SEI (now SEAI) report found that the overall attitude towards wind farms is positive.

*“The overall attitude to wind farms is very positive, with 84% of respondents rating it positively or very positively (Chart 2.6). Only 1% rate it negatively (‘fairly bad’), with 14% not having an opinion either way, and no one rating wind farms ‘very negatively’. Interestingly, this time it is those from Dublin who are most positively disposed; this could arise from the fact that*

*Dubliners are less likely than others to have a wind farm built in their locality.”*

4.193 Where negative attitudes were voiced towards wind farms, the visual impact of the turbines on the landscape was the strongest influence. The report also notes however that the findings obtained within wind farm catchment areas showed that impact on the landscape is not a major concern for those living near an existing wind farm (SEI, 2003).

4.194 With regard to the economic and environmental impacts of wind farm development, the national survey reveals that attitudes towards wind energy are influenced by a perception that wind is an attractive source of energy:

*“Over 8 in 10 recognise wind as a non-polluting source of energy, while a similar number believe it can make a significant contribution to Ireland’s energy requirements. People therefore seem to have little difficulty with the concept of wind energy”.*

4.195 This report concludes that based on the detailed study of attitudes, it is clear that there is “widespread goodwill towards wind farm developments”.

4.196 The SEAI have recently published new insights on the attitudes towards commercial wind and solar energy farms in Ireland titled ‘Irish National Survey of Households Near New Commercial Wind and Solar Farms<sup>17</sup>’ in May of 2023. Key findings from their research are demonstrated in **Plate 4-4** and summarised below.

**Plate 4-4: People's Attitudes Towards Wind Farms (Source: SEAI<sup>18</sup>)**



<sup>17</sup> <https://www.seai.ie/publications/SEAI-RESS-National-Survey.pdf> [Accessed: December 2025]

<sup>18</sup> <https://www.seai.ie/publications/SEAI-RESS-National-Survey-Key-Findings.pdf> [Accessed: December 2025]

4.197 This study is part of a greater long term socio-economic study on the effects of RESS on communities. The SEAI conducted in person interviews across Ireland, surveying 1,764 households in rural communities who live within 10 km of one of 50 new solar or wind farm projects across Ireland. Other key findings are set out in **Table 4-11** and **Table 4-12**.

**Table 4-11: People's Attitudes Towards Wind Farms (SEAI 2023)**

Survey statement	Agree	Disagree	Don't know
If I want, I can have a say in the planning process of a local wind project.			
Less than 1 km	71%	24%	5%
1-5 km	53%	33%	14%
Project developers and the planning authorities take account of the opinions of communities close to wind projects.			
Less than 1 km	63%	30%	7%
1-5 km	45%	40%	15%

4.198 The SEAI also examined in the 2023 report people's opinions on the Community Benefit Fund, noting that attitudes towards community benefit funds are highly positive, especially among those closest to a project. This is shown in **Table 4-12**.

**Table 4-12: People's Attitudes to Community Benefit Funds (SEAI, 2023)**

Distance	Positive	Neutral	Negative	Don't know
Less than 1 km	84%	7%	7%	2%
1-5 km	77%	11%	7%	5%
Less than 10 km	78%	10%	8%	4%
<b>Overall</b>	<b>78%</b>	<b>10%</b>	<b>8%</b>	<b>4%</b>

4.199 Recent independent research conducted by BiGGAR Economics in 2016 entitled 'Wind Farms and Tourism Trends in Scotland', assessed the relationship between wind farm developments and the tourist industry in Scotland. An analysis was carried out on eight local authorities which had witnessed a higher increase in wind energy developments than the Scottish average. Of the eight local authorities, five also witnessed a greater increase in sustainable tourism employment than that of the National Average with just three witnessing less growth than the Scottish average.

4.200 The research concluded that at local authority level, no detrimental impact occurred on the tourism sector as a result of wind energy development, rather that, in the majority of cases, sustainable tourism employment performed better than other areas.

4.201 Fáilte Ireland conducted research titled "Visitor Attitudes on the Environment", which was first published in 2008 and updated in 2012. The research surveyed both domestic (25%) and overseas (75%) holidaymakers to Ireland to determine their attitudes to wind farms. The survey results indicated that most visitors were broadly positive towards the idea of building more wind farms on the island of Ireland. A minority (one in seven) were negative towards wind farms in any context.

- 4.202 Updated research was undertaken by Fáilte Ireland in 2018<sup>19</sup> to assist it, in its capacity as a prescribed body under planning legislation, to understand how much the visual impacts from development affect visitors' impressions of the quality of the landscape. Detailed research was undertaken, involving a range of specialists in market research, visual impact analysis, landscape architecture, environment, planning and impact assessment. The research was designed to avoid prompting responses considered to have led to bias by respondents in previous studies. One of the main findings of the research was that the majority of visitors did not appear to notice the majority of development – even very large and visually prominent structures such as wind turbines and powerlines. For example, the percentage of visitors reporting that they noticed substantial wind development around the tourist attraction of Gougane Barra was less than 5%.
- 4.203 Further research has been undertaken in Scotland in 2011 by Visit Scotland who have produced a Wind Farm Consumer Research report which showed that 83% of those surveyed said a wind farm would not affect their decision about where to stay when on a holiday or short break in Scotland. Also, against a backdrop of increased wind farm deployment, Visit Scotland's statistics showed the number of visits to Scotland last year and the amount of spending by visitors both increased while their 'Scotland National Visitor Survey 2011' made no mention of the issue of wind farms affecting tourism in Scotland.
- 4.204 Renewable energy projects have also proven to be visitor attractions. Since opening in September 2009, the visitor centre at Whitelee Wind Farm in Scotland, the largest onshore wind farm in the United Kingdom, attracts 200,000 visitors per year (Scottish Power, 2019).
- 4.205 From a review of literature as detailed above, it is concluded that the majority of tourists surveyed had a generally positive view on wind energy development in the landscape.
- 4.206 The Main Wind Farm Development Site is located within two landscape character areas as defined in the MCDP (see **Figure 10-4** in **Chapter 10: LVIA**). The southern extent of the wind farm site is contained within 'Area B: Northwest Coastal Moorlands', whilst the northern extent of the wind farm site is contained within 'Area C: Northwest Coastal Bog'. The Main Wind Farm Development Site is in proximity to other landscape character areas, such as 'Area A: Achill, Clare and Island Complex', 'Area D: North Coastal Plateaux', 'Area E: North Mayo Mountain Moorland' and 'Area F: North Mayo Inland Bog Basin'.
- 4.207 The Zone of Theoretical Visibility (ZTV) study, which extends 20 km around the site (see **Figure 10-8** in **Chapter 10: LVIA**), was also factored into the design. This study, which represents a worst-case visibility scenario, informed the selection of viewpoints for the Landscape and Visual Impact Assessment (LVIA) presented in **Chapter 10** of the EIAR.
- 4.208 **Chapter 10** of the EIAR sets out the potential landscape and visual impacts of the Proposed Project and describes the setting of the Main Wind Farm Development Site in relation to tourism features such as the Standing Stones at An Fál Mór (Falmore), Claggan Island Causeway, Dohoma Head, Golden Strand and Doolough Beach. The assessment concludes that "whilst the Proposed Project will generate some residual borderline significant landscape and visual effects (i.e. Substantial-moderate) in the immediate surrounding of the Site and the nearest surrounding local receptors, it is not considered that the Proposed Project will generate significant landscape and visual effects."
- 4.209 As laid out in **Chapter 10**, there is comprehensive visibility (visibility of 10-13 turbines) of the Proposed Project along the eastern half of the Mullet Peninsula, which contains tourism sites Blacksod Harbour, Falmore, Ely Beach and SOLAS Visitor Centre. As identified in

<sup>19</sup> Fáilte Ireland (2018) Report on Visitor Awareness and Perceptions of the Irish Landscape

**Chapter 10**, the landscape sensitivity of the wider study area (5-20 km from the nearest turbine) is High-Medium, however, areas of High and Very High landscape sensitivity are also present, particularly in relation to elevated uplands and coastal environs. The magnitude of the landscape impact in the wider study area was deemed to be Low and Negligible at increasing distances as the Proposed Project becomes a proportionately smaller component of the overall landscape. Considering the foregoing, the effects on the tourism sites identified on the Mullet Peninsula are deemed to be long term and moderate (**Not Significant** in EIA terms).

