# 5. POPULATION AND HUMAN HEALTH

## 5.1 INTRODUCTION

This chapter examines the existing environment and addresses the likely significant effects on population and human health arising from the proposed project. Population and human health are addressed under separate headings throughout this chapter.

Full details of the proposed project are outlined in Chapter 2 of the EIAR.

The assessment on population and human health primarily considers the proposed wind farm site and the surrounding area. The assessment considered property receptors and residential amenity, as well as current land use and activities, occurring within and in the vicinity of the proposed wind farm site, as this is where any likely effects on population and human health receptors will mainly occur.

### 5.1.1 Statement of Authority

This chapter was co-authored by Lydia Gurley and Dr. John Staunton of TOBIN. Lydia Gurley is an Assistant Project Manager with TOBIN and has a BSc (Hons) and MSc in Chemistry, complemented by postgraduate training in Offshore Renewable Energy and micro-credentials in Project Management and GIS. Lydia brings two years of project-management experience relevant to the planning and development of renewable energy projects. John Staunton is an Associate Project Manager and Environmental Scientist in TOBIN and has 18 years' postgraduate experience in both research and environmental consultancy, with 12 in the latter. John holds a BSc and PhD in Environmental Science, an advanced diploma in Planning and Environmental Law and is a Chartered Environmentalist. He has considerable experience in project managing wind energy developments (for example, Castlebanny Wind Farm, Cloghercor Wind Farm and Scart Mountain Wind Farm) and carrying out Population and Human Health impact assessments.

This chapter has been reviewed by Orla Fitzpatrick, Technical Director in TOBIN. Orla has over 20 years' experience working in the delivery of EIA projects in environmental consultancy. She is a Chartered Environmentalist and has considerable experience as technical approver of environmental deliverables for major infrastructure projects. Orla has technically approved the Population and Human Health chapters for a number of renewable energy projects including Ballyfasy Wind Farm, Scart Mountain Wind Farm and Lissinagroagh Wind Farm.

### 5.1.2 Limitations Encountered in Compiling Information

No limitations or difficulties were encountered while writing this chapter.

## 5.2 SCOPING AND CONSULTATION

As part of the EIA scoping process, an Environmental Scoping Report was prepared and submitted to relevant statutory and non-statutory bodies in May 2026 for review and comment. The Environmental Scoping Report was accompanied by a cover email introducing the proposed project and inviting comments or observations within a period of six weeks from the date of the

email. Table 1-4, Section 1.8.2 of Chapter 1 provides a summary of the consultees and responses received (or not received). A copy of the latest Scoping Report is provided in Appendix 1-2 of this EIAR.

Responses can be found in Appendix 1-3 of this EIAR, which compiles the responses received from consultees. All recommendations and comments received during consultation were reviewed and assessed by the project team. Where recommendations were relevant to the assessment, they have been incorporated into the project design, assessment methodology and mitigation measures. Where recommendations were not adopted, the rationale is provided in the consultation response tables contained within this EIAR.

Public engagement was also carried out in the local area as described in Chapter 1 of this EIAR, and the feedback obtained during this exercise has been reviewed in the preparation of this chapter.

## 5.3 Assessment Methodology

A desktop study was carried out in order to examine relevant information relating to this population and human health impact assessment, including a review of published information, and site visit reports, to assemble information on the local receiving environment.

Population and human health, in this chapter of the EIAR, is therefore considered in relation to the potential for likely significant effects arising from the activities primarily associated with the proposed wind farm site and environmental factors effecting the population and human health receptors.

Those most likely to experience effects are typically those residing in proximity to the proposed wind farm site. To identify local receptors, a 2 km distance from the wind farm site boundary is best practice and typically considered for identifying sensitive receptors (see Appendix 5-1) for the population and human health assessment (i.e., through identifying properties where sensitive receptors may reside that could be affected by noise and shadow flicker). This distance may be amended during the assessment on account of the location of population centres, density of receptors or specific local considerations. It should be noted that there are no statutory guidelines in respect of how far from the site boundary or proposed turbines this assessment should extend for the purpose of population and human health impacts and assessment, however the distances identified as part of the assessment of other environmental factors (e.g., air quality, noise, landscape and visual and shadow flicker) are useful references. This information is used to inform assessments within this EIAR, in particular for shadow flicker analysis (Chapter 10) and noise modelling (Chapter 12).

Properties within a 2 km distance have been identified and reviewed through available aerial mapping, GeoDirectory and ground-truthing (discussed further in Section 5.4.1.3).

The study area for this assessment is discussed below in Section 5.3.3.

### 5.3.1 Relevant Legislation and Guidance

This assessment has been carried out in accordance with the following guidelines:

- Department of Housing, Planning and Local Government (DoHPLG), Guidelines for Planning Authorities and An Bord Pleanála on carrying out Environmental Impact Assessment (2018);
- Environmental Protection Agency (EPA), Guidelines on the Information to be contained in Environmental Impact Assessment Reports (2022) (hereafter referred to as the 'EPA EIAR Guidelines (2022)');
- European Commission (EC), Environmental Impact Assessment of Projects: Guidance on the preparation of the Environmental Impact Assessment Report (2017);
- Department of Housing, Local Government and Heritage Wind Energy Development Guidelines (WEDGs) (2006) (hereafter referred to as the '2006 WEDGs');
- DoHPLG, Draft Revised Wind Energy Development Guidelines (WEDGs) (2019) (hereafter referred to as the 'Draft Revised WEDGs 2019').

The following key information sources and guidance have been used in the completion of this chapter:

- Central Statistics Office (CSO) –2011-2022 Census and associated data;
- CSO Health Survey Data[1];
- Department of Health (Government of Ireland), Health in Ireland: Key Trends 2024 Surveys (February 2025)[2];
- Discover Ireland Website[3];
- Discover Ireland Ireland's Wild Atlantic Way and Ireland's Ancient East material;
- Northern and Western Regional Assembly, *Regional Spatial and Economic Strategy 2020-2032(RSES)*[4];
- EPA Geoportal Site Data and Maps[5];
- Fáilte Ireland website[6];
- Fáilte Ireland, *EIAR Guidelines for the Consideration of Tourism and Tourism Related Projects* (as provided by Fáilte Ireland);
- Fáilte Ireland website information regarding the Ireland's Wild Atlantic Way and Ireland's Ancient East material;
- Health Ireland (Government of Ireland) Surveys[7];
- Health Service Executive (HSE) Website[8];
- HSE Health Surveys[9];
- Galway County Council, Galway County Development Plan (Galway CDP) 2022-2028;

[1] Available at: https://www.cso.ie/en/statistics/health/irishhealthsurvey/ (Accessed June 2026)
[2] Available at: https://www.gov.ie/en/department-of-health/collections/health-in-ireland-key-trends-2024/ (Accessed June 2026)
[3] Available at: https://www.discoverireland.ie/ (Accessed June 2026)
[4] Available at: https://www.nwra.ie/pdfs/NWRA-RSES-2020-2032.pdf (Accessed June 2026)
[5] Available at: https://gis.epa.ie/ (Accessed June 2026)
[6] Available at: https://www.failteireland.ie/ (Accessed June 2026)
[7] Available at: https://www.gov.ie/en/campaigns/healthy-ireland/ (Accessed June 2026)
[8] Available at: https://www.hse.ie/eng/about/who/healthwellbeing/healthy-ireland/ (Accessed June 2026)
[9] Available at: https://www.hse.ie/eng/about/who/healthwellbeing/ (Accessed June 2026)

- Institute of Public Health Ireland, *Health Impact Assessment* (2009);
- The Institute of Sustainability and Environmental professionals (ISEP), *Health in Environmental Impact Assessment - A Primer for a Proportionate Approach* (2017);
- ISEP Guide - Effective Scoping of Human Health in Environmental Impact Assessment (2022);
- ISEP Guide - Determining Significance for Human Health in Environmental Impact Assessment (2022);
- Mayo County Council, Mayo County Development Plan (Mayo CDP) 2022-2028; Ordnance Survey Ireland (OSI) – Mapping and aerial photography;
- US Environmental Protection Agency, *Health Impact Assessment Resource and Tool Compilation* (September 2016);
- Sports Ireland Walking trails information[10];
- World Health Organisation (WHO), *Environmental Noise Guidelines for the European Region* (2018);
- Environmental Protection Agency (EPA) (2015), *Investigation into the Assessment of Health Impacts within National Environmental Regulation Processes*;
- WHO, *Night-time Noise Guidelines for Europe* (2009); and
- WHO*, Global Air Quality Guidelines* (2021).

#### *5.3.1.1 EIA Directive (2014/52/EU)*

The EIA Directive (2014/52/EU) directs that population and human health factors be assessed in an EIAR. The EIA Directive does not define the term 'human health', however the 2017 EC Guidance on the preparation of the EIAR states that -

> *"human health is a very broad factor that would be highly project dependent. The notion of human health should be considered in the context of the other factors in Article 3(1) of the EIA Directive and thus environmentally related health issues (such as health effects caused by the release of toxic substances to the environment, health risks arising from major hazards associated with the Project, effects caused by changes in disease vectors caused by the Project, changes in living conditions, effects on vulnerable groups, exposure to traffic noise or air pollutants) are obvious aspects to study. In addition, these would concern the commissioning, operation and decommissioning of a Project in relation to workers on the Project and surrounding population".*

#### *5.3.1.2 EPA EIAR Guidelines (2022)*

The EPA EIAR Guidelines (2022) set out the following headings and/or topics, generally identified during the scoping process, relevant to population and human health:

- *Employment;*
- *Settlement patterns;*
- *Land use patterns;*
- *Baseline population;*
- *Demographic trends;*

[10] Available at: https://www.sportireland.ie/outdoors/find-your-trails and http://trails.ie/index.php (Accessed July 2025) (Accessed June 2026)

- *Human health (considered with reference to other headings, such as water and air);*
- *Amenity (e.g., effects on amenity uses of a site or of other areas in the vicinity may be addressed under the factor of Landscape).*

The EPA EIAR Guidelines (2022) note that the human health assessment in an EIAR should refer to the assessments such as air, water, soil, and other related factors elsewhere in the EIAR. The assessment of other health and safety issues should also be considered. The assessment of effects should be evaluated by reference to accepted standards of safety in dose, exposure or risk.

The classification and description of effects in this EIAR chapter follows the terms provided in Table 3-4 of the EPA EIAR Guidelines (2022).

#### *5.3.1.3 ISEP Guidance 2022*

##### ISEP Guide on Effective Scoping of Human Health in Environmental Impact Assessment (2022)

In November 2022, ISEP published a guide to the 'Effective Scoping of Human Health in Environmental Impact Assessment' for use by EIA practitioners. The guide covers the consideration of health as a topic in EIA. The guide states 'legislation for EIA has left the definition of "human health" to competent experts. This guidance updates and provides further detail on the position from the 2017 ISEP Primer on health in EIA.

The guide is focused on the scoping phase of the EIA process – including input to Scoping Reports and responses within Scoping Opinions. Its aim is to enable those responsible for commissioning, conducting or reviewing an EIA to determine the scope of the human health chapter in EIA. The general approach set out in this ISEP guidance has been considered in the preparation of this chapter.

##### ISEP Guide on Determining Significance for Human Health in Environmental Impact Assessment (2022)

In November 2022, ISEP published a guide to the 'Determining Significance for Human Health in Environmental Impact Assessment'. The aim of the guide is to enable those responsible for commissioning, conducting or reviewing an EIA to determine significance in terms of human health in EIA. The guide focuses on and discusses what 'significance' means for 'human health' in terms of EIA. The guide was produced in order to inform current practice and in anticipation of potential changes to the way that EIA is undertaken. Regard has been given to the general approach put forward in this ISEP guidance when preparing this chapter.