- 4.210 Large swathes of the Doohoma Peninsula have potential for comprehensive visibility, however, some areas along the south of the peninsula are effectively screened from the Proposed D Project due to the intervening terrain located within the central parts of the peninsula. Doohoma Head, a tourism site identified above, is located to the south of the peninsula, and is afforded less visibility of the Proposed Project as a result. The landscape sensitivity of the central study area (<c.5 km from the nearest turbine) is deemed Medium, transitioning to High-Medium to the west in the vicinity of the coastline. The magnitude of the landscape impact in the central study area, which partly encompasses Doohoma Peninsula, is High-Medium. Considering the foregoing, and the mitigating screening afforded by the intervening terrain in the central parts of the peninsula, the effects on Doohoma Head as a tourism site are deemed to be slight and long term (**Not Significant** in EIA terms).
- 4.211 There is potential for comprehensive visibility from parts of Wild Nephin National Park, with much of this visibility relating to the west-facing hills and ridges in the western and northern extent of the National Park. Extensive parts of the National Park, most notably the less elevated central parts of the park, will be considerably screened from the Proposed Project with no potential for visibility. As the landscape sensitivity of this area is deemed to be High, and Very High in the more upland areas, and the low and negligible landscape effects in the wider study area, the effects on this tourism site from the Proposed Project are considered to be moderate and long term (**Not Significant** in EIA terms).
- 4.212 The Proposed Project is not visible from much of the Erris Head Loop Walk route, with only the segments of high elevation having comprehensive visibility, and the remaining areas having visibility of between one and nine turbines. This tourist site is at the periphery of the 20 km extent from the Main Wind Farm Development Site. The effects on this tourist site are deemed to be slight and long term (**Not Significant** in EIA terms).
- 4.213 Other tourist sites located closer to the Main Wind Farm Development Site, namely Doolough Beach and Claggan Island, are not screened from the Proposed Project, and have comprehensive visibility of it. Given the High-Medium landscape sensitivity of the coastal areas of the central study area and the medium landscape impacts of the Proposed Project, the effects on these tourism sites are deemed to be moderate and long term (**Not Significant** in EIA terms).
- 4.214 The cultural heritage assessment as detailed in **Chapter 12** predicted no potential adverse direct or indirect significant impacts in terms of the EIA Regulations on cultural heritage assets.

## Potential Effects – Decommissioning

- 4.215 The decommissioning phase of the Proposed Project is described in **Chapter 2** of this EIAR and provides for the removal of turbines and associated infrastructure from the Main Wind Farm Development Site. There will be no potential effects associated with the decommissioning phase in relation to recreation, amenity and tourism.

## Mitigation Measures

- 4.216 Mitigation measures for recreation, amenity and tourism are primarily related to the preliminary design stage of the Proposed Project, which have ensured that the Proposed Project will avoid any adverse effects on recreational or tourist amenity. In designing the Proposed Project, careful consideration was given to the potential impact the proposed turbines may have on the value of the landscape. Buffering of the proposed turbines from residential receptors was also employed as a means of mitigation.
- 4.217 The final proposed layout does not enter any archaeologically sensitive areas. The closest heritage feature is an undated heritage asset within the proposed boundary (**MA025-004**), comprising of a crannog, located c.0.23 km to the northeast of Proposed turbine T11.

## Residual Effects

- 4.218 The long-term residual effects to recreation, amenity and tourism in the surrounding area as a result of the Proposed Project during the Operational Phase are assessed as moderate (**Not Significant** in EIA terms). The predicted significance of the effect applies to all candidate turbines. No residual effects are predicted to remain following the completion of the temporary Construction or Decommissioning phases.
- 4.219 The cultural heritage and landscape and visual assessments found that the development of the wind farm would have slight effects on setting of heritage assets during operation, but overall, no potential adverse direct or indirect significant impacts in terms of the EIA Regulations were identified.
- 4.220 The Community Benefit Fund outlined in **Paragraph 4.35** would have a slight positive residual effect (**Not Significant** in EIA terms) on the local community.

## Human Health

- 4.221 This section provides a comprehensive overview of the health profile of the receiving environment and the State; in order to provide for the assessment of potential effects the Proposed Project may have on human health. An assessment of peer reviewed literature has been carried out to provide a sound, scientific basis for the potential impacts arising from the Proposed Project. In relation to accidents and safety, this section of the chapter should be read in conjunction with **Chapter 15**.

## Potential Effects – Construction

### Main Wind Farm Development Site

- 4.222 The construction phase of the Proposed Project has potential to create health and safety hazards for both construction workers and the general public. This is as a result of construction activities and the associated impacts including increased traffic, transport of heavy or bulky materials, noise emissions, dust emissions, construction on public roads, excavation and general site-safety. Aspects of the construction works that may present health and safety issues, are as follows:
- General construction site safety (e.g., slip/trip, moving vehicles etc.).
  - Lifting of heavy loads overhead using cranes.
  - Working with electricity during commissioning.

- Working at heights.
- Working in confined spaces.
- Ground conditions and soil stability.
- Substation and BESS construction.
- Road safety due to increased traffic numbers and transport of oversized loads to the Main Wind Farm Development Site along turbine delivery routes and proposed haul routes.
- Pedestrian and recreation user safety.
- Installation of electrical cables on-site and in the public road corridor; and
- Potential emissions impacting air quality and noise.

- 4.223 The works proposed as part of the Proposed Project will pose a risk to construction workers on-site especially during adverse weather conditions. This has potential to cause significant impact on human health if proper construction and safety protocols are not followed.
- 4.224 The delivery of turbines will require transport of heavy/bulky goods from Killybegs Port with delivery of the wind turbine components (WTCs) along one distinctive route.
- 4.225 Due to the abnormal size of the turbine components, there are potential human safety risks associated with their delivery including traffic safety and pedestrian safety at special manoeuvring points. This has potential for significant effects to human safety if unmitigated and is addressed in **Chapter 15** of this EIAR.

## Air Quality

- 4.226 Potential impacts on air quality, which can have implications for human health, have been assessed. Energy production from wind turbines does not directly emit pollutants, but the construction phase of the Proposed Project could lead to minor short term or indirect emissions, including vehicular and fugitive dust emissions.
- 4.227 There have been **no significant** effects in EIA terms identified on air quality with regard to the emissions of construction-related traffic. The impact on air quality due to emissions from construction works (construction machinery) has been classified as slight. As a result, the construction phase of the Proposed Project is not expected to have a significant impact on air quality in terms of the EIA regulations.
- 4.228 109 no. residential receptors have been identified within 1 km of the Main Wind Farm Development Site. The nearest residential property is located approximately 740 metres from T10. Given the distance between the Proposed Project and the nearest receptor, the impact on air quality at nearby dwellings is expected to be imperceptible. This indicates that the Proposed Project, even during its construction phase, will not adversely affect the air quality experienced by residents in nearby dwellings.
- 4.229 The carbon resources required for the construction of the Proposed Project and the savings achieved by displacing fossil fuel-generated electricity suggest a net positive impact on air quality in the long term.
- 4.230 The construction and operation of the wind farm are not expected to significantly impact air quality. The production of energy from wind turbines does not directly emit pollutants, unlike fossil fuel-based power generation. Some minor, short-term emissions may occur during construction, such as dust and vehicle emissions, but these are considered negligible. The impact on air quality at nearby dwellings is expected to be imperceptible due to the distance

between the source of emissions and the receptors. The wind farm's operation will not contribute to air pollution, further ensuring that local air quality remains unaffected.

- 4.231 **No significant effects** in EIA terms on air quality due to the Proposed Project have been identified during the construction phase.

## Climate Change

- 4.232 An analysis of the likelihood of climate hazards, the sensitivity of the Proposed Project to climate hazards, and mitigation measures related to climate change adaptation has been conducted. This is assessed in **Chapter 15** of this EIAR.

## Noise

- 4.233 The potential impacts from noise during the construction phase of the Proposed Development are expected to be of a negligible effect, which is **not significant** in EIA terms. It was determined in **Chapter 9** that no additional mitigation measures will be required to reduce a significant effect with regard to noise, but measures will be implemented as part of best practice for the control of noise.
- 4.234 Vibration is generated by construction activities such as rock breaking and passing heavy goods vehicles. However, the nearest noise-sensitive locations are sufficiently distant, at least 740m, that vibration will not be perceivable by residents at their dwellings and building damage will not occur from construction incurred vibration. More detail on vibration is provided in **Paragraphs 9.36-9.39** of **Chapter 9**.

## Water and Soil

- 4.235 The potential effects on human health associated with land, soils, and geology during the construction phase of the wind farm are primarily related to the possibility of soil erosion and sedimentation, which can lead to the contamination of surface water bodies. This can occur due to the removal of vegetation and the disturbance of soil during construction activities. However, with the implementation of appropriate mitigation measures such as the use of silt traps to minimise the sedimentation into natural watercourses, these impacts can be effectively managed and minimized.
- 4.236 Furthermore, the construction activities could potentially lead to the exposure and spread of contaminated soil, if present. However, the preliminary site investigations did not identify any contamination from past uses of the Main Wind Farm Development Site, with some evidence of peat extraction having taken place in the past. In the unlikely event that contaminated soil is encountered during construction, appropriate measures will be taken to manage and dispose of the contaminated soil in accordance with regulatory requirements.
- 4.237 While there are potential effects on human health associated with land, soils, and geology during the construction phase, related to potential exposure to or spread of, unidentified contaminated soil affecting water quality. If unmitigated, these potential effects could result in a temporary minor adverse effect. These effects are expected to be effectively managed and minimized through the implementation of appropriate mitigation measures and good construction practices.
- 4.238 Potential impacts on human health associated with hydrology during the construction phase are primarily related to the possibility of water contamination due to soil erosion and sedimentation. This can occur due to the removal of vegetation and the disturbance of soil during construction activities. However, with the implementation of appropriate mitigation

measures such as the use of silt traps, these impacts can be effectively managed and minimized.

## Summary

- 4.239 Overall, if proper construction safety protocols and traffic management are not applied, the construction phase of the Proposed Project has potential for significant effects to human health and safety for construction workers and members of the public in proximity to the Main Wind Farm Development Site. This applies to all permutations with the range. Mitigation measures to prevent potential impact to human health and safety are set out below.

## Potential Effects – Operational

### Site Access and Safety

- 4.240 The operational period being applied for the Proposed Project is 35 years. During the operational period, there are potential impacts to human health and safety if appropriate mitigation measures are not put in place.
- 4.241 Under normal conditions, turbines do not pose a threat to public safety or the safety of animals. With respect to safety aspects, Section 5.7 of the Wind Energy Development Guidelines (2006) state the following:

*“There are no specific safety considerations in relation to the operation of wind turbines. Fencing or other restrictions are not necessary for safety considerations. People or animals can safely walk up to the base of the turbines. There is a very remote possibility of injury to people or animals from flying fragments of ice or from a damaged blade.”*

- 4.242 Potential human safety issues can occur due to falling ice as a result of the icing of turbine blades in cold weather conditions. This is unlikely to present safety problems as wind turbines will be fitted with anti-vibration sensors. These sensors detect any imbalance caused by the icing of the blades. The sensors will cause the turbine to shut down until the blades are de-iced prior to beginning operation again.
- 4.243 Appropriate site safety measures will be utilised during the operational phase by all permitted employees. High visibility clothing, hard hats and safety boots will be worn at all times to avoid potential injury. Access to the turbines inner structure will be locked at all times and will only be accessed by licenced employees for maintenance.
- 4.244 Considering the inherently low risk of fire associated with the Proposed Project, and the quality and extent of the proposed facility and fire suppressions system, the potential risk posed to public safety and air emissions is considered negligible.

### Health and Safety Standards and Procedures

- 4.245 Rigorous statutory and engineering safety checks imposed on the turbines during design, construction, commissioning and operation will ensure the risks posed to humans are negligible. 24-hour remote monitoring and fault notifications are included as standard in the Turbine Operations and Maintenance Contracts. In addition to scheduled maintenance, the maintenance contracts will allow for call out of local engineers to resolve any issues as soon as they are picked up on the remote monitoring system.

- 4.246 Equipment within high voltage substations presents a potential hazard to health and safety. The proposed substation will be enclosed by a 2.6-meter-high palisade fence and equipped with intruder and fire alarms in line with ESB and EirGrid standards.
- 4.247 Potential impacts to the safety of operation and maintenance staff are associated with working at heights, working at steep gradients or uneven ground, moving vehicles and machinery and working with high-voltage electricity. Properly qualified staff will be employed at the wind farm site and safety protocols will be followed at all times.
- 4.248 As part of the human health assessment of the Proposed Project, an analysis of peer-reviewed literature on potential health impacts arising from wind energy projects was undertaken. Anecdotal reports were identified of negative health impacts in people living in close proximity to wind turbines, however, the literature review demonstrates that peer-reviewed research has not supported these statements.
- 4.249 The review of literature did not find any published, credible scientific sources that link wind turbines to adverse health effects. The key documents that have been taken into consideration with respect of potential effects on human health are as follows:
- ‘Wind Turbine Syndrome – An independent review of the state of knowledge about the alleged health condition’, Expert Panel on behalf of Renewable UK, July 2010.
  - ‘Wind Turbine Sound and Health Effects - An Expert Panel Review’, American Wind Energy Association and Canadian Wind Energy Association, December 2009.
  - ‘A Rapid Review of the Evidence’, Australian Government National Health and Medical Research Council (NHMRC) Wind Turbines & Health, July 2010.
  - ‘Position Statement on Health and Wind Turbines’, Climate and Health Alliance, February 2012.
  - ‘Wind Turbine Health Impact Study - Report of Independent Expert Panel’ – Massachusetts Departments of Environmental Protection and Public Health, 2012.
  - ‘Wind Turbines and Health, A Critical Review of the Scientific Literature Massachusetts Institute of Technology’, Journal of Occupational and Environmental Medicine, Vol. 56, Number 11, November 2014.
  - ‘Wind Turbine Noise and Health Study’, Health Canada, 2014.
  - ‘Wind Turbines and Human Health’, Front Public Health, 2014
  - ‘Position paper on wind turbines and public health’, Health Service Executive, February 2017.
- 4.250 An Expert Panel undertook a review on behalf of Renewable UK in July 2010 to assess the available scientific evidence relating to infrasound generated by wind turbines. This report was entitled ‘Wind Turbine Syndrome – An Independent Review of the State of Knowledge about the Alleged Health Conditions’. This report followed a previous negative publication by Dr. Pierpont entitled ‘Wind Turbine Syndrome’ in 2009. The 2010 report assesses the impact of low-frequency noise from wind turbines on humans. The principal conclusions drawn by this expert panel are:

*“The scientific and epidemiological methodology and conclusions drawn (in the 2009 book) are fundamentally flawed.*

*The scientific and audiological assumptions presented by Dr. Pierpont relating infrasound to ‘wind turbine syndrome’ are wrong; and*

*Noise from Wind Turbines cannot contribute to the symptoms reported by Dr. Pierpont’s respondents by the mechanisms proposed”*

- 4.251 ‘Infrasound’ has been cited as a cause of potential health impacts as a result of wind turbine development. This is discussed in detail in **Chapter 9**. It states that infrasound is noise occurring at frequencies below that at which sound is normally audible, that is, less than about 20 Hz, due to the significantly reduced sensitivity of the ear at such frequencies. In this frequency range, for sound to be perceptible, it must be at very high amplitude, and it is generally considered that when such sounds are perceptible then they can cause considerable annoyance. However, wind turbines do not produce infrasound at amplitudes capable of causing annoyance, according to the available evidence as summarised below.
- 4.252 Research was published in 2020 by the Finnish Government aimed at assessing whether wind turbine infrasound has harmful effects on human health. The study found that scientific evidence on the potential association or studies focusing directly on the health effects of wind turbine infrasound are lacking. The study included a questionnaire, sound measurements, and provocation experiments. The study found that participants who had previously reported wind turbine infrasound related symptoms were unable to perceive infrasound in noise samples and did not find samples with infrasound more annoying than those without previous wind turbine infrasound related symptoms. Further, wind turbine infrasound exposure did not cause physiological responses in either participant group (Majjala et al, 2020).
- 4.253 The UK Department of Trade and Industry study, ‘The Measurement of Low Frequency Noise at Three UK Wind farms’<sup>20</sup>, concluded that:
- “infrasound noise emissions from wind turbines are significantly below the recognised threshold of perception for acoustic energy within this frequency range. Even assuming that the most sensitive members of the population have a hearing threshold which is 12 dB lower than the median hearing threshold, measured infrasound levels are well below this criterion.”*
- 4.254 It goes on to state that, based on information from the World Health Organisation,
- “there is no reliable evidence that infrasound below the hearing threshold produce physiological or psychological effects’ and that ‘it may therefore be concluded that infrasound associated with modern wind turbines is not a source which may be injurious to the health of a wind farm neighbour’.*
- 4.255 Health Canada published findings of a study in 2014 titled: ‘Wind Turbine Noise and Health Study’<sup>21</sup>. The study considered physical health measures that assessed stress levels using hair cortisol, blood pressure and resting heart rate, as well as measures of sleep quality. More than 4,000 hours of wind turbine noise measurements were collected and a total of 1,238 households participated. The results of the study did not support a link between wind turbine noise and illness or chronic conditions. No association was found between the multiple measures of stress and exposure to wind turbine noise. However, an association

<sup>20</sup> Hayes, Malcolm D. (2007). The measurement of Low Frequency Noise at Three UK Wind Farms. (Online). Available at: <https://windfarmrealities.org/wp-content/uploads/wfr-docs/hayes-measurement-low-freq-3-farms.pdf> [Accessed: December 2025]

<sup>21</sup> Health Canada (2014). Wind Turbine Noise and Health Study. (Online). Available at: [https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/ewh-semt/alt\\_formats/pdf/noise-bruit/turbineoliennes/pamphlet-brochure-eng.pdf](https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/ewh-semt/alt_formats/pdf/noise-bruit/turbineoliennes/pamphlet-brochure-eng.pdf) [Accessed: December 2025]

was found between increased levels of wind turbine noise and individuals reporting being annoyed.