#### *5.3.1.4 Health Protection*

The assessment of human health for the proposed project, in terms of health protection, follows the approach set out in the EPA EIAR Guidelines (2022) and in the European Commissions' (2017) Guidance on the preparation of the EIAR. Human health protection is considered through the assessment of the environmental factors (pathways) through which health could be affected such as air, noise, water and soils. Potential noise, air, soils and water impacts which could affect human health are identified, the scale of these potential impacts and their duration are assessed, and the likelihood of significant effects on human health is determined.

It should be noted that the identification of individual environmental impacts and the associated potential effects are undertaken in other chapters of this EIAR namely, Chapter 6, Chapter 7, Chapter 8, Chapter 9, Chapter 10, Chapter 11, Chapter 12, Chapter 13, Chapter 14, Chapter 17, and Chapter 18.

The associated significance in terms of the potential impact on human health is considered in this chapter. In the assessment of cumulative effects, any other existing, permitted or proposed projects in the surrounding area have been considered where they have the potential to generate in-combination or cumulative effects with the proposed project. The potential for cumulative effects on the local population and human health is considered below (see Section 5.8), while elements such as noise, shadow flicker, traffic and visual impacts are discussed in their respective chapters.

## 5.3.2 Scope of the Assessment

Aspects which the EPA EIAR Guidelines (2022) state should be examined as part of the environmental assessment of population and human health include; *"employment, settlement patterns, land-use patterns, baseline population, human health (considered with reference to other headings, such as water and air), and amenity (e.g. effects on amenity uses of a site or of other areas in the vicinity may be addressed under the factor of landscape)".*

The primary potential sources of effects of the proposed project on sensitive receptors have been identified as follows:

- Dust emissions from construction activities (construction phase);
- Noise and vibration emissions (construction and operational phases);
- Traffic emissions and disruption (construction phase); and
- Installed infrastructure (operational phase).

Potential effects on sensitive receptors in relation to the above sources are assessed in this EIAR in terms of land use, population trends, property receptors, property value, employment/economy, tourism and amenity, and human health.

### 5.3.2.1 *Population*

For the population assessment, a desktop study was carried out in order to examine relevant information relating to this population and human health impact assessment. A local population and socio-economic profile have been established and described in terms of available relevant census data obtained primarily from the CSO. Information on population statistics, land use, employment and socio-economic data for the areas surrounding the proposed wind farm site have been obtained predominantly from the 2011 to 2022 Census of Ireland and 2020 Census of Agriculture records.

In summary, the desk study with respect to population included the following activities:

- The locations of properties and buildings within 2 km of the proposed wind farm site have been identified using address data from the GeoDirectory database which is used to populate Eircodes;

- The validity of the GeoDirectory data within 2 km of the proposed wind farm site boundary has been confirmed by way of desk top review, including publicly available mapping, aerial imagery, street-level imagery, and a ground-truthing exercise (March 2026);
- A review of Ordnance Survey Ireland (OSI) Mapping, EPA Maps (including CORINE 2018 and aerial photography to establish current land use and settlement patterns, as well as relevant amenity facilities, surrounding the proposed wind farm site;
- A review of the most recent information available regarding population statistics, employment and social data for the areas surrounding the proposed wind farm site have been obtained primarily from the CSO. Information to establish a population profile, settlement demographics and the economic context of the study area on population statistics, land use, employment, and socio-economic data for the areas surrounding the proposed wind farm site have been obtained predominantly from the 2011 to 2022 Census record period. The 2020 Census of Agriculture records were also reviewed;
- Fáilte Ireland tourist literature for County Mayo was examined in relation to tourism amenity in conjunction with the websites of relevant tourism assets, locations and amenities in the area. Parts of Mayo (mainly West Mayo) are located in Ireland's Wild Atlantic Way, a branding initiative developed by Fáilte Ireland with the *"overall aim of the Wild Atlantic Way project is to achieve greater visibility for the west coast of Ireland in overseas tourist markets through this long-distance touring route"*. Information and literature on other tourist attractions and initiatives in the area have been reviewed, where available, from relevant websites, such as Discover Ireland, the official Mayo Tourism website (Mayo.ie), and Tourism Ireland;
- A review of local and regional development plans (e.g., Mayo County Development Plan 2022- 2028, the Northwest Region Spatial and Economic Strategy (RSES) and planning policy to identify future development objectives and any planning allocations in the vicinity of the proposed project;
- A planning application search has been undertaken as part of the EIAR to identify proposed and consented, but as yet not built, developments, and is discussed in Chapter 4; and,
- A review of information sources identifying walking and cycling routes and other Rights of Ways in the vicinity of the proposed project (e.g., Trails.ie and Sports Ireland).

#### *5.3.2.2 Human Health*

For the human health assessment, available census data and surveys from the CSO and Government were reviewed; information has been presented on a county, regional or national scale depending on the availability.

In summary, the desk study with respect to human health included the following activities:

- A review of published literature on the effects of wind energy developments on human health has been undertaken. Aspects examined under human health primarily relate to impacts from the proposed wind project on socio-economic activities and on local community health. These two themes are discussed in this chapter but may be further addressed in other technical chapters, where relevant;

- A review of published surveys on public perception of wind energy developments on has been undertaken;
- A review of recent available health surveys published by the Government and CSO; and
- A review of other relevant chapter assessments within this EIAR.

Aspects examined in this assessment primarily relate to potential impacts from the proposed project on local population, properties, socio-economic activities and local community health. These themes are discussed primarily in this chapter but may be further addressed in other technical chapters, where relevant. Where possible, published surveys and statistics used in this assessment have been presented at the Electoral Division (ED) level, in line with the study area. In cases where ED-level data is unavailable, the next smallest available scale has been used, and this is noted where relevant throughout the assessment.

The effects of the proposed project on the human environment are assessed in accordance with the EPA EIAR Guidelines (2022) as outlined in Chapter 1 of this EIAR.

### 5.3.3 Study Area

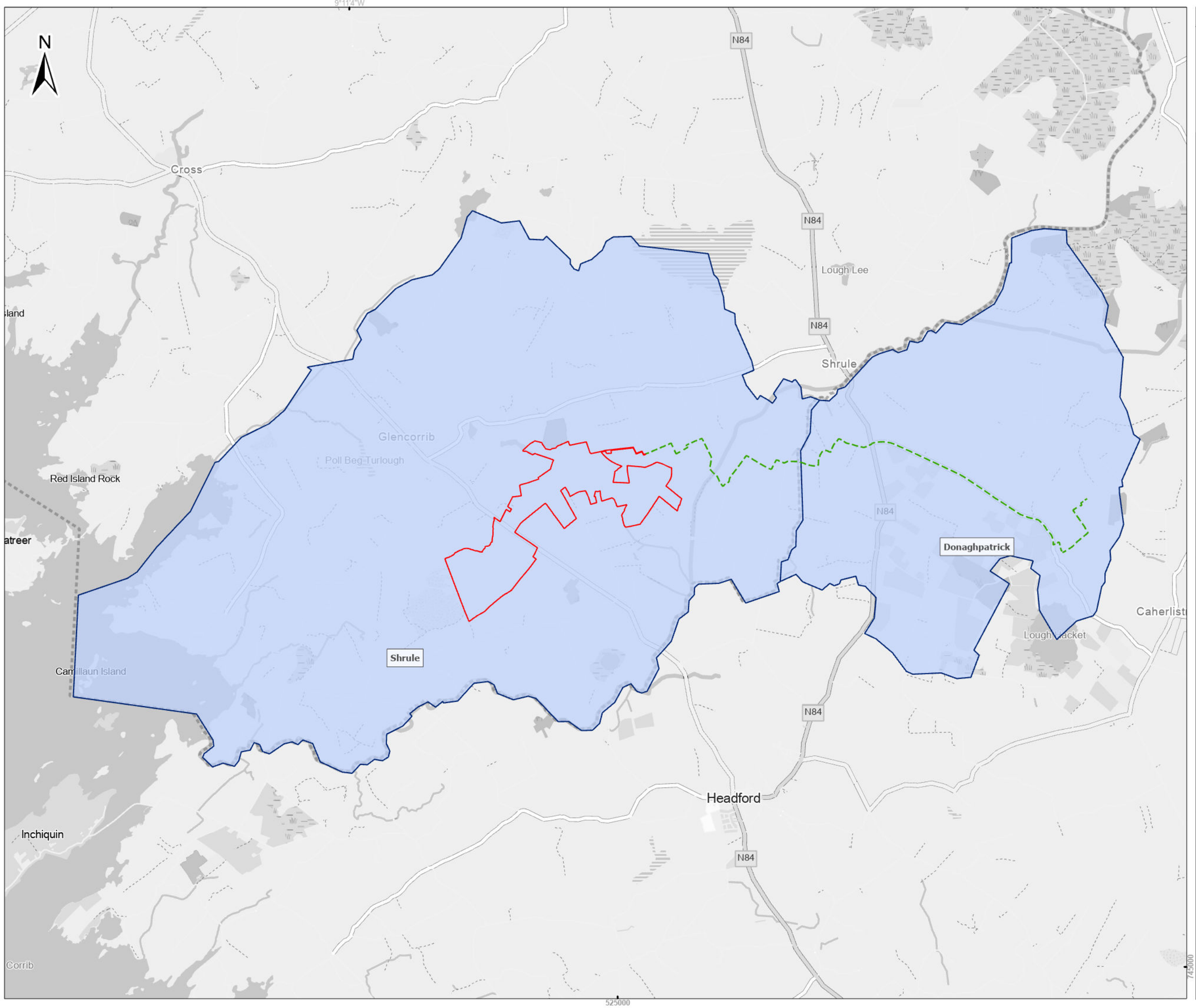
For the purposes of establishing a baseline for the population and human health assessment, the study area primarily focuses on the Electoral Divisions (EDs) surrounding and encompassing the proposed wind farm site and the proposed Grid Connection Route (GCR). Further details regarding these areas are detailed below. This is considered the most relevant area for assessing potential effects on population and human health receptors, as any likely significant effects are expected to occur primarily within this vicinity.

With regard to the proposed Turbine Delivery Route (TDR), it is proposed that the turbine components will be delivered to the proposed wind farm site via Galway Harbour in Galway City as shown in Figure 2-3 of Chapter 2. While the temporary accommodation works (nodes) along the proposed TDR are included in the overall impact assessment, the scale and nature of works are significantly smaller and more transient. Therefore, they are not considered central to the baseline environment for this assessment (see Section 2.6.13 of Chapter 2 for further details of the TDR) as they will unlikely result in significant effects to population and human health.

Where available, CSO data has been reviewed at the smallest available level for the local area, including at ED level, which are the smallest legally defined administrative areas within which Small Area Population Statistics (SAPS) are gathered by the CSO. This is considered the most appropriate scale for collated census data and is commonly used for defining the existing population profile.

Therefore, in order to discuss the receiving human environment and other statistics in the vicinity of the proposed wind farm site and permanent works areas, the study area for this assessment reviews the following two EDs; Shrule (County Mayo) and Donaghpatrick (County Galway); see Figure 5-1 below.

Where data is not available at ED level, county and national data and information is utilised, and noted where relevant. Where County data is used, County Mayo and County Galway have been noted as the proposed project works are located in areas within each County.







**Legend**

- Site Boundary
- Electoral Divisions
- Proposed Grid Connection Route

0 1 2
Kilometers

**Spatial Reference**
Datum: IRENET95
EPSG: 2157

**Copyrights:**
Sources: Map data © OpenStreetMap contributors, Microsoft, Esri Community Maps contributors, Map layer by Esri, ©

| Rev | Date | Description | By | Chkd. |
|---|---|---|---|---|
| A | 21/09/2026 | First issue | K.K | J.S |

Client: ROOAUNALAGHTA Green Energy

Project:
Rooaunalaghta Green Energy Project

Title:
Figure 5-1:
Population and Human Health Study Area

Scale @ A3: 1:45,000

| Prepared by: | Checked by: | Date: |
|---|---|---|
| K.Kale | J.Staunton | September 2026 |

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Map Ref: 11981-005-ED-S.BO-TOB-A

Draft: A

## 5.4 RECEIVING ENVIRONMENT

### 5.4.1 Population

The proposed wind farm site is located approximately 2.5 km southwest of Shrule, County Mayo and approximately 3.5 km northwest of Headford, County Galway.