- 4.256 The Health Service Executive (HSE) published a report in 2017 titled 'Position paper on wind turbines and public health'<sup>22</sup>. The paper discusses case studies which describe a range of health effects that have been associated with wind turbine development as a result of shadow flicker, noise and electromagnetic radiation. The paper highlights the lack of high-quality scientific evidence to support adverse impacts on health as a result of wind turbine development, and states that current scientific evidence connecting wind turbines to health impacts is weak, inconsistent or absent. The paper recommends appropriate set-back distances and meaningful community engagement to mitigate against potential health impacts, in line with the Wind Energy Development Guidelines 2006.
- 4.257 The Proposed Project has been designed in compliance with the Wind Energy Development Guidelines (2006). We note that the Draft Revised Wind Energy Development Guidelines (2019) is currently at draft stage and has not yet been formally adopted by the government. However, the design and assessment of the Proposed Project has had regard to the draft guidelines and has provided for key elements of the draft guidelines which represent current best practice, such as the provision of 4-times the tip height setback distance between turbines and the nearest point of curtilage of nearby residential properties. The Proposed Project provides a minimum 720m setback between turbines and dwelling structures allowing for 4-times the tip height of the proposed turbines, based on the maximum proposed tip height. Extensive community engagement was also conducted as recommended by the HSE report and is detailed in **Chapter 3: Site Selection and Alternatives, EIA Scoping, Consultation and Key Issues**. **Chapter 9** sets out mitigation measures to maintain appropriate noise levels and avoid potential impact to human health at nearby receptors.
- 4.258 With regards to turbine infrastructure, the Department of the Environment, Heritage and Local Government's Wind Energy Development Guidelines for Planning Authorities, 2006 identifies no specific safety considerations in respect of the operations of wind turbines.
- 4.259 In terms of perceived effects from shadow flicker, a shadow flicker assessment has been conducted and is included in **Chapter 11: Shadow Flicker** of this EIAR. In relation to shadow flicker, a near zero-shadow flicker commitment from the Applicant would ensure that there would be no impact to receptors through mitigation. There may be a very brief time where a shadow moves over a property in the time it takes for the proposed turbine rotor to come to a safe stop, between 1 and 2 minutes. This will depend on the reaction time of the shadow flicker control modules and the particular proposed turbine type; however, this is considered a negligible effect as it would likely take at most 1-2 minutes to stop. In the interest of transparency, it has been called "near zero shadow flicker" in this EIAR to account for this fact that it will never be possible to entirely eliminate it.
- 4.260 In terms of noise, operational wind farm noise levels meet the derived night and daytime noise limits derived in accordance with the Wind Energy Guidelines (2006) at all residential properties surrounding the Proposed Project under all wind speeds.
- 4.261 In line with the Health Service Executive's Emergency Planning recommendations, any incident which may occur at the Main Wind Farm Development Site which requires emergency services, incident information will be provided in the 'ETHANE' format.
- Exact location.

<sup>22</sup> HSE (2017). Position Paper on Wind Turbines and Public Health. (Online). Available at: <https://www.lenus.ie/bitstream/10147/621467/3/HSE+PHMEHG+Wind+Final+PP+Feb+2017.pdf> [Accessed: December 2025]

- Type of incident.
- Hazards.
- Access and egress.
- Number of casualties (if any), and condition.
- Emergency services present and required.

4.262 Following a review of literature regarding the potential impact of operational wind farms on human health, it is concluded that there is no scientific consensus to support an association between negative health impacts and responsible wind turbine development. With respect to safety, only trained and licenced employees will be permitted to access the turbines. Appropriate training will be provided for potential emergencies; therefore, the operational phase of the Proposed Project will have a negligible impact on public health and safety.

## Fire Risk

4.263 Mitigation measures in relation to fire risk posed by the BESS are included at **Paragraph 4.285-290** and more detail is provided in the Battery Safety Management Plan (BSMP) included as **Technical Appendix 4-1**.

## Potential Health and Safety Impacts from Proposed Cables and Electromagnetic Interference

4.264 Wind turbines, like all electrical equipment, produce electro-magnetic radiation. The provision of underground electricity cables similar to the proposed capacity is however commonplace throughout Ireland and the installation to the required specification does not give rise to health concerns. The following research outlines the potential for health impacts caused by electromagnetic interference.

4.265 In 2020 the International Commission on Non-Ionising Radiation Protection (ICNIRP) issued guidelines for 'Limiting Exposure to Electromagnetic Fields'<sup>23</sup>. Table 2 (pg. 491) in this document sets out the basic restrictions for Electromagnetic Field Exposure (EMF) (from 100kHz to 30 GHz).

4.266 To ensure such adverse effects do not occur, the WHO (World Health Organisation) monograph recommended that policymakers establish guidelines for Extremely Low Frequency-Electromagnetic Field (ELF-EMF) exposure for both the general public and workers, and that the best source of guidance is the ICNIRP guidelines.

4.267 The ICNIRP defines high-power radiofrequency EMFs as those emitting greater than 100 V m<sup>-1</sup> within the frequency range 100 kHz to 100 MHz at their source (p. 500).

4.268 The EirGrid document 'EMF & You: Information about Electric & Magnetic Fields and the electricity transmission system in Ireland'<sup>24</sup> provides information on studies which have been carried out on the health impact of EMF. This report notes that since 1979, many scientific studies have been carried out on the possible effects of EMF on people. Agencies include the World Health Organisation (2006), the National Radiological Protection Board of Great Britain (2004), and the International Agency for Research on Cancer (IARC) (2002).

<sup>23</sup> International Commission on Non-Ionising Radiation Protection (2020). ICNIRP Guidelines for Limiting Exposure to Electro9magnetic Fields. (Online). Available at: <https://www.icnirp.org/cms/upload/publications/ICNIRPrfgdl2020.pdf> [Accessed: December 2025]

<sup>24</sup> Eirgrid (2014). EMF & You: Information about Electric & Magnetic Fields and the Electricity Transmission System in Ireland. (Online). Available at: <https://www.eib.org/attachments/registers/126630877.pdf> [Accessed: December 2025]

4.269 The EirGrid (2014) report notes that:

*“These agencies concluded that exposure to only very strong DC magnetic fields can cause biological effects. The exposures required to produce such effects, however, are extraordinarily high relative to levels of DC magnetic fields produced by common sources.”*

4.270 The EirGrid (2014) report concludes that exposure to extremely low frequency (ELF)-EMF from power lines or other electrical sources is not a cause of any long-term adverse effects on human, plant, or animal health. A 2019 Eirgrid report titled ‘The Electricity Grid and Your Health’ states that: “The consensus from health and regulatory authorities is that extremely low frequency EMFs do not present a health risk.”

4.271 These magnetic fields are attributable to low voltage sources such as wiring, appliances, and distribution circuits (Mastanyi et al, 2007). In dwellings and other properties with electricity, the levels will not exceed the ICNIRP guidelines by a significant margin.

4.272 The magnetic field associated with an underground 110kV cable is 0.13  $\mu$ T directly above ground (ESB, 2017), significantly below the ICNIRP Guidelines levels of 100  $\mu$ T. The ESB state that exposure to electrical fields associated with underground cables are considered negligible (ESB, 2017).

4.273 The HSE, in their 2017 report ‘Position paper on wind turbines and public health’ state the following with regard to Electromagnetic radiation:

*“There is no direct evidence from which to draw any conclusions on an association between electromagnetic radiation produced by wind farms and health effects. Extremely low-frequency electromagnetic radiation is the only potentially important electromagnetic emission from wind farms that might be relevant to health. Limited evidence suggests that the level of extremely low-frequency electromagnetic radiation close to wind farms is less than average levels measured inside and outside suburban homes.”*

4.274 EU Directive 2013/35/EU on the minimum health and safety requirements regarding the exposure of workers to the risks from EMFs was transposed into Irish law on 1st July 2016 by the Safety, Health and Welfare at Work (Electromagnetic Fields) Regulations 2016 (S.I. No. 337 of 2016). The regulations impose a number of duties on employers to maintain safety during work procedures. This includes the carrying out of risk assessment, avoiding and reducing risk, employee information, training and consultation and health surveillance where appropriate. The Proposed Project will comply with both EU and Irish law and will result in a negligible impact to human health on employees at the Proposed Development. This applies all design permutations as set out in **Chapter 2** of this EIAR.

## Potential Effects – Decommissioning

4.275 The decommissioning phase of the Proposed Project is described in **Chapter 2** of this EIAR and provides for the removal of turbines and associated infrastructure from the Main Wind Farm Development Site. The potential effects associated with decommissioning phase in relation to human health will be similar to those associated with construction phase as detailed above.

4.276 Decommissioning works will include removal of above ground structures including the turbines, mountings, and fencing. Turbine foundations will be covered over and allowed to re-vegetate naturally. The proposed substations will likely be taken in charge by EirGrid or ESBN following decommissioning. During the decommissioning works there is potential for

significant impact to human health and safety as with the construction stage. Potential impacts to human health and safety on-site will be prevented through best practice methods and will include staff training and knowledge of the site-specific decommissioning plan.

- 4.277 During the decommissioning works there is potential for impact on health and safety of the public. Similar to construction, impacts are associated with the presence of a construction crew, increased traffic, presence of heavy goods vehicles and machinery, potential obstructions on the public road and potential obstruction to recreation and amenity trails. Potential impact to public health and safety during the decommissioning phase is minor and short term. However, Phase 4 (Demobilisation) of the CEMP (or subsequent Decommissioning Plan required prior to commencement) for decommissioning works will be followed, clear signage will be utilised on public roads and walkways and the community will be informed of works prior to commencement to avoid any potential impact to public health and safety. Once good practice is followed, the potential for impact on public health and safety is expected to be short term and minor.

## Mitigation Measures

### Health and Safety Mitigation Measures (including Human Health) – Construction & Decommissioning

- 4.278 The mitigation measures proposed in the following EIAR chapters will be implemented:
- **Chapter 6:** Land, Soils and Geology;
  - **Chapter 7:** Water (Hydrology and Hydrogeology);
  - **Chapter 8:** Air and Climate;
  - **Chapter 9:** Noise and Vibration;
  - **Chapter 11:** Shadow Flicker;
  - **Chapter 13:** Material Assets, including Telecommunications and Aviation;
  - **Chapter 14:** Traffic and Transportation; and
  - **Chapter 15:** Major Accidents and Disasters.
- 4.279 To maintain safety and avoid health impacts on construction workers and the general public, best practice site safety and environmental management will be maintained. The Developer's management procedures for the Proposed Project will identify actions to be followed during construction, operation and decommissioning in accordance with the following mandatory legislation:
- Safety, Health & Welfare at Work (Construction) Regulations 2013 (as amended).
  - Safety, Health & Welfare at Work Act 2005 (as amended).
  - Safety, Health & Welfare at Work (General Applications) Regulations 2007 (as amended).
- 4.280 The following mitigation measures will be implemented:
- All construction staff will be adequately trained in health and safety and will be informed and aware of potential hazards. Furthermore, a CEMP will be implemented as per **Technical Appendix 2-1** found in Volume 3 of this EIAR. The CEMP will be circulated to all construction workers which will detail safety protocol

and methodology. All mitigation measures detailed in **Chapter 6, 7 8 and 9** will be implemented.

- A site-specific Safety and Health Management Plan will be prepared for the Proposed Project in accordance with the Safety, Health and Welfare at Work (Construction) Regulations 2013. and will be included in the final CEMP prepared for the Proposed Project. The Safety and Health Management Plan will be implemented in accordance with this plan following the appointment of the contractor for the main construction works. The contractor may add to it, or it may be revised with approval from the local authority. Similarly, a site-specific Safety and Health Management Plan will be prepared for the decommissioning works.
- All hazards will be identified, and risks assessed as set out in the CEMP found in **Technical Appendix 2-1** of Volume 3 of this EIA. Where elimination of the risk is not feasible, the mitigation and/or control measures proposed in the CEMP will be implemented. The contractor will be obliged under the construction contract and current health and safety legislation to adequately provide for all hazards and risks associated with the construction phase of the Proposed Project.
- Safe Pass registration cards are required for all construction, delivery and security staff. Construction operatives will hold a valid Construction Skills Certificate Scheme card where required.
- The Applicant will ensure a competent contractor is appointed to carry out the construction works. The contractor will be responsible for the implementation of procedures outlined in the Safety & Health Management Plan.
- Up to date HSE guidance will be consulted regularly in line with HSA recommendations and all reasonable on-site precautions will be taken to reduce the spread of COVID-19 on construction sites if COVID-19 remains a significant health issue during the construction phase.
- Appropriate safety measures, traffic management, signage and communication with the public will be utilised to maintain safety and mitigate against potential danger. A traffic and transport assessment has been completed and is detailed in **Chapter 14**.
- Once mitigation measures and health and safety measures are followed, the potential for effects on human health for members of the public during construction and decommissioning of the Proposed Project is expected to be temporary and **not significant** in EIA terms.

## Health and Safety Mitigation Measures – Operational

- 4.281 For operation and maintenance staff working at the Main Wind Farm Development Site, appropriate site safety measures will be utilised during the operational phase by all permitted employees. All personnel undertaking works in or around the turbines will be fully trained and will use appropriate Personal Protective Equipment (PPE) to prevent injury.
- 4.282 Access to the turbine towers and the substation & BESS compounds will be restricted to approved and appropriately trained personnel. The substation and BESS area will be enclosed by palisade fencing and will be remotely monitored and equipped with intruder and fire alarms, in line with ESB and EirGrid standards.
- 4.283 Adequate clearance of structures from overhead lines will be provided. All on-site electrical connections are carried by underground cable and will be marked out above ground where

they extend beyond the track or hardstanding surface. Details of cables installed in the public road will be available from ESNB.

- 4.284 Lightning conductors will be installed on each turbine as all structures standing tall in the sky require this protection. Turbines specifically require this to prevent power surges to electrical components.
- 4.285 Turbines will be fitted with ice detection systems which will stop the turbine from rotating if ice is forming on a turbine blade. This will prevent ice throw which can cause injury.

## Human Health Mitigation Measures – Operational

### BESS

- 4.286 The Battery Safety Management Plan set out in **Technical Appendix 4-1** details the safety management processes and procedures to be implemented to satisfy the prevailing safety requirements for the BESS element of the Proposed Development. The BSMP focuses on identifying and controlling battery specific hazards, especially thermal runaway for example in the case of fire or heat exposure.
- 4.287 The perimeter drainage channel around the BESS compound will act as a fire suppression system and the attenuation pond network will provide containment for any runoff in the event of a requirement to extinguish a fire.
- 4.288 The safety management approach will be adopted to satisfy the ethos of ‘As Low As Reasonably Practicable’ (ALARP), as defined by the Safety, Health and Welfare at Work Act 2005 and other relevant legislation and guidance. The BSMP establishes the basis of a comprehensive battery safety management framework that will be updated during the pre-construction stage.
- 4.289 The make and model of the BESS units to be employed at the Main Wind Farm Development Site has yet to be determined. The selection of the BESS units will require that the design, development, and manufacture by the Original Equipment Manufacturer (OEM) will demonstrate that high standards, in respect of safety and operational sustainability, can be evidenced. This will be achieved through adherence to internationally acknowledged codes of practice for Lithium-Ion BESS.
- 4.290 Regular visual inspections and testing of BESS equipment will be incorporated into the Proposed Project’s operation and maintenance schedule as per the BESS manufacturers’ requirements.
- 4.291 Fire safety measures and equipment in the BESS facility will be kept in effective working order. This includes all fixtures and fittings such as fire doors, fire detection and alarm systems, fire-fighting equipment, notices and emergency lighting. Regular checks, periodic servicing and maintenance shall be carried out. Any defects will be put right as quickly as possible.
- 4.292 In line with NFCC guidance, the local Fire Authority will be engaged at the earliest practical opportunity to discuss the proposed BESS design. This early and continued consultation will enable the incorporation of any relevant fire safety inputs or considerations and support the collaborative development of the BESS site from planning to pre-construction stage.
- 4.293 The BSMP provides a solid foundation for the next phase of safety at pre-construction stage, so that the BESS can be delivered and operated following safety principles throughout its lifecycle.