The lands of the wind farm site are primarily comprised of agricultural fields bounded by stone walls, hedgerows and treelines with pockets of scrub and woodland in the eastern half of the site. The proposed wind farm site is located on either side of the R334 Regional Road, which runs in a northwest-southeast direction connecting Headford (County Galway) and Ballinrobe (County Mayo). The area surrounding the proposed wind farm site can be described as rural with a mostly dispersed settlement type. The nearest settlements are Moyne approximately 2.3 km to the southeast of the proposed wind farm site and Glencorrib approximately 2.5 km to the northwest, both along the R334 and located in Co. Mayo.

The Draft Revised WEDGs 2019 recommend a minimum setback distance of four times the tip height (i.e., 600 m based on maximum tip height proposed (150 m)) from a proposed turbine to the nearest point of curtilage of any residential property and the proposed project complies with this recommendation. A residential dwelling, with Receptor ID No. 377, of an involved landowner has consented to the proposed wind turbines being placed within the 600 m setback distance at a distance of 570 m.

As such, the proposed project has achieved a separation distance of 600 m, which is 4 times the tip height (with the exception of one involved landowner). The closest receptor not involved in the project is 600 m from the proposed turbine locations.

Having due regard to the Draft Revised WEDGs 2019 and in accordance with industry best practice, the proposed project has a setback distance of (600 m) (which is 4 times the proposed tip height) subject to a minimum setback of 500 m and the proposed project complies with the 2006 WEDGs setback requirements of 500 m. The 600 m setback distance has been maintained for all sensitive receptors apart from sensitive receptor No. 377, located approximately 570 m from T08. The overall length of the private grid connection between the proposed on-site control building and the proposed 110 kV substation is approximately 8.7 km, of which approximately 5.6 km is located within public road corridors. The proposed 110 kV substation will have a loop-in connection (approximately 1.1 km long) with an existing overhead line via underground cables and interface masts. The proposed GCR is shown in Figure 2-2 of this EIAR.

#### *5.4.1.1 Land use*

The landscape surrounding the proposed wind farm site is agricultural. The land use/activities of the proposed wind farm site are primarily pastoral agriculture (Agricultural areas - 231 pastures (CORINE, 2018)).

### Agricultural Land Use

There are 11,920 farms within County Mayo and 12,717 within County Galway, with an average farm size area (utilised agricultural area (UAA)) of 23.4 ha and 26.5 ha (CSO, 2020)[11].

There are approximately 192 farms (agricultural holdings) located within the ED study area[12], as detailed in Table 5-1, with an average holding size of approximately 23.85 ha, marginally higher than the 23.4[13] ha average farm size for Co. Mayo (CSO, 2020).

*Table 5-1: Agricultural Land Use in the Study Area (EDs)[14]*

| Electoral Divisions | Agricultural Holdings | Average Size of Holding (Ha) | Livestock Units (LSU) | Area farmed (ha) |
|---|---|---|---|---|
| Shrule | 125 | 27.4 | 4,967 | 3,425.7 |
| Donaghpatrick | 67 | 20.3 | 1,990 | 1,360.6 |
| **Total (EDs)** | **192** | **23.85** (average) | **6,957** | **4786.3** |

#### *5.4.1.2 Population Trends / Statistics*

An examination of the existing population in the study area has been carried out to identify population trends, density and to define the properties/receptors surrounding the proposed wind farm site. Census data from the period 2011-2022 available from the CSO[15] has been summarised in Table 5-2.

Works associated with the proposed wind farm site are located within the Local Authority areas of Mayo County Council and Galway County Council, falling within the ED of Shrule, and works along the proposed GCR are located within both Shrule and Donaghpatrick EDs (see Figure 5-1). These EDs have been used in defining the existing population in the study area and vicinity of the proposed wind farm site.

Census results for the 10-year period between 2011 and 2022 show a rise in population nationally of 12%. Between 2011 to 2022, the population of County Mayo increased along with the national trend by approximately 7%. The population of the EDs within which the proposed wind farm site and GCR is located has also grown in line within county and national trends, increasing between 4% to 7% over the 2011 to 2022 period.

*Table 5-2: Population Trends over the 10-year period 2011 – 2022 (CSO, 2022)*

| Area | Population 2011 | Population 2016 | Population 2022 | % Change from 2011 - 2022 |
|---|---|---|---|---|
| State | 4,588,252 | 4,761,865 | 5,084,879 | +12% |
| West Region | 445,356 | 453,109 | 483,677 | +8.6% |
| County Mayo | 128,949 | 130,507 | 137,970 | +7% |
| County Galway | 173,004 | 179,390 | 193,323 | +12% |
| Electoral Divisions (EDs) | | | | |

[11] https://data.cso.ie/ Agriculture census 2020 (Accessed Sep 2026)
[12] Agricultural Statistics by Electoral Division Census of Agriculture 2020 Detailed Results - Central Statistics Office (Accessed May 2026)
[13] Farm Structure Census of Agriculture 2020 - Preliminary Results - Central Statistics Office (Accessed May 2026)
[14] Census of Agriculture interactive mapping app | CSO Ireland (Accessed May 2026)
[15] https://www.cso.ie/en/census/ (Accessed May 2026)

| Area | Population 2011 | Population 2016 | Population 2022 | % Change from 2011 - 2022 |
|---|---|---|---|---|
| Shrule | 1,128 | 1,159 | 1,209 | +7% |
| Donaghpatrick | 563 | 543 | 586 | +4% |
| **EDs (total)** | **1,691** | **1,702** | **1,795** | **+5.5%** (average) |

Population density is a useful indicator of the settlement patterns in the area surrounding the proposed wind farm site. Table 5-3 shows population density for the EDs study area, as well as the State. The 2022 census identified that the average population density in Ireland was 73.3 persons/km$^2$, the population density of the EDs within the study area ranges from 29 to 36 persons/km$^2$, demonstrating that the population density in the area surrounding the proposed wind farm site is lower than the national average, indicating a generally sparser population in the area.

*Table 5-3: Population density of Electoral Divisions within the study area (CSO Census 2022)*

| Area | Population density (persons per sq km) |
|---|---|
| State | 73.3 |
| County Mayo | 24.7 |
| County Galway | 31.7 |
| Shrule | 29 |
| Donaghpatrick | 36 |

## Census 2022

The Census 2022 results indicate that the number of persons present in the country on Census Night 2022 (Sunday 3rd of April 2022) was 5,149,139, showing an increase in population by 361,671 persons (8%) since the previous census (2016), with an average annual population increase of 1.2% a year since 2016. The key findings of the Census 2022 results noted by the CSO in terms of population growth include:

- *"It is the first time in 171 years that Ireland's population exceeded the five million threshold. There were 5,149,139 people in the State on Sunday, 03 April 2022, an 8% increase since April 2016;*
- *The average age of the population increased from 37.4 in 2016 to 38.8 in 2022;*
- *The number of people with dual Irish citizenship was 170,597 which represents a 63% increase from 2016;*
- *There was a drop from 87% to 83% in the proportion of people who reported their health was good or very good since 2016;*
- *Approximately a third of all workers (747,961 people) worked from home for at least some part of their week;*
- *The proportion of the population who identified Roman Catholic as their religion fell from 79% in 2016 to 69% in 2022;*
- *More than 700,000 people indicated that they undertook voluntary work, and of those, nearly 300,000 people volunteered in a sporting organisation; and*

- *Almost 80% of households had a broadband internet connection in 2022, up from 71% in 2016."* (CSO, 2022)[16].

#### *5.4.1.3 Property Receptors and Residential Amenity, Services and Education*

The locations of properties and buildings (referred to as receptors) within 2 km of the proposed wind farm site have been identified using address data from the GeoDirectory database which is used to populate Eircodes.

As mentioned, to identify local sensitive receptors, a distance of 2 km from the wind farm site boundary has been considered for identifying sensitive receptors for the population and human health assessment (see Appendix 5-1).

The validity of the GeoDirectory data within 2 km of the proposed wind farm site boundary has been confirmed by way of desk top review, including publicly available mapping, aerial imagery, street-level imagery, and a ground-truthing exercise. Ground-truthing allows for verification of the location and type of properties identified from the desk study and to include additional properties where arising. The ground-truthing exercise also notes sites where planning application notices may be currently present (i.e., a potential future property receptor).

Approximately 433 properties have been identified within a 2 km radius of the proposed wind farm site (see Appendix 5-1). A breakdown of the properties identified, along with their property type, is outlined in Table 5-4 below. Figure 5-2 displays the sensitive and non-sensitive receptors within 2 km of the proposed wind farm site. Non-sensitive receptors include derelict buildings, sheds, and commercial buildings. Sensitive receptors include residential, residential with commercial, and receptors with current planning applications. This assessment has included both sensitive and non-sensitive receptors within the assessment.

*Table 5-4: Receptors Identified within the 2 km of the proposed Wind Farm Site*

| Property Type | Number |
|---|---|
| Residential | 394 |
| Planning applications | 18 |
| Residential with Commercial | 13 |
| Derelict / Abandoned | 7 |
| Shed | 1 |
| **Total property receptors identified within 2 km** | **433** |

Figure 5-2 shows the distribution of properties in relation to the proposed wind farm site.

The nearest identified primary school to the proposed wind farm site is Glencorrib national school (located approximately 1.5 km northeast of the nearest proposed turbine) and Kilroe National School (located approximately 1.5 km southwest of the nearest proposed turbine). Other primary schools identified include Headford Primary School, Scoil Naomh Padraig, SN

[16] https://www.cso.ie/en/releasesandpublications/ep/p-cpsr/censusofpopulation2022-summaryresults/keyfindings/ (Accessed May 2025)

Naomh Sheosamh and SN Naomh Fhursa are all located 2.5 km or further from the proposed wind farm site.

The nearest identified post-primary school is Presentation College (located approximately 4 km southeast of the nearest proposed turbine), in Headford, and St. Pauls Secondary School in Oughterard (County Galway) (approximately 13 km southwest of the nearest proposed turbine). One other second level school identified is St. Jarlath's Secondary School located in Tuam (County Galway) (located approximately 19 km east of the nearest proposed turbine).

The nearest identified large third level colleges are located in Galway City, including the University of Galway, the Atlantic Technical University and the Galway Technical Institute, as well as a number of Further Education campuses.

The nearest childcare, creche and pre-school facilities identified are in Shrule (approximately 2.9 km northwest of the nearest proposed turbine).

Several community facilities and amenities, including shops, health centres, and churches are available in the wider area, including at Moyne, Headford, and Shrule.

Sports clubs and other leisure facilities are located in the area, including Gaelic Athletic Association (GAA) club (Glencorrib/Kilroe Community Sports Field) located at Shrule (approximately 1.9 km west of the nearest proposed turbine), and Headford Community Garden (approximately 4.2 km southeast of the nearest proposed turbine).

Further amenities and services are available in Tuam (approximately 17 km east), and Cong (County Mayo) (approximately 9.5 km northwest).

9°11'4"W

N

R334

Ramolin

Shrule

Bunnadulstran

Ballisnahony

Moyn6

Kilroe

Mountmonry

Funshinagh

Ballynalty

Gortatober

Glasvally

Gortbrack

Caherard

Saint Mary's Road

Headford Road

Archfield Estate

525000




**Legend**

- Site Boundary
- 2km Buffer

Receptors

- Commercial
- Derelict
- Planning application
- Residential
- Shed

0 500 1,000
Meters

**Spatial Reference**
Datum: IRENET95
EPSG: 2157

**Copyrights:**
Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community,

| Rev | Date | Description | By | Chkd |
|---|---|---|---|---|
| A | 13/10/2026 | First issue | K.K | J.S |

Client:

ROOAUNALAGHTA Green Energy

Project:

Rooaunalaghta Green Energy Project

Title:

Figure 5-2:
Properties identified within 2km of the proposed Wind Farm

Scale @ A3: 1:25,000

| Prepared by: | Checked by: | Date: |
|---|---|---|
| K.Kale | J.Staunton | October 2026 |

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Map Ref: 11981-039-SEN.R-BUFF2-TOB-A

Draft: A

#### *5.4.1.4 Property Values*

Data available from the CSO on property values is presented in terms of Eircode Routing Key areas. The proposed wind farm site is located within the Eircode Routing Key boundary of H91 (Galway).