## Across Main Wind Farm Development Site

4.294 The following measures will be implemented:

- Rigorous statutory and engineering safety checks imposed on the turbines during design, construction, commissioning and operation will ensure the risks posed to humans are negligible. 24-hour remote monitoring and fault notifications are included as standard in the Turbine Operations and Maintenance Contracts. In addition to scheduled maintenance, the maintenance contracts will allow for call out of local engineers to resolve any issues as soon as they are picked up on the remote monitoring system.
- All maintenance work will only be carried out by people with the appropriate training and qualifications for the task at hand. All maintenance and operations work will be carried out in accordance with the relevant health and safety legislation with the appropriate planning and preparation.
- A nominated competent person will carry out checks and routine maintenance work to ensure the reliability and safe operation of fire-fighting equipment and installed systems such as fire alarms and emergency lighting. A record of the work carried out on such equipment and systems will be kept on site at all times.
- Mitigation measures via shadow flicker detection systems will be installed on all turbines in order to achieve near zero shadow flicker on nearby receptors. This is further detailed in **Chapter 11**.
- In certain wind conditions, turbines will run at reduced modes of operation in order to maintain appropriate daytime and night-time noise levels so as not to impact on residential amenity, as required. Details of these measures are set out in **Chapter 9**.
- The wind farm system will include a kill switch that can be operated at any time with an overriding manual shutdown system in case of an emergency.
- In line with the Health Service Executive's Emergency Planning recommendations, any incident which may occur at the Main Wind Farm Development Site which requires emergency services, incident information will be provided in the 'ETHANE' format (see **Paragraph 4.260** for more details).
- The design of the Proposed Project has considered the susceptibility to natural disasters. The use of appropriate site drainage will attenuate runoff rates and reduce runoff volumes to ensure minimal effect upon flood risk as described in **Chapter 7**.

4.295 Long-term positive residual impacts will occur due to the provision of clean, renewable electricity. It is estimated that the operation of the Proposed Project will displace between 1,788,538 and 2,206,043 tonnes of CO<sub>2</sub>eq over the proposed thirty five-year lifetime of the Proposed Project depending on the capacity of the turbine installed. Further information is provided in **Table 8.9 of Chapter 8**. If the Proposed Project was not built, this carbon would otherwise be emitted through the burning of fossil fuels.

## Residual Effects

4.296 Through various aspects of the design process for the Proposed Project, the identified significance of potential residual effects on human health is expected to be imperceptible (**Not Significant** in EIA terms) during construction, operation and decommissioning. This is due to the setback distance from nearby dwellings to reduce potential impacts on nearby

receptors. Furthermore, the mitigation measures as set out throughout the EIAR will prevent any potential significant effects on human health during the construction, operation and decommissioning phases.

- 4.297 Long-term positive residual effects will occur due to the provision of clean, renewable electricity. If the Proposed Project was not built, there would be further reliance on the burning of fossil fuels, with its associated health impacts.

## Evolution of the Baseline

- 4.298 In the event that the Proposed Project does not proceed, the existing land use will continue as cutover bog and forestry for the foreseeable future.
- 4.299 The socio-economic and demographic trends observed in the study area are predicted to continue on their current trajectory.
- 4.300 It is unlikely that any large-scale development or external economic driver would emerge in the immediate Study Area to significantly alter the existing low population density, household statistics, or age structure within the Proposed Project's 35-year lifetime.
- 4.301 Therefore, in the absence of the Proposed Project, the current population and human health baseline is predicated to evolve in a stable manner with a minimum level of long term change, and with the population and age profile to remain consistent with regional trends.
- 4.302 In the absence of renewable energy development, it is possible that there will be a continuance of excessive greenhouse gas emissions and consumption of fossil fuels.
- 4.303 The opportunity to harness the wind energy capacity of County Mayo would be lost, further constraining the State from achieving its renewable energy targets of 80% by 2030. The displacement of CO<sub>2</sub>eq over the lifetime of the Proposed Project t will not be achieved.
- 4.304 It is also envisaged that if the Proposed Project does not proceed, there will be no employment opportunities relating to the construction, operation and decommissioning of the Proposed Project, resulting in a net loss of economic activity in County Mayo. No rates or development contributions will be made payable to the Local Authorities by the Applicant and no Community Benefit Fund Scheme will be put in place in the locality.

## Cumulative Effects

- 4.305 For the assessment of cumulative effects, any other permitted or proposed and unbuilt projects in proximity to the Main Wind Farm Development Site (wind energy or other) have been considered where they have the potential to generate an in-combination or cumulative impact with the Proposed Project t.
- 4.306 The long list of all proposed and permitted developments within vicinity of the Main Wind Farm Development Site, as well as the rationale for their selection for review, is presented in **Technical Appendix 2-3** 'Projects Considered in the Cumulative Assessment' found in Volume 3 of this EIAR. The short list of these projects which are included as part of this assessment are set out in **Table 2-5 of Chapter 2** of this EIA Report. The rationale for the selection of these projects is described in detail in **Chapter 2** .
- 4.307 A list of cumulative projects within 20 km of the Main Wind Farm Development Site is provided in **Table 2-5** in **Chapter 2** of this EIA Report. These are developments associated with:
- Bellacorick Wind Farm;
  - Oweninny Wind Farm;

- Sheskin South Wind Farm, Sheskin Wind Farm (Phases 1 and 2) and Grid Connection
- Mayo Green Hydrogen Production Plant;
- Dooleg More Single Turbine;
- Bunnahowen Wind Farm;
- Sustainable Energy Authority of Ireland 20kV substation; and
- Lennon Quarries Ltd 12.4 ha agricultural land development.

- 4.308 Despite their distance from the Main Wind Farm Development Site, if not appropriately controlled, there is the potential for cumulative impacts between it and all of the identified proposed and committed developments listed above. The area with most potential for cumulative is increases in traffic from multiple projects using the same road infrastructure during construction. **Chapter 14** of the EIAR identifies the likely vehicular trips and routes to be used for these cumulative projects so that any potential conflicts can be planned for.
- 4.309 In line with best practice and given the scale of the proposals involved, it is expected that each of the proposals will have a Construction Environmental Management Plan (CEMP) and Construction Traffic Management Plan in place and that there will be consultation with the respective local planning authorities on appropriate management of routes, times and loads. Providing the mitigation measures for all proposals are implemented, there will be no significant cumulative effects on traffic and associated air, noise and general disturbance. Given the distances of proposals from the Proposed Project, general construction noise, air and other amenity issues are not considered likely.
- 4.310 The nature of the Proposed Project and other energy developments within 20 km is such that, once operational, they are not expected to be emission generators and the potential for cumulative air and climate impacts is low.
- 4.311 With regards to landscape and visual impacts (**Chapter 10**), the scale of wind farm development proposed in the wider area will contribute to some wider cumulative impacts due to their relatively close proximity to one another, however, there are not considered to be significant cumulative effects on population and human health.
- 4.312 In terms of climate and carbon, the Proposed Project, along with other renewable energy products, will act cumulatively in reducing CO<sub>2</sub> emissions by displacing fossil fuel in the production of electricity, resulting in a moderate positive effect on climate change mitigation (**Significant** in EIA terms).

## Summary of Predicted Effects

- 4.313 The assessment of Population and Human Health has established the existing environment of the Study Area and compared it to County Mayo and the State to establish a baseline for the impact assessment. Potential effects were considered for the construction, operational and decommissioning phases of the Proposed Project as well as potential cumulative effects. Mitigation measures have been proposed where relevant. This chapter has been subdivided into the following topics for the purpose of the assessment:
- Population and Demographics.
  - Socio-economics, Employment and Economic Activity.
  - Land Use.
  - Recreation, Amenity and Tourism.

- Human Health.