In September 2026, the CSO published the Residential Property Price Index (RPPI) data for the 12-month period up to July 2026[17]. The CSO property data for properties sold show that the average price of residential properties sold across the H91 area is approximately €422,000 (published September 2026). The national median residential property price for residential dwellings purchased in the 12-months to July 2026 was €399,999[18].

The latest RPPI data release shows that overall residential property prices rose by 5.5% in the 12-months to July 2026, down from the 5.6% recorded in the year to June 2026. Property prices in Dublin increased by 4.4%, and property prices outside Dublin rose by 6.4% when compared to the same period a year earlier (July 2025) (CSO, 2026). In terms of house prices in Dublin rose by 3.7%, while apartment prices increased by 6.8%. The highest house price growth in Dublin was in Dún Laoghaire-Rathdown at 6.0%, while Dublin City experienced a rise of 2.3%. (CSO, 2026).

In July 2026, 4,769 dwelling purchases by households were filed with the Revenue Commissioners, an increase of 1.2% compared to the 4,712 purchases in for the same period the year before (July 2025). These purchases comprised of 3,418 existing dwellings (€1.51 billion value), and 1,351 new dwellings (€665.3 million value), equating to a total value of €2.17 billion (CSO, 2026). Nationally, the lowest median price paid for a dwelling was €200,000 in County Longford, and the highest was Dún Laoghaire-Rathdown, County Dublin at €684,411. The CSO states the most expensive Eircode area over the 12-months to July 2026 according to the RPPI was A94 'Blackrock' (median price of €850,500) in County Dublin, while F45 'Castlerea, Roscommon' was the least expensive (median price of €158,500) (CSO, 2026).

##### 5.4.1.4.1 Wind Farms and Property Values

Presently, there is one Irish based study that has looked at the effect of wind farms on property values within the Irish context. This working paper entitled 'Wind Turbines and House Prices Along the West of Ireland: A Hedonic Pricing Approach' (Gillespie & McHale, 2023) was published by the Centre for Economic Research on Inclusivity and Sustainable (CERIS) in 2023. This paper reviewed wind turbine developments in the west of Ireland covering counties Cork, Donegal, Galway, Kerry, Leitrim, Mayo, and Sligo and associated property values. The study used satellite imagery to identify individual turbines and sourced local housing data from Irish property website 'daft.ie'. Although prices published on daft.ie are not necessarily equivalent to the price agreed on final sale of a property, the assumption was made that advertised asking prices were broadly representative of transaction values. The findings of the study indicated a potential decrease in property values of approximately -14.7% within a radius of 0-1 km of a wind turbine. It should be noted that the sample size considered within this range was small,

[17] https://visual.cso.ie/?body=entity/rppi (accessed September 2026).
[18] Residential Property Price Index July 2026 (released 16/09/2026) https://www.cso.ie/en/releasesandpublications/ep/p-rppi/residentialpropertypriceindexjuly2026/ (Accessed September 2026).

approximately 225 houses, which does not fully represent the distribution of wind turbines and broader landscape of Irish rural residential properties. Furthermore, the paper states that there are "no significant reduction in house prices beyond 1 km" and that the effects seen within the 0-1 km radius were not persistent and were seen to diminish over the operational lifetime of the wind turbines (Gillespie & McHale, 2023).

A UK study, entitled *The effect of wind farms on house prices*, was carried out by the Centre of Economics and Business Research (CEBR) in March 2014. The key findings of the study were:

- Overall, the analysis found that country-wide property market drives local house prices, not the presence or absence of wind farms; and
- The econometric analysis established that construction of wind farms at the sites examined across England and Wales has not had a detectable negative impact on house price growth within a 5 km radius of the sites.

However, a similar study published in April 2014 by the London School of Economics (LSE) Spatial Economic Research Centre found an average reduction in the value of houses (based on 125,000 house sales between 2000 and 2012) of between 5% and 6% within 2 km of wind farms (Gibbons, 2014). These contradicting studies led to further research in Scotland in 2016 (ClimateXChange, 2016) which was based on analysis of over 500,000 property sales in Scotland between 1990 and 2014. This study, again, found no evidence of a negative impact from wind turbines on house prices and suggests that *"generally speaking the effect is either positive…or not distinguishable from zero"*.

The authors of the report tried to explain why the research carried out in Scotland found a very different result to that carried out in England even though the approach was very similar to that used in the LSE study. They suggested a number of possibilities including:

- Attitudes towards wind farms may be different in Scotland than in other parts of the UK;
- In Scotland, a much higher proportion of turbines are likely to be located on moors and mountains and in more remote areas than in England and Wales; and
- Some wind farms, especially in Scotland, enhance the local area by providing tracks for walkers, cyclists, horse riders and other members of the community, as well as community benefit funds (CBFs).

Large scale studies in United States have indicated that there is no conclusive evidence of any effect on property values located in close proximity to wind farms. A study entitled *A Spatial Hedonic Analysis of the Effects of Wind Energy Facilities on Surrounding Property Values in the United States* by Lawrence Berkley National Laboratory in 2013, carried out sampling in over 51,000 homes across nine US states. The range of distances examined accounted for as far as 10 miles away (approximately 16 km) but also took into account 1,198 homes within one mile (approximately 1.6 km) of turbines.

#### 5.4.1.4.2 Public perception of wind farms

**Sustainable Energy Authority of Ireland (SEAI) National Survey 2023**

In May 2023, the SEAI published their latest survey findings regarding attitudes towards wind and solar energy farms, which builds upon SEAI surveys undertaken in 2003 and 2017. The

objective of the survey was to provide insight on public attitudes to commercial wind and solar energy farms in Ireland, and to understand the impacts of these projects on those who live in surrounding areas, to help inform an "*equitable and socially sustainable energy transition*" (SEAI, 2023).

The SEAI's survey is an initial step to track the impact of projects developed under the government's Renewable Electricity Support Scheme (RESS). Key findings from the research include:

- *"Most households close to new wind or solar power projects have positive attitudes to the project close to them;*
- *Across rural Ireland, general levels of support for wind and solar energy projects remain very high, regardless of whether people live close to new projects or far away;*
- *A large majority of the public living in rural areas supports government policies that secure financial benefits for households and communities close to new renewable energy infrastructure projects through 'Community Benefit Funds';*
- *Most people feel like they and their communities can have a say in the planning process. However, many still feel that the planning process is unfair, and that more effort should be made with community engagement and careful siting of projects;*
- *Currently, 5 GW of renewable electricity capacity is connected to the national grid with 2022 being a record year for new wind and solar energy connections. At peak time, Ireland requires about 5.5GW of energy and renewables and a significant proportion of that is provided by renewable power. In the first quarter of 2023, for example, 34% of Ireland's electricity came from wind, and while solar continues to increase, on a sunny day earlier in May, 10% of the country's energy was produced by solar power;*
- *The national survey of attitudes is an early step in a long-term research programme to understand the socio-economic impacts of the RESS policy. To date, SEAI has commissioned studies to understand the ways in which community engagement in wind energy can be improved through public participation in decision-making, direct investment, co-ownership in projects and by enhancing developers' practices in establishing community benefits schemes;*
- *SEAI are planning further studies on the socio-economic impacts of the government's RESS policy" (SEAI, 2023).*

#### *5.4.1.5 Employment / Economy*

Employment is an important indicator of the economic standing of an area. This section examines employment status and unemployment levels in the region of the proposed project. The Labour Force Survey (LFS)[19] undertaken by the CSO, and published on a quarterly basis[20], in accordance with standard International Labour Organisation (ILO) criteria, provides details

[19] CSO Labour Force Survey. Available at: https://www.cso.ie/en/methods/labourmarket/labourforcesurvey/(Accessed September 2026)
[20] CSO Labour Force Survey (LFS). Available at: https://www.cso.ie/en/statistics/labourmarket/labourforcesurveylfs/ (Accessed September 2026).

of unemployment on a regional level in Ireland. County Mayo is located in the West Region (NUTS 3 IE042)[21][22].

- The key findings from the Q2 2026 LFS (latest available data at the time of writing) published by the CSO[23] (September 2026) include:

- *"The number of people aged 15 to 89 years in the labour force increased by 31,300 or 1.1% to 2,990,200 people in the 12 months to Quarter 2 (Q2) 2026;*
- *The number of people aged 15 to 89 years in employment rose by 21,200 in Q2 2026 to 2,839,300 people, an increase of 0.8% from Q2 2025;*
- *The employment rate for people aged 15 to 64 years was 74.3% in Q2 2026, down from 74.7% in Q2 2025;*
- *There were 151,000 unemployed people aged 15 to 74 years in Q2 2026 using International Labour Organisation (ILO) criteria, with an associated unemployment rate of 5.1%, up from 4.8% in Q2 2025;*
- *The estimated labour market participation rate in Q2 2026 was 66.0%, down from 66.4% in Q2 2025;*
- *The estimated total number of hours worked per week in Q2 2026 was 89.0 million hours, unchanged when compared with Q2 2025."* (CSO, 2026).

In the West Region, there were 280,200 persons in employment in Q2 2026, an increase of 10,900 persons from Q2 2025 (269,300 persons); this indicates employment in the West Region has increased over the 2025-2026 period.

The unemployment rates outlined in Table 5-5 is the number of unemployed persons expressed as a percentage of the total labour force (aged 15-74). The unemployment rate for the State in Q2 2026 was 5.1%, while the unemployment rate for the West Region was 4.5%, indicating that unemployment in the region for the period Q2 2026 is lower (0.6%) than the State.

The participation rate is the number of persons available to the labour force (i.e., persons 15 years or older either working or looking for work) expressed as a percentage of the total population. In Q2 2026, the participation rate in the State was 66%. In the West Region the participation rate was 66.8% in Q2 2026; this demonstrates that the participation rate in the West Region is marginally higher, and in line with, the current trend nationally.

*Table 5-5: Labour Force Survey (Q2 2026)*

| Location | Unemployment Rate | Participation Rate |
|---|---|---|
| State | 5.1% | 66% |
| West Region | 4.5% | 66.8% |

[21] Eurostat - NUTS 3 – Nomenclature of Territorial Units for Statistics (NUTS). Available at: https://ec.europa.eu/eurostat/web/nuts/maps#expand-ie-17764716 (Accessed September 2026)
[22] Irish NUTS 2 and NUTS 3 Regions. Available at: https://www.cso.ie/en/methods/informationnotefordatausersrevisiontotheirishnuts2andnuts3regions/ (Accessed September 2026)
[23] CSO Labour Force Survey Quarter 2 2026 (Published August 2026). Available at: https://www.cso.ie/en/releasesandpublications/ep/p-lfs/labourforcesurveyquarter22026/ (Accessed September 2026)

The CSO also publishes figures relating to the Live Register, which captures a monthly count of people aged between 18 - 65 years who are registered to receive Jobseeker's Benefit, Allowance, or Pay Related Benefit, as well as other Social Welfare contributions The Live Register provides detailed information on a variety of variables such as scheme types, claim duration, age, sex and geographical analysis down to local office level (CSO, 2026). Live Register figures are not strictly a measure of unemployment as they include persons who are legitimately working part-time and signing on part-time. However, the Register can be used to provide an overall trend within an area.

Table 5-6 shows that for the State, there was 182,517 persons on the Live Register in August 2026[24], an increase of 2.8% on the number of persons on the Live Register for the same period (August 2025) the previous year (177,600 persons). In the West Region, the number of persons on the Live Register for August 2026 was 15,775persons, a 0.5% increase compared to the same period in the number of persons on the Live Register in August 2025 (15,701 persons).

In August 2026, the number of persons on the Live Register in County Mayo and County Galway was showing a marginal increase (0.2% and 0.5% respectively) compared to the same period in the number of persons on the Live Register in August 2025.

Overall, there is an increasing national trend in Live Register figures, and the latest figures for the Live Register in the West Region, including County Mayo and County Galway, also indicate a slight increasing trend of those signing on for the period discussed.

*Table 5-6: Live Register Total Figures (August 2025 – August 2026)*

| Location | August 2025 | August 2026 | % Change |
|---|---|---|---|
| State | 177,600 | 182,517 | +2.8% |
| West Region | 15,701 | 15,775 | +0.5% |
| County Mayo | 5,415 | 5,428 | +0.2% |
| County Galway | 8,228 | 8,274 | +0.6% |

According to the latest Census (2022), nationally there were approximately 2,531,099 people in the Irish labour force, a 13% increase on the number recorded (2,232,203 persons) 11-years prior (Census 2011), and a 10% increase on the number recorded in the 2016 Census (2,304,037 persons).

[24] https://www.cso.ie/en/releasesandpublications/ep/p-lr/liveregisteraugust2026/ (Accessed September, 2026)

*Table 5-7: Labour Force Figures (Census 2011 to Census 2022)*

| Location | 2011 | 2016 | 2022 | % Change (11-22) |
|---|---|---|---|---|
| State | 2,232,203 | 2,304,037 | 2,531,099 | +13% |
| West Region | 214,497 | 214,876 | 232,593 | +8% |
| County Mayo | 60,942 | 60,030 | 64,017 | +5% |
| County Galway | 84,518 | 85,054 | 92,593 | +10% |

More locally, in 2022, approximately 64,017 people were in the labour force for County Mayo, a 5% increase on the number recorded 11-years prior (Census 2011), and a 7% increase on the number recorded in the 2016 Census. In County Galway, the labour force saw a 10% increase on the number recorded 11-years prior (Census 2011), and a 9% increase on the number recorded in the 2016 Census.

Table 5-8 provides a breakdown of the labour force by industry occupation in County Mayo, the county in which the proposed wind farm site is located, between Census 2016 and Census 2022. The industry areas with the highest proportion of the labour force include manufacturing activity, wholesale and retail sectors, health and social areas, educational roles, construction activities, agriculture forestry and fishing activities, and construction, accommodation and food service activities, and professional, scientific and technical activities.

The agriculture, forestry and fishing industry employed approximately 3,607 persons in County Mayo in 2022. As mentioned in Section 5.4.1.1, agricultural activity accounts for a moderate proportion of land use within the study area.

Nationally, according to the Census of Agriculture 2020, there were 278,600 persons in the Agriculture Labour Force, with 73% being male, and 27% female. There are approximately 130,216 farm holders in the State, of these, approximately 113,316 holders were male, and 16,900 were female. There were 9,197 farm holders under the age of 35-years, with 121,019 farm holders being over the age of 35-years. The age categories with the highest level of farm holders were 45-54 years (28,488), 55-64 years (32,026) and 65+ years (42,391).

There are approximately 30,726 agricultural holdings in the West region[25] compared to 135,037 agricultural holdings nationally.

Latest data shows that the average age of farm holders in the State is 59.4 years old, in Co. Mayo is 59.1 years old and in Co. Galway is 59.2 years old. More than one third of farm holders in

[25] https://data.cso.ie/table/AVA25 (Accessed June 2026)

Ireland were aged 65 years or older (i.e., 37.8% or farm holders), less than one in twenty (i.e., 4.3% of farm holders) were aged under 35 years old. (CSO, 2024).

*Table 5-8: Labour Force by Industry County Mayo (Census 2016 & 2022)*

| Labour Force by Industry - County Mayo | 2016 | 2022 |
|---|---|---|
| **Main Industries in County Mayo** | | |
| Manufacturing | 6,501 | 8,274 |
| Wholesale and retail trade (including motor repair businesses) | 7,400 | 8,146 |
| Human health and social work activities | 6,400 | 7,393 |
| Education | 4,365 | 5,167 |
| Construction | 3,235 | 3,886 |
| Public administration and defence; compulsory social security | 2,882 | 3,799 |
| Agriculture, forestry and fishing | 4,395 | 3,607 |
| Accommodation and food service activities | 3,889 | 3,606 |
| Professional, scientific and technical activities | 1,954 | 2,470 |
| Transportation and storage | 1,433 | 1,584 |
| Administrative and support service activities | 1,220 | 1,539 |
| Other service activities | 1,267 | 1,511 |
| Information and communication | 845 | 1,271 |
| Financial and insurance activities | 797 | 1,129 |
| Arts, entertainment and recreation | 767 | 809 |
| | | |
| Industry not stated | 3,069 | 3,035 |
| Unemployed, having lost or given up previous job | 7,823 | 4,778 |
| Unemployed Looking for first regular job | 768 | 905 |
| | | |
| **Total in Labour Force in County Mayo** | 60,030 | 64,017 |

### *5.4.1.6 Tourism / Recreation*

The National Tourism Development Authority (Fáilte Ireland) periodically collates statistics on overseas visitors to Ireland and regions within the country. Table 5-9 shows the most recent domestic tourism (tourism involving residents of one country traveling only within that country) statistics from Failte Irelands 'Key Tourism Facts 2024' (published August 2025). This report provides data on how the Irish tourism industry performed in 2024.

*Table 5-9: Key Tourism Statistics 2024*

| Tourist Origin | No. of Trips | Revenue Generated |
|---|---|---|
| | Ireland | |
| Domestic Visitors | 16.5 million | € 3,601 million |
| Overseas Visitors | 6.89 million | €6,169 million |
| Northern Ireland (NI) Visitors | 1,205,000 | €383 million |
| | Mayo | |
| Domestic Visitors | 809,000 | €222 million |
| Overseas Visitors | 212,000 | €138 million |

| Galway | | |
|---|---|---|
| Domestic Visitors | 1.4 million | €335 million |
| Overseas Visitors | 1.0 million | €687 million |

In relation to domestic tourism, the Fáilte Ireland 2024 data reports 16.5 million domestic trips in Ireland in 2024; these trips generated € 3,601 million in revenue for the period. The majority of these domestic trips (43%) were recorded as short holiday trips, (i.e., 1-3 days), with trips to visit friends/relatives reported at 41.7% of all domestic trips. Most of these trips occur in the late summer period (July – September). Key activities engaged in by domestic holidaymakers included hiking/walking, touring around by car, shopping, visiting historic houses or castles, swimming, visiting gardens and nature reserves and national parks.

Overseas tourism accounted for 6.89 million trips to Ireland in 2024, generating €6,169 million in revenue for the period. Overseas visitors spend in Ireland was primarily on accommodation, food and drink, entertainment, transport and shopping. Overseas visitors cite their main reasons for visiting were as holidaymakers, visiting friends and family, and business. The majority of overseas visitors stayed with friends/relatives (38%), in hotels (21%), rented accommodation (10%) and guesthouses/B&Bs (6%). Key activities engaged in by overseas holidaymakers included hiking/walking, cycling, golf, angling and equestrian.

In relation to domestic tourism in County Mayo and County Galway, the Fáilte Ireland 2024 data reports 809,000 and 1.4 million domestic trips in 2024 in each county, respectively.

Combined, these domestic trips in County Mayo and County Galway generated €557 million in revenue for the period. The top five activities engaged in by domestic holidaymakers visiting Mayo included walking, touring around by car, shopping, swimming, and visiting historic houses or castles, gardens, gardens, and nature reserves and national parks. Similarly, in Galway, the top five activities engaged in included shopping, walking, touring around by car, swimming, and a combination of visiting gardens, historic houses or castles, and nature reserves and national parks (Fáilte Ireland, 2025).

Overseas tourism accounted for approximately 212,000 and 1 million visits to County Mayo and County Galway in 2024, respectively, generating a combined €825 million in revenue for the period. Overseas visitors to County Mayo cite their main reasons for visiting were as holidaymakers (48%), visiting friends and family (40%), and business (8%). In County Galway, 63% of overseas visitors cited their reason for visiting was holidaymaking, with 26% and 6% of overseas visitors stating their visit related to visiting friends and family or business, respectively.

The majority of overseas visitors to County Mayo and County Galway stayed in hotels, guesthouses/B&Bs or family/friends. Other accommodations used included rented accommodation, caravans/camping, holiday homes, or hostels.

Based on Fáilte Ireland's Survey of Visitor Attractions (accessed via the Fáilte Ireland Visitor numbers to attractions dashboard)[26], Westport House is the most visited place on the list of top fee-charging attractions in Mayo with 178,820 visits occurring in 2024, located approximately 41 km northwest of the proposed wind farm site. Foxford woollen mills factory tour, located approximately 52 km northeast of the proposed wind farm site, is at second place on the list of top free attractions in Mayo with 137,000 visits occurring in 2024.

Kylemore Abbey and Garden is the most visited place on the list of top fee-charging attractions in Galway with 572,673 visits occurring in 2024, located approximately 48.5 km west of the proposed wind farm site. Connemara National Park, located approximately 48 km west of the proposed wind farm site, is at second place on the list of top free attractions in Galway with 267,296 visits occurring in 2024.

The top fee-charging attraction in Ireland in 2023 was the Guinness Store House in Dublin, with approximately 1,595,372 visits, and the top free attraction in Ireland was the Phoenix Park Visitor Centre in Dublin, with 1,741,372 visits in 2024.

Other attractions located in proximity to the proposed wind farm site include Ashford Castle Estate, located over 9 km from the proposed wind farm site, Knockma Forest trail located at a distance of 10 km, and Moyne Castle, located approximately 1.4 km from the proposed wind farm site. Ross Errilly Friary was established in the mid-fourteenth century and is a well-preserved ecclesiastical settlement. It is situated approximately 2 km south of the nearest proposed turbine.

### Ireland's Wild Atlantic Way Tourism Brand Initiatives

In recent years, Fáilte Ireland has developed four regional brands to promote and further develop the Tourism sector around the Country. The brand initiative launched by Fáilte Ireland which incorporate parts of County Mayo is the *'Wild Atlantic Way'*.

The *'Wild Atlantic Way'* is a driving route offering views of the Irish landscape, while offering links between key destinations and attractions, along the west coast between Donegal and West Cork. There are 188 Discovery Points along the route, with 31 of these situated in County Mayo. As part of this brand initiative, Fáilte Ireland recently launched *'Wild Mayo Destination and Experience Development Plan'* (April 2026)[27], which they state is "*A five-year plan to grow North Mayo as a destination for wild adventure, cultural heritage, and year-round exploration, from the Mullet Peninsula to Ballina and Foxford, as part of the Wild Atlantic Way"* (Fáilte Ireland, 2026).

[26] Fáilte Ireland Visitor numbers to attractions dashboard. Available at: https://www.failteireland.ie/en/research-and-insights/visitor-numbers-dashboard (Accessed September 2026)

[27] Fáilte Ireland *'Wild Mayo Destination and Experience Development Plan'* (April 2026). Available at: https://www.failteireland.ie/en/wild-atlantic-way/wild-mayo-development-plan (Accessed September 2026)

**Walking / cycling routes and other activities**

In terms of walking and cycling routes, Kilmaine Nature walk is located approximately 7.8 km from the proposed wind farm site.

In terms of other recreation/activity facilities, the Corrib RFC and Headford Community Garden are located in proximity to the proposed wind farm site, approximately 4km.

The Knockma Forest trail is located approximately 10 km from the proposed wind farm site and has several walking trails and is popular for birdwatching.

#### 5.4.1.6.1 Tourism and Wind Farms

Since onshore wind farms first began to appear in the landscape, there have been concerns about their potential impact on tourism, and if tourists may be discouraged from visiting areas in general, or, in particular, areas where wind farms can be seen. The following research has been conducted in Ireland and Scotland relating to the attitudes towards wind farms by tourists.