- 4.314 The population of the Study Area was found to be low density and dispersed. Short-term, slight and temporary population growth was identified due to the introduction of construction workers during the construction and decommissioning phases, which is concluded to be **not significant** in EIA terms. However, permanent impact on the population of the study area is considered unlikely as a result of the Proposed Project due to the temporary nature of the construction and decommissioning works.
- 4.315 The operational phase of the Proposed Project has been identified as having a **significant** positive economic and social impact on the Study Area with the provision of a Community Benefit Fund which will contribute to social infrastructure in the area and financially benefit those in closest proximity to the Proposed Project. Other positive economic benefits as a result of the operational phase of the Proposed Project along with other renewable energy projects includes reducing the State's reliance on fossil fuels which supports the national need to transition to 80% electricity generation from renewable sources by 2030, which is concluded to be **significant** in EIA terms.
- 4.316 Land use in the study area will be disturbed temporarily during construction and, to a lesser extent, decommissioning of the Proposed Project. Once operational, the Proposed Project is not expected to have significant negative effects on agricultural or forestry practices. With respect to Recreation, Amenity and Tourism, the Proposed Project is not expected to have an impact on any cultural or recreational assets that could contribute to tourism in the area (**not significant** in EIA terms).
- 4.317 Potential impacts on human health and safety have been identified for both construction workers and the general public as a result of the construction and decommissioning of the Proposed Project. Best practice construction methods and improved safety measures on public roads have been identified as measures to prevent potential accidents during the construction and decommissioning works (**not significant** in EIA terms).
- 4.318 Peer reviewed literature regarding potential health impacts as a result of operational wind turbines have been assessed. It was concluded that there is no scientific consensus to support the association between negative health impacts and wind energy developments with particular regard to noise and electromagnetic interference which is concluded to be **not significant** in EIA terms. In conclusion, once mitigation measures set out throughout this EIAR are implemented, no significant negative effects on population or human health will occur as a result of the Proposed Project. The operational phase is predicted to result in **significant** positive effects in EIA terms on the economic and social impact on the Study Area with the provision of a Community Benefit Fund.
- 4.319 In terms of climate and carbon, the Proposed Project, along with other renewable energy products, will act cumulatively in reducing CO<sub>2</sub> emissions by displacing fossil fuel in the production of electricity, resulting in a moderate positive effect on climate change mitigation (**Significant** in EIA terms).

## Statement of Significance

The effects of the Proposed Project on Population and Human Health has been assessed using appropriate legislation, guidance and policy. Following the implementation of mitigation measures, potential residual effects due to the Proposed Project on Population and Demographics, Land Use, Recreation, Amenity and Tourism and human health and safety. are considered to be **not significant** under the EIA Regulations. The operational phase is predicted to result in **significant** positive effects in EIA terms on economic and social and climate and carbon receptors

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## Figures

Figure 4-1 Study Area

Figure 4-2 Electoral Divisions

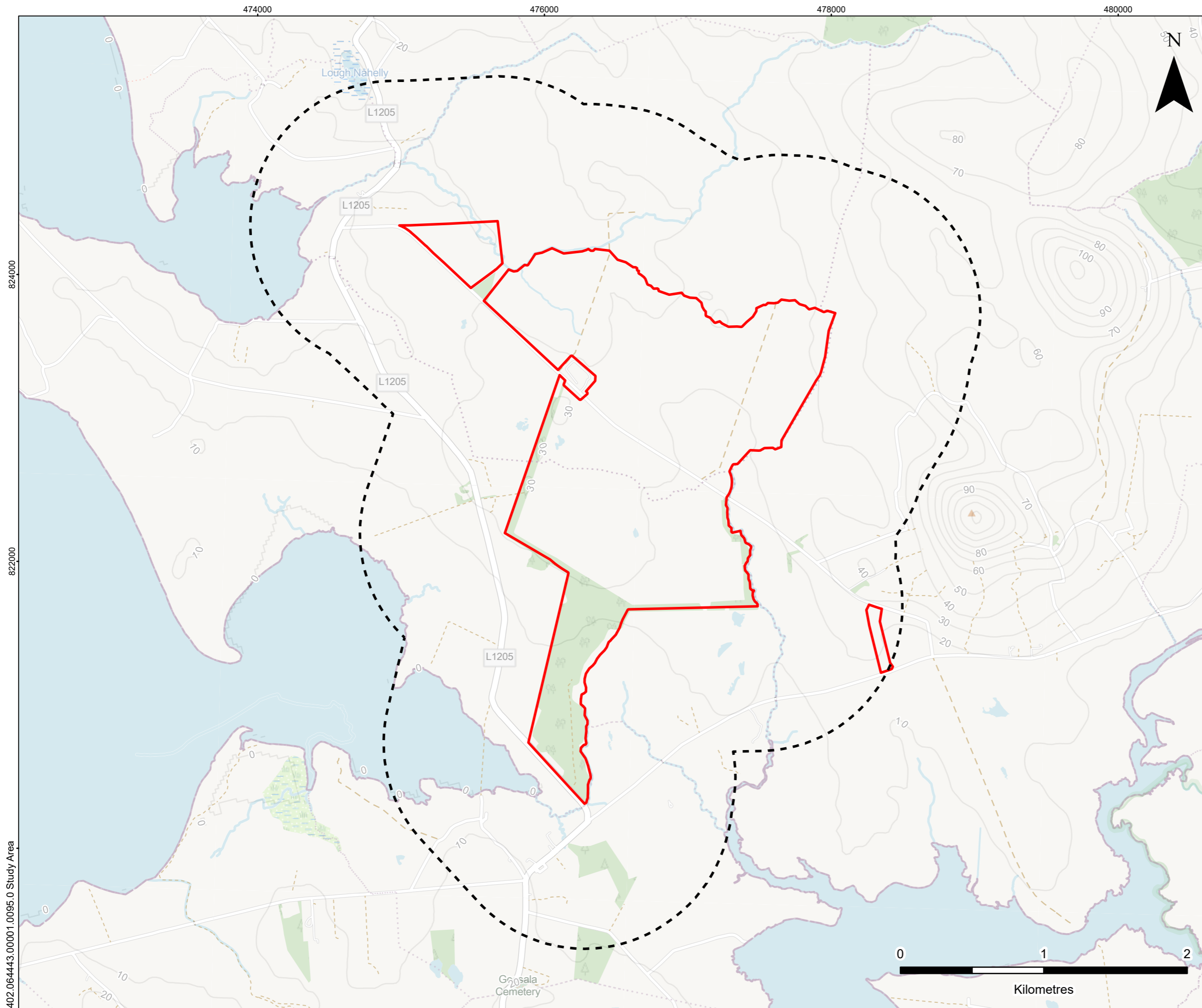
Figure 4-3 Residential Receptors within 1km of the Main Wind Farm Development Site Boundary

Figure 4-4 Land Use

## Technical Appendices

Technical Appendix 4.1 Battery Safety Management Plan (DBSMP)

**(Refer to EIAR Volume 3 for Technical Appendices)**



**LEGEND**

- Proposed Development Site Boundary
- Study Area (Main Wind Farm Development Site Boundary 1 km Buffer)






**MUINGMORE WIND FARM**  
**POPULATION & HUMAN HEALTH**  
**STUDY AREA**  
**FIGURE 4-1**

Scale 1:25,000 @ A3	Date APRIL 2026
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402.064443.00001.0095.0 Study Area



**LEGEND**

-  Proposed Development Site Boundary
-  Study Area (Main Wind Farm Development Site Boundary 1 km Buffer)
-  Electoral Division Boundary



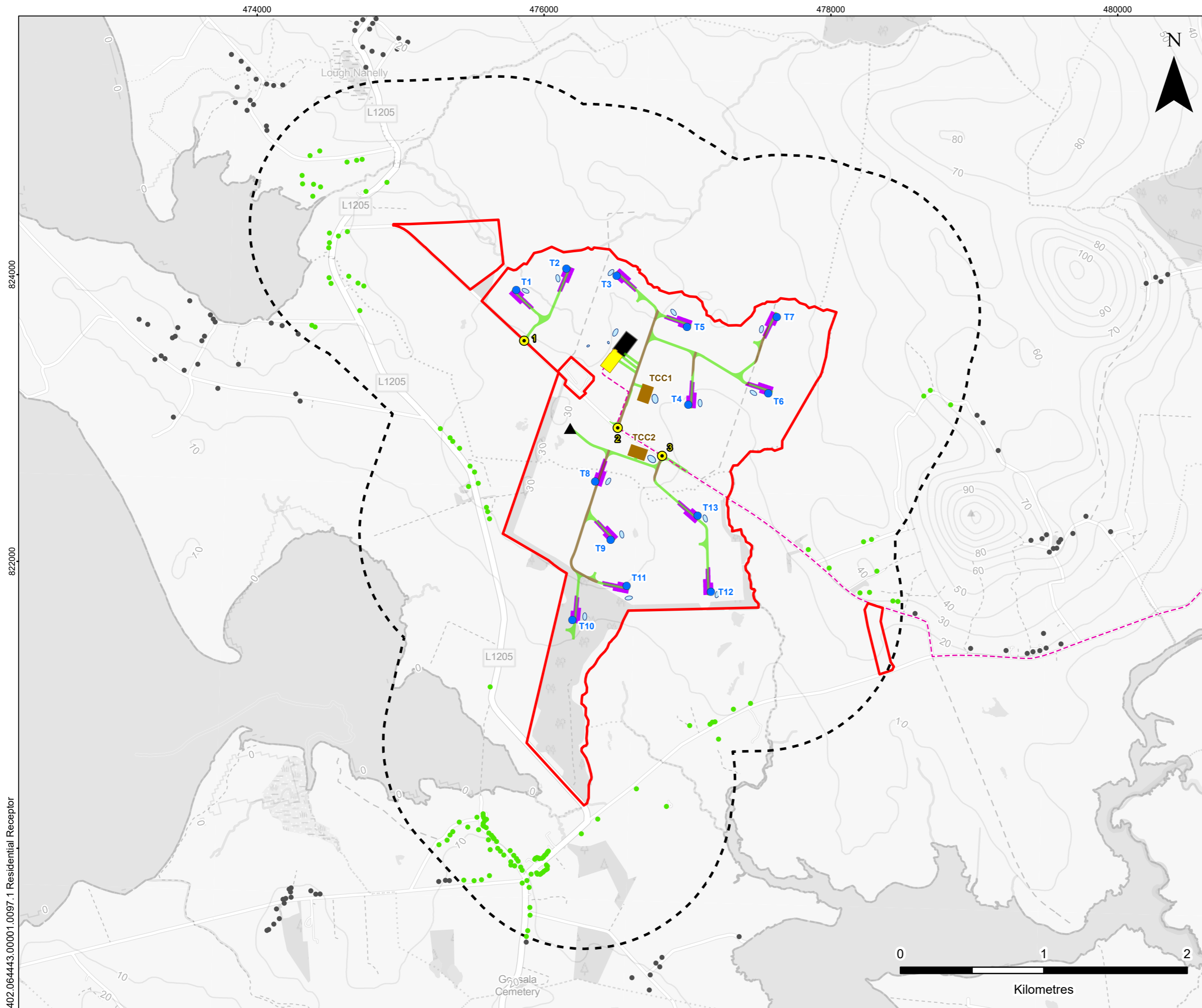
MUINGMORE WIND FARM  
POPULATION & HUMAN HEALTH