**Scotland – Wind farms and tourism trends survey 2017 and 2021**

In 2017, BiGGAR Economics published an independent research study on *'Wind Farms and Tourism Trends in Scotland*[28]*.* The aim of the research was to understand the relationship, if any exists, between wind farm developments and the tourism industry in Scotland.

Since 2009, onshore wind development has expanded significantly in Scotland. Between 2009 and 2015 employment in the sustainable tourism sector in Scotland also grew, by 15%. Looking at the Scottish economy as a whole, this suggests that both the onshore wind sector and the sustainable tourism sector can coexist and grow (BiGGAR, 2017). However, the study noted – "*it could be argued that if there were any relationship between the growth of onshore wind energy and tourism, it would be at a more local level"* - therefore the study looked at 28 wind farms constructed between 2009 and 2015 and considered evidence at a local authority level and within the immediate vicinity of operational wind farms (i.e., analysis of local tourism trends within a 15 km radius from onshore wind energy sites) (BiGGAR, 2017). Results indicate that there was growth in employment in the sustainable tourism sector in the majority of local authority areas in Scotland during this period (2009-2015). It was noted that the growth in onshore wind energy capacity was greater in some areas of Scotland than in others. Nine of the local authorities considered had greater increase in wind energy deployment than the Scottish average. Of these, four saw a larger increase in sustainable tourism employment than the Scottish average, while five saw less growth than the Scottish average (BiGGAR, 2017). The analysis undertaken suggests that, at the local authority level, onshore wind development does not have a detrimental impact on tourism.

With regard to analysis of local tourism trends within the immediate vicinity of operational wind farms (radius -15 km), it was found that, in most cases, sustainable tourism employment performed better in the areas in the vicinity of wind farms compared to the wider local authority area. BiGGAR (2017) noted that – "*There was no pattern, which emerged that would suggest*

[28] https://biggareconomics.co.uk/wp-content/uploads/2020/01/Wind-farms-and-tourism-trends-in-Scotland.pdf (Accessed May 2026)

*that onshore wind farm development has had a detrimental impact on the tourism sector, even at a very local level".* Overall, the conclusion of the study was that "*published national statistics on employment in sustainable tourism demonstrates that there is no relationship between the development of onshore wind farms and tourism employment at the level of the Scottish economy, at local authority level nor in the areas immediately surrounding wind farm development"*(BiGGAR, 2017).

Updated survey and report (2021)

In 2021, BiGGAR published an updated report[29] on wind farms and tourism trends in Scotland. The updated survey and research looked to further investigate if wind farms have discouraged tourism activity, and if there is evidence of such effects given the time that has passed since the first commercial scale wind farms were established in Scotland over 25 years ago. Since 2009, the number of onshore wind turbines in Scotland has grown from 1,082 to 3,772 in 2019. Evidence shows that employment in tourism-related sectors also grew during the decade (increase of 20%) (BiGGAR, 2021).

Employment growth in tourism-related sectors has not been consistent across all areas of Scotland. The highest levels of growth in tourism employment have been seen primarily in rural local authority areas, while in some central belt local authorities there have seen decreases in tourism-related employment. An analysis of the rates of change in tourism-related employment and the number of onshore wind turbines in local authority areas found that there is no correlation between the two factors (BiGGAR, 2021).

Like the 2017 research, this update also considered trends in tourism employment in the immediate vicinity of wind farm developments. This included an additional 16 wind farms that became operational since the previous study (2015-2019). Analysis of trends in tourism employment in the locality of these windfarms (based on a 15 km radius) found that 11 of the 16 areas experienced more growth in tourism employment compared to Scotland as a whole. Furthermore, tourism employment trends in the locality of 12 out of the 16 wind farms outperformed the local authority area in which they were based (BiGGAR, 2021). The updated study also re-examined the 28 wind farms analysed in the 2017 report and found that the localities in which they were based had outperformed Scotland and their local authority areas in most cases. Additionally, the analysis found where seven areas that had underperformed in the 2017 study, four had done better than their local authorities in the period since. In total, the study analysed trends in the localities of 44 wind farms developed in recent years, providing a large evidence base. Overall, the latest study found no relationship between tourism employment and wind farm development, be it at the level of the national economy, local authority areas or in the locality of wind farm sites (BiGGAR, 2021).

[29] https://biggareconomics.co.uk/wp-content/uploads/2021/11/BiGGAR-Economics-Wind-Farms-and-Tourism-2021.pdf (Accessed May 2026)

### 5.4.2 Human Health

Evidence shows that different communities have varying susceptibilities to health impacts both positive and negative as a result of social and demographic structure, behaviour and relative economic circumstance. Whilst specific health data for individuals in the vicinity of the proposed project is confidential and difficult to establish, a community profile has been identified to establish the baseline health profile of the area and compare this profile to the rest of the country.

**Health Profiles**

In 2024, the CSO published the statistical release 'HSE Health Regions 2022'[30]. The release is the output of a data matching project, carried out by the CSO, to analyse and provide demographic and health statistics for the new HSE Health Regions[31] (as of March 2024), using Census 2022 and other administrative data sources. This allows for health profiles to be viewed at various administrative levels; the HSE Health Regions, Integrated Healthcare Areas (IHAs), Community Healthcare Networks (CHNs), and EDs[32].

The proposed project is located within the HSE North and Northwest Region, which is further broken down into the IHAs of HSE Donegal, HSE Sligo Leitrim, HSE Galway Roscommon and HSE Mayo. The proposed project is situated within the HSE Mayo IHA.

Key facts in the Health Profile relating to the HSE Mayo IHA (CSO/HSE, 2024) include:

- *HSE Mayo has a total of 137,970 persons and 35,237 families living in private households;*
- *There are a total of 26,362 persons aged 0-14 in this IHA and 27,328 persons aged over 65;*
- *There are a total of 30,074 persons living with a disability in this IHA, representing 21.8 % of the population. This compares with 21.5% nationally;*
- *2,616 people in this IHA report having bad or very bad general health. This represents 1.9% of the population. 1.7% of the population have bad or very bad general health nationally;*
- *There are a total of 9,459 carers in this IHA, representing 6.9% of the population. This compares with 5.8% of the population that are carers nationally.*
- *12.4% of this IHA smoke tobacco products. 13.1% of people nationally smoke tobacco products;*
- *There are 3,021 short term unemployed and 3,021 long term unemployed people in this IHA. These represent 1.6% and 2.7% of the population respectively;*
- *3.6% of the population of HSE Mayo are unskilled. 3.1% of people in the state are unskilled;*
- *27.1% of those aged 15+ in this IHA have a highest level of education of lower secondary or lower. This compares with 23% nationally;*
- *23.5% of families with children in this IHA have lone parents, versus 24.8% nationally;*

[30] https://www.cso.ie/en/releasesandpublications/fp/fp-hhr/hsehealthregions2022/ (Accessed May 2026)
[31] https://about.hse.ie/leadership-and-operations/hse-health-regions/ (Accessed May 2026)
[32] https://edprofiles.cso.ie/2022/health/index.html (Accessed May 2026)

- *18.6% of this IHA were born outside Ireland (20% nationally); and*
- *Households rented from a Local Authority comprise 4.9% of households in this IHA. This stands at 8.3% nationally.*

**Pobal Deprivation Index (2022)**

A review of latest deprivation indices (2022) available from Pobal[33] which ranges from 'very affluent' to 'extremely disadvantaged'[34], shows that County Mayo is currently considered 'marginally below average', and County Galway is considered 'marginally above average'. A review of the deprivation indices for the EDs shows that the EDs surrounding the proposed wind farm are primarily considered 'marginally above average', with the exception of Donaghpatrick which is noted as 'marginally below average' on the deprivation indices. It can be inferred that the area surrounding the proposed project is not deprived. There are likely to be localised areas of deprivation where the county-level statistics simply do not apply.

It is not possible or necessary to identify every vulnerable individual. However, every human community contains vulnerable individuals; be those the old, the very young or because they have conditions which may make them more susceptible. Examples are as diverse as humans themselves but can include asthma, autism, and those with psychological illness. It is important to note that Health Standards are set for the vulnerable and not for the robust.

#### *5.4.2.1 CSO Health Statistics*

##### 5.4.2.1.1 CSO Census 2022

The Census 2022 responses regarding general health found that approximately 83% of the Ireland's population felt they had 'Very Good' or 'Good' health, down slightly from 2016 when it was 87%. The Census 2022 indicated the percentage of persons reporting themselves as having 'bad' or 'very bad' health in the state was 1.7%. Approximately 53.5% of men felt their health was 'Very Good', compared with 52.9% of women. The census results also clearly show the decline in general health with age, with 73.5% of 15-19 year olds in 'Very Good' health, compared with those aged 40-44 (49.8%) and 65 to 69 (30.1%). Census 2022 also indicates the level of those living with disabilities. In Ireland, 1,109,557 persons reported having a disability in Census 2022.

Census 2022 responses for County Mayo indicated the percentage of persons with 'Very Good' and 'Good' health was 83% (114,913 (57,139 Males / 58,046 Females), while 10% indicated they were in 'Fair' health (14,027 (6,891 Males / 7,136 Females), and 1.9% (2,616 (1,212 Males / 1,404 Females) indicated they were in 'Bad' to 'Very Bad' health; 4.5% of respondents (6,142) did not state the status of their general health.

[33] https://maps.pobal.ie/WebApps/DeprivationIndices/index.html - Pobal administers and manages Government and EU funding to address disadvantage and support social inclusion (Accessed May 2026)
[34] 'Very affluent', 'Affluent', 'Marginally above average', 'Marginally below average', 'Disadvantaged', 'Very disadvantaged', and 'Extremely disadvantaged'.

The 2022 census also indicated that there are 30,074 (14,500 Males / 15,574 Females) with disabilities (any extent) living in Mayo County Council administrative area, and that there are 9,459 (3,889 Males / 5,570 Females) carers in the County.

Census 2022 responses for the local EDs reviewed indicated that the majority of persons in the EDs reported themselves as having 'Very Good' to 'Good' health (see Table 5-10).

*Table 5-10: Reported health status census 2022 for EDs surrounding the proposed wind farm site*

| Area | Very good | Good | Fair | Bad | Very bad | Not stated | Total |
|---|---|---|---|---|---|---|---|
| Ireland | 2,740,994 | 1,527,027 | 444,895 | 72,556 | 16,843 | 346,824 | 5,149,139 |
| Mayo | 70,886 | 44,299 | 14,027 | 4,068 | 2,157 | 459 | 135,896 |
| Shrule | 690 | 379 | 86 | 10 | 5 | 41 | 1,211 |
| Donaghpatrick | 319 | 210 | 35 | 4 | 0 | 16 | 584 |

#### *5.4.2.2 Irish Health surveys*

A number of sources were reviewed to understand the current baseline and context in terms of general health in Ireland. The following sections provide a summary of the most recent health surveys and census data gathered and published by the Government and the CSO.

**CSO Irish Health Survey 2025 (Published May 2026)**

In 2026, the CSO published its latest "Irish Health Survey"[35]. The CSO note that *"The statistics presented in this release are drawn from a comprehensive survey carried out in 2025 examining the health of people in Ireland. Almost 8,000 individuals aged 15 years and over were asked more than 100 questions, through a combination of online and personal interviews, about their health status, access to healthcare, and health determinants such as smoking and alcohol consumption".*

Some key findings of the survey included:

- *"Among young adults (aged 15 to 24 years), females at 4.4% were three times as likely as males (1.4%) to report bad or very bad health in 2025;*
- *Younger respondents reported higher rates of poor general mental health. Females aged 15 to 24 years had the highest prevalence, with one in eight (12.8%) rating their mental health as bad or very bad;*
- *Among 15 to 24 year olds in 2025, 7.7% of males received a diagnosis of autism compared with 4.5% of females;*
- *In 2025, the highest rate of obesity was among those aged 55 to 64 years with 30.6% of females and 29.3% of males in this age group being classified as such;*
- *Adults aged 55 to 64 years were the most likely to drink alcohol at least once a week at 50.1%. Young adults aged 15 to 24 years were the least likely to drink alcohol weekly at 24.1%;*

[35] https://www.cso.ie/en/statistics/health/irishhealthsurvey/ (Accessed June 2026)

- *Males were more likely to be daily smokers of tobacco than females. Almost a quarter (24.0%) of males aged 35 to 44 years were daily smokers of tobacco in 2025, the highest rate of any age group;*
- *One third (32.5%) of females aged 15 to 24 years who used social media reported it had a negative impact on their mental health compared with 24.9% of males the same age"* (CSO, 2026).