**ELECTORAL DIVISIONS**

**FIGURE 4-2**

Scale 1:25,000 @ A3 Date APRIL 2026

402.064443.00001.0139.0 Electoral Division



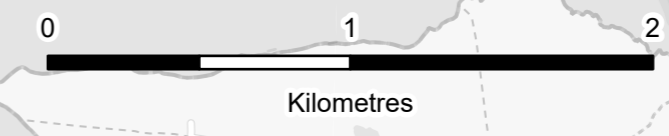
**LEGEND**

- Proposed Development Site Boundary
- Study Area (Main Wind Farm Development Site Boundary 1 km Buffer)
- Proposed Turbine Location
- Proposed Site Access Location
- ▲ Proposed Met Mast Location
- Proposed New Access Track
- Proposed Upgraded Access Track
- Proposed Grid Connection Route (Subject to Separate Planning Application)
- Proposed Crane Pad
- Proposed Substation
- Proposed Battery Energy Storage System (BESS) Compound
- Proposed Temporary Construction Compound (TCC)
- Proposed Attenuation Basin
- Residential Receptor Within 1 km Buffer of the Site Boundary
- Residential Receptor Outside 1 km Buffer of the Site Boundary



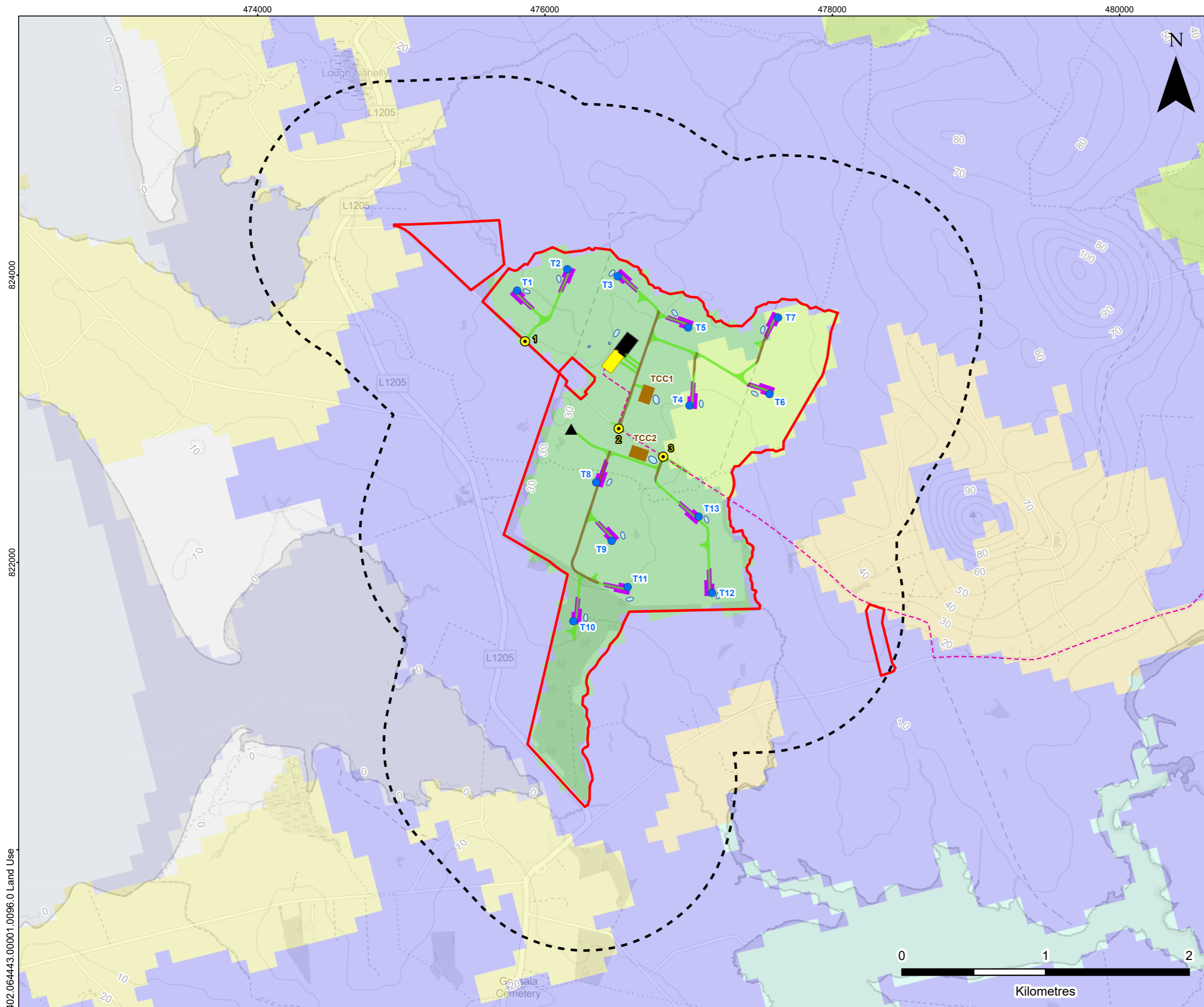
**MUINGMORE WIND FARM**  
**POPULATION & HUMAN HEALTH**  
**RESIDENTIAL RECEPTORS WITHIN 1 KM OF THE MAIN WIND FARM DEVELOPMENT SITE BOUNDARY**

**FIGURE 4-3**



Scale 1:25,000 @ A3      Date APRIL 2026

402.064443.00001.0097.1 Residential Receptor

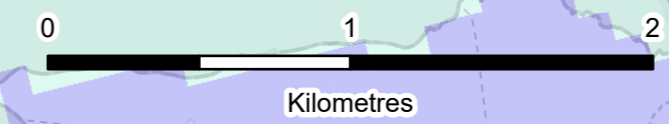


**LEGEND**

	Proposed Development Site Boundary		<b>Corine Land Cover Classification 2018</b> Pastures
	Study Area (Main Wind Farm Development Site Boundary 1 km Buffer)		Land Principally Occupied by Agriculture, with Significant Areas of Natural Vegetation
	Proposed Turbine Location		Coniferous Forest
	Proposed Site Access Location		Transitional Woodland-Shrub
	Proposed Met Mast Location		Beaches, Dunes, Sands
	Proposed New Access Track		Peat Bogs
	Proposed Upgraded Access Track		Intertidal Flats
	Proposed Grid Connection Route (Subject to Separate Planning Application)		Estuaries
	Proposed Crane Pad		Sea and Ocean
	Proposed Substation		
	Proposed Battery Energy Storage System (BESS) Compound		
	Proposed Temporary Construction Compound (TCC)		
	Proposed Attenuation Basin		



MUINGMORE WIND FARM  
 POPULATION & HUMAN HEALTH  
 LAND USE  
**FIGURE 4-4**



Scale 1:25,000 @ A3 Date APRIL 2026