In 2024, the CSO undertook an additional survey module which asked about children's health; this survey module was not undertaken in 2025. Key findings if the 2024 survey included:

- *"In 2024, the general health of over nine in ten (92.4%) children aged 2 to 17 years was considered to be 'good or very good';*
- *The percentage for children aged 2 to 17 years with a long-standing illness or health problem was higher for males (19.9%) than females (16.8%); and*
- *The percentage of children aged 2 to 17 years who were considered to be in 'good or very good' health was highest in HSE South West at 95.2% and lowest in HSE Dublin and Midlands at 90.8%"* (CSO, 2025).

### Healthy Ireland Survey 2025

In November 2025, the Government released it's Healthy Ireland Survey Summary Report[36]. This is an interviewer-administered survey, commissioned by the Department of Health and carried out by Ipsos, of the health and health behaviours of people living in Ireland. This is the latest set of findings and adds to the data collected in previous Healthy Ireland Surveys, published from 2015–2019 and 2021–2024; due to the COVID-19 pandemic it was not possible to complete the 2020 survey.

The Survey is a key component of the 'Healthy Ireland Framework' and informs the Healthy Ireland Strategic Action Plan, by contributing to the research, monitoring and evaluation required to assess the impact of policy implementation. Approximately 7,500 individuals, representative of the population aged 15 and older, are surveyed. The Survey covers a variety of health-related topics, including; general health, alcohol, smoking, weight, dental, female health, skin protection, and mental health.

In terms of General Health, respondents were asked to rate their health on a 5-point scale ranging from 'very good' to 'very bad'. Overall, 82% of respondents perceived their health as 'good' or 'very good', which has remained broadly unchanged since 2024 (81%). 82% of men and 81% of women rated their health as 'good' or 'very good'. Reports of good or very good health had been declining steadily since 2019 (85%). The survey results note that results in 2025 suggest a slight increase over the past two years (Gov.ie, 2025). Results indicate that general 'good' health decreases with age, with 92% of 15–24-year-olds rating their health as 'good' or 'very good', in contrast to 71% of respondents aged 65 - 74.

[36] Healthy Ireland Survey 2025 available at: https://www.gov.ie/en/healthy-ireland/publications/healthy-ireland-survey-2025/ (Accessed September 2026)

The Survey notes that employment status is indicative of self-reported health, with those who are employed (90%) or students (91%) significantly more likely to report good health than those who are unemployed (80%).

With regard to the occurrence of health conditions, the Survey results indicated that 39% (2 in 5 people) have a long-standing illness or health problem confirmed by medical diagnosis, representing a slight decrease since 2024 (41%). A higher proportion of women (42%) than men (37%) report having a long-term health condition. Survey results indicated that females are more likely than males to report that health conditions are limiting or severely limiting their day-to day activities (23% and 18% respectively). The prevalence of long-lasting conditions or difficulties increases with age, with 28% of those aged 15-24 and 58% of those aged 75 and over report having a long-lasting condition or difficulty.

Overall, of the conditions reported, high blood pressure (8%), arthritis (7%), asthma, diabetes and high cholesterol (all 5%), and mental health conditions (3%) are the most prevalent long-term health conditions confirmed by a medical diagnosis reported by respondents (Gov.ie, 2025).

#### *5.4.2.3 Environmental Factors*

A number of other chapters in this EIAR address some specific environmental factors. These chapters outline the baseline environment in terms of each particular topic in the area of the proposed project. The study area for the impact assessment is focused on the areas potentially to be affected by the construction, operational and decommissioning phases of the proposed wind farm. The chapters also include an impact assessment. The topics (and corresponding EIAR chapters include:

- Air quality (Chapter 14)
- Hydrology and Hydrogeology (Chapter 9)
- Noise and Vibration (Chapter 12)
- Land, Soils and Geology (Chapter 8)
- Traffic and Transportation (Chapter 17)

##### 5.4.2.3.1 Air Quality

As part of the implementation of the Framework Directive on Air Quality (1996/62/EC) four air quality zones have been defined in Ireland for air quality management and assessment purposes as outlined within the EPA document titled *Air Quality in Ireland 2024* (EPA 2025a). Dublin is defined as Zone A and Cork as Zone B. Zone C is composed of 23 towns with a population of greater than 15,000. The remainder of the country, which represents rural Ireland but also includes all towns with a population of less than 15,000 is defined as Zone D. In terms of air monitoring, the area of the Proposed Project is categorised as Zone D.

Continuous monitoring by the EPA is carried out at a number of monitoring stations within Zone D (EPA, 2025a); these include rural background sites, roadside (traffic) sites and suburban background sites. The selected monitoring sites are rural background monitoring locations which are not heavily influenced by traffic or other major air emission sources and can provide

an indicative estimate of the background $NO_2$ concentrations in the vicinity of the Proposed Project. Refer to Chapter 14 of this EIAR for a detailed assessment of air quality.

#### 5.4.2.3.2 Water Quality

Chapter 9 of this EIAR outlines the baseline environment in terms of the water environment. cross the catchment boundaries. The proposed wind farm site lies within the Corrib (30) surface water catchment and intersects the Black (Shrule)_020, Black (Shrule)_030, Knocknageeha_010 and Mocorha_010 WFD river sub-basins.

Surface water from the proposed wind farm site drains predominantly drains towards the Black (Shrule) River and ultimately to Lough Corrib. Drainage within the site is influenced by a network of agricultural drains and the Rooaunalaghta Stream (EPA Code 30R03), which provide hydrological connectivity between the site and downstream receiving waters.

A smaller portion of the proposed wind farm site drains towards the Corrib_010 waterbody located to the southwest of the site. All surface water drainage pathways within the study area ultimately form part of the wider Corrib catchment.

In terms of surface water quality, Chapter 9 identifies a number of WFD waterbodies within the Proposed Project study area. The majority are classified as having Good ecological status, including Black (Shrule)_020, Black (Shrule)_030, Corrib_010 and Mocorha_010. Knocknageeha_010 and Headford Stream_010 are classified as Moderate status, while Black (Shrule)_010 is classified as Poor status. Overall, water quality within the study area is generally good, with several waterbodies meeting the objectives of the Water Framework Directive.

#### 5.4.2.3.3 Noise & Vibration

Chapter 12 of this EIAR outlines the baseline environment in terms of noise in the area of the Proposed Project. The study area for the noise and vibration impact assessment is focused on the areas potentially to be affected by the construction, operational and decommissioning phases of the proposed wind farm.

Background noise levels are measured in the vicinity of Noise Sensitive Locations (NSLs) identified in closest proximity to the Wind Farm and Substation Sites. Locations were selected to represent the noise environment at the nearest NSLs and to determine the baseline noise levels.

The noise environment has been observed during equipment installations, site visits to maintain the equipment, and equipment collections, and the background noise survey. The existing noise sources and types identified during the baseline noise monitoring activity were typical of those heard in a rural area. Dependant on the location, in general, the main noise sources included a combination of the following:

- Local and distant traffic movements;
- Activity in and around the residences;
- Wind generated noise from local foliage; and
- Other typical anthropogenic sources typically found in such rural settings.

#### 5.4.2.3.4 Land and soils

Chapter 8 of this EIAR outlines the baseline environment in terms of land and soils in the area of the Proposed Project. A review of the EPA website for both existing and historic licensed and illegal waste activities was carried out to identify any potential contamination sources present to identify any potential contaminating activities within the study area.
The study area is predominantly rural in character and comprises agricultural pastureland underlain by shallow mineral soils and limestone bedrock. No waste facilities, illegal waste activities, licensed industrial facilities or other significant contamination sources were identified within the proposed wind farm study area. The proposed wind farm site is a greenfield area consisting predominantly of agricultural pasture and there is no evidence of existing land contamination. In addition, no IE/IPC licensed sites are located within the proposed project study area.
An evaluation of potential contamination sources was undertaken using a source-pathway-receptor approach, supported by desk-based review and site investigation data. The assessment identified no existing contaminated land or significant potential contamination sources within the proposed wind farm site.

No contaminated soils were encountered during site investigations (SI) undertaken as part of studies for this EIAR at the Wind Farm Site. SI works and laboratory results associated with the Wind Farm Site are discussed within Chapter 8 and associated appendices

#### 5.4.2.3.5 Traffic

Transport and access play an important social role in urban and rural communities, linking rural areas with settlements and essential services, such as schools and healthcare facilities. EIAR Chapter 17 provides a detailed description in terms of traffic volumes, local access, the wider road network, and the road network surrounding the Proposed Project.

### *5.4.2.4 Wind Turbine Health Effects*

'Wind Turbine Syndrome' originated from a 2009 pamphlet by Dr. Nina Pierpont, which claimed wind turbines cause various health problems, though it was not peer-reviewed and is considered unscientific.

A 2011 review by Knopper and Ollson found that while annoyance is associated with turbine noise, it relates more strongly to visual impact and attitudes toward turbines; no peer-reviewed evidence shows a causal link between turbine proximity and physiological health effects (Knopper and Ollson, 2011). Their 2014 study further suggested that nocebo[37] effects, health symptoms triggered by negative expectations may explain many reported complaints, concluding that properly sited turbines are not linked to adverse health effects (Knopper et al., 2014).

[37] Nocebo is defined as "*A non-existent or inactive substance or factor that causes symptoms of disease in people who believe that they have been exposed to it*" (Source: Collins English Dictionary: Accessed May 2026).

Professor Simon Chapman surmised that if wind turbines did cause medical problems, we would expect to find a relationship between prevalence of the syndrome and populations living near wind farms, which is not supported by data (Chapman., 2012). Further studies from Chapman in 2015 and further published in 2017 support the 2012 findings that no causal health effects are supported by data (Chapman., 2015, 2017). More recent studies further support these conclusions. A 2021 review (van Kamp & van den Berg) found that annoyance may increase with turbine sound levels but found no consistent evidence of impacts on sleep, cardiovascular health, or cognition. Involvement in turbine siting reduces annoyance. A UK based study (Qu & Tsuchiya, 2021) showed that awareness of research aims inflated self-reported symptoms, highlighting the importance of rigorous scientific methods.

### Wind Turbine Noise and Infrasound

A comprehensive synthesis was published by the World Health Organisation (WHO) 'Environmental Noise Guidelines for the European Region' (2018). These Guidelines provide an evidence-based assessment of the health effects of environmental noise, based on systematic reviews of the international scientific literature. The WHO concluded that, while wind turbine noise may be associated with annoyance at higher exposure levels, the evidence linking wind turbine noise to other adverse health outcomes (including cardiovascular disease, sleep disturbance, or other physiological effects) is limited, inconsistent, or of very low quality.

In particular, the WHO Guideline Development Group conditionally recommends that average wind turbine noise exposure be reduced below 45 dB(A), noting that above this level annoyance may increase. However, the WHO also states that evidence for direct health effects beyond annoyance is either absent or of poor quality, and that observed effects may be influenced by non-acoustic factors such as attitudes towards wind farms.

Previous, earlier research that supports this include;

- Colby et al. (2009); An expert panel review concluded that there is *no evidence* that audible or sub-audible sound from wind turbines causes direct adverse physiological effects.
- Renewable UK (2010); an independent review on behalf of Renewable UK discussed Dr Pierpont's 2009 publication and found that noise from wind turbines cannot contribute to the symptoms reported by respondents by the mechanisms proposed, the scientific and audiological assumptions presented relating to infrasound are wrong, and the scientific and epidemiological methodology and conclusions drawn in the publication are fundamentally flawed (Renewable UK, 2010).
- Evans et al. (2013); Objective measurements of infrasound demonstrated that infrasound levels at dwellings near wind farms are no higher than levels measured at locations far from wind farms and are commonly lower than levels found in urban environments.
- Health Canada (2014); A large-scale field study found:
    - No association between wind turbine noise exposure and self-reported illnesses or chronic diseases;

  - No association with measured or self-reported stress indicators (including cortisol levels, blood pressure, or heart rate);
  - No association with measured or self-reported sleep quality;
  - An association between increasing noise levels and reported annoyance, but no associated reduction in overall quality of life or health satisfaction.

- McCunney et al. (2014); concluded that infrasound from wind turbines does not exceed audibility thresholds, does not present unique health risks, and that annoyance is more strongly related to individual and contextual characteristics than to turbine noise itself.
- Ratzel et al. (2016); A review by the German Ministry of the Environment concluded that infrasound and low-frequency noise from wind turbines are part of the normal technical and natural environment, that turbines contribute only minimally compared to other sources, and that levels are well below human perception thresholds at typical residential distances. Health effects below perception thresholds were found not to be scientifically proven.
- Bräuner et al. (2018; 2019) and Poulsen et al. (2018); Large cohort studies found no evidence of an association between long-term wind turbine noise exposure and myocardial infarction, stroke, or adverse birth outcomes.

In relation to infrasound specifically, multiple authoritative sources have concluded that infrasound generated by modern wind turbines is well below levels capable of causing physiological or psychological effects:

- The WHO (1995) stated that there is no reliable evidence that infrasound below the hearing threshold produces adverse health effects.
- The EPA Guidance Note NG3 (2011) confirms that significant infrasound was associated with older downwind turbine designs and is not a characteristic of modern upwind, actively yawed turbines.

The current Irish 2006 WEDGs state that *"A fixed limit of 43dB(A) will protect sleep inside properties during the night"*. The Draft Revised WEDGs 2019 (Ireland) propose a change to the approach in applying limits on noise from wind turbines, including during night-time, this is currently the subject of consultation within government and is discussed in further detail in Chapter 12.

In 2018, the WHO also carried out a review of the available evidence on wind turbine noise and sleep disturbance (Basner and McGuire, 2018) and found that the overall evidence base was limited, with methodological constraints and potential reporting bias in several studies. While some studies suggested an association between higher wind turbine noise levels and increased self-reported sleep disturbance, the authors concluded that the evidence was insufficient to draw firm conclusions, particularly at higher exposure levels where data were sparse.

The referenced studies indicate that wind turbines produce noise and low-frequency sound, but at levels not considered harmful and often lower than everyday sources like traffic.

Further discussion on noise and infrasound is presented in Chapter 12.

### Electromagnetic Interference

When electric current flows, both electric and magnetic fields are produced. The electromagnetic fields (EMF) from electricity are in the extremely low frequency end of the electro-magnetic spectrum. EMF occurs in the home, in the workplace or anywhere that electricity is used. EMF is also naturally generated from earth's geomagnetic field and electric fields from storm clouds.

Guidance from the WHO states that EMF is sometimes cited for potential health effects (WHO, 2007). Concerns expressed in the past include childhood leukaemia, brain tumours and other cancers. Laboratory experiments have provided no reliable evidence that EMF are capable of producing cancer, nor do human epidemiological studies suggest that they cause cancer in general., Furthermore, the Health Promotion Agency in the UK stated, in November 2007, that *"there is little scientific evidence to support these claims and the current body of evidence does not show that exposure to EMF below guideline levels presents a human health hazard"*.

The Australian NHMRC study (Merlin et al., 2015) concluded in relation to EMF that *"There is no direct evidence on whether there is an association between electromagnetic radiation produced by wind farms and health outcomes. Extremely low-frequency electromagnetic radiation is the only potentially important electromagnetic emission from wind turbines. 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 Australian suburban homes. There is no consistent evidence of human health effects from exposure to extremely low-frequency electromagnetic radiation at much higher levels than is present near wind farms."*

EirGrid has produced a number of publications on EMF and health, most recently "Your guide to understanding electric and magnetic fields (EMFs)" (2024)[38] which explains the science behind extremely low frequency fields associated with electricity transmission in Ireland. This document explains the nature of extremely low frequency (ELF) electric and magnetic fields associated with electricity transmission and distribution infrastructure in Ireland. The 2024 guidance reflects the current scientific consensus that exposure to ELF EMFs, at levels typically encountered from electricity infrastructure and within internationally accepted guideline limits, does not give rise to adverse effects on human health.

### Shadow Flicker

'Shadow flicker' is an effect that occurs when the rotating blades of a wind turbine cast a moving shadow. The effect is predominantly experienced indoors where a moving shadow passes over a window in a nearby property and results in a rapid change or flicker in the incoming sunlight. Shadow flicker is predominantly an annoyance, but concerns have been raised that the flicker can trigger seizures in persons with photosensitive epilepsy.

[38] EMF-Information-Brochure-2024.pdf (Accessed May 2026).

The Wind Energy Guidance Note prepared in the UK for the Renewables Advisory Board and Department for Business, Enterprise and Regulatory Reform (BERR) in 2007 states that *"The operating frequency of a wind turbine will be relevant in determining whether or not shadow flicker can cause health effects in human beings. The National Society for Epilepsy advises that only 3.5 % of the 1 in 200 people in the UK who have epilepsy suffer from photosensitive epilepsy. The frequency at which photosensitive epilepsy may be triggered varies from person to person but generally it is between 2.5 and 30 flashes per second (hertz). Most commercial wind turbines in the UK rotate much more slowly than this, at between 0.3 and 1.0 hertz. Therefore, health effects arising from shadow flicker will not have the potential to occur unless the operating frequency of a particular turbine is between 2.5 and 30 hertz and all other pre-conditions for shadow flicker effects to occur exist." The note also states that "Shadow flicker is therefore more likely to be relevant in considering the potential effects on residential amenity [than human health]"*.

Similarly, the aforementioned Australian NHMRC study (Merlin et al., 2015) discusses shadow flicker and states that *"The Environment Protection and Heritage Council of Australia (EPHC; 2010) notes that the risk of seizures from modern wind turbines is negligible, given that less than 0.5% of the population are subject to epilepsy at any point in time and, of this proportion, 5% are vulnerable to strobe lighting (light flashes). In the majority of circumstances (>95% of the time), the frequency threshold for individuals susceptible to strobe lighting is >8 Hz, with the remainder affected by frequencies >2.5 Hz. The EPHC estimates that the probability of conventional horizontal-axis wind turbines causing an epileptic seizure for an individual experiencing shadow flicker is <1 in 10 million in the general population."*

The 2006 WEDGs state that *"At distances greater than 10 rotor diameters from a turbine, the potential for shadow flicker is very low"* (DHLGH, 2006), The Draft Revised WEDGs 2019 state *"Generally only properties within 130 degrees either side of north, relative to the turbines, can be affected at these latitudes in the UK and Ireland- turbines do not cast long shadows on their southern side"*. Additionally, the Draft Revised WEDGs 2019 state *"the time period in which a neighbouring property may be affected by shadow flicker is completely predictable from the relative locations of the wind turbine and the property. Modern wind turbines have the facility to measure sunlight levels and to reduce or stop turbine rotation if the conditions that would lead to shadow flicker at any neighbouring property occur. With careful site design and appropriate mitigation, and most critically the use of appropriate equipment and computer software, no existing dwelling or other affected property (e.g. existing work places or schools) should experience shadow flicker"*.

Modelling can be used to predict the strength and duration of potential shadow flicker during daylight hours for every day of the year (DHLGH, 2019). A Shadow Flicker Study detailing the outcome of modelling for the potential for shadow flicker from the proposed wind farm has been undertaken. Further discussion on the modelling outcomes and assessment of Shadow Flicker effects is presented in Chapter 10 of the EIAR.

### Psychological Effects

The potential for adverse effects on psychological health, such as anxiety and stress, caused by concern in relation to visual appearance, noise emissions, shadow flicker and other issues, is

often highlighted in relation to wind farms. A community may also experience annoyance arising from increased traffic or noise from the construction works. The potential effects on a person's overall psychological well-being are difficult to assess as there are no direct measurements that can be used. While it is possible to predict noise emissions and shadow flicker, for example, the same scientific certainty cannot be used in predicting psychological impacts. The aforementioned 2014 Health Canada report looked at a number of measures of stress and noted no association with exposure to wind turbine noise.

The potential degree of psychological impact can be both positive and negative. There can be a positive impact, whereby people may look forward to better employment opportunities generated by a major infrastructure development in a rural area or the benefits that may be gained from the CBFs. In terms of adverse impacts, this can be where somebody is annoyed by for example, the visual appearance of the wind turbines. This annoyance is not a medical health impact, as such. If a person were to develop a psychological illness, such as anxiety or depression, this would be a medical health impact.

In this case, it is useful to look at experience from other operational wind farms to determine if significant psychological effects are reported and published. If this was the case, it would be expected to find recorded evidence of increased levels of depression or anxiety in the vicinity of other wind farms, however, definitive findings on such were not evident in the peer-reviewed literature referenced above.

## 5.5 ASSESSMENT OF EFFECTS

### 5.5.1 Embedded Mitigation

The design of the wind farm has included a minimum setback distance of four times the tip height from a proposed turbine to the curtilage of any residential property. A minimum set back of 600 m has been included in the design which meets the minimum setback requirements stated in the 2006 and Draft Revised WEDGs 2019 (with the exception of one involved consenting landowner, Receptor ID No. 377).

Extensive consideration has been given to the layout of the wind farm site and the positions of the 13 no. turbines in ensuring sufficient set-back distances from sensitive receptors and adjustment for noise, shadow flicker, visual impact and telecommunication impacts.

### 5.5.2 Future Baseline Scenario / Do Nothing Scenario

In the Do-Nothing Scenario, the existing lands will continue to be utilised for current/existing land uses, including agriculture and forestry, with little or no changes in the baseline at the site. It is possible that the population in the local area will continue to increase as displayed in the census population records (see Section 5.4.1).

Opportunities for local employment and additional economical spend associated with the proposed project will not occur.

National and local health benefits associated with the provision of renewable electricity supply to the grid, from the proposed project will not be realised and alternative candidate sites will need to be identified, either onshore or offshore, to ensure Ireland meets it commitments to reducing carbon emissions.

### 5.5.3 Population

#### *5.5.3.1 Likely significant Effects - Construction Phase*

##### 5.5.3.1.1 Land Use

The construction of the proposed wind farm will involve short-term land use change primarily for the excavation of the borrow pit area, temporary construction compounds, turbine foundations and hardstanding, the construction of internal access tracks and cabling, on-site control building, and associated ancillary services.

The borrow pit area and temporary construction compound, all located within the proposed wind farm site, will be reinstated on completion of the construction phase which is anticipated to last for approximately 24 months.

Although there will be permanent and temporary (e.g., construction compounds etc.) changes to land use within the proposed wind farm site boundary to facilitate the construction of turbines and associated infrastructure, it is not predicted that the construction phase will impact on existing land uses in the surrounding or wider area.

The proposed grid connection (approximately 8.7 km long) and the proposed 110 kV substation will require works beyond the proposed wind farm site boundary, as a section of the proposed grid connection (approximately 5.6 km) will be installed in the public road network and the rest within third party lands.

Facilitating of temporary works will be required at nodes along the proposed TDR on the public road network to accommodate the delivery of turbine components (see Chapter 2 of the EIAR).

It is not anticipated that the proposed project will have a significant effect on the land use associated with the proposed grid connection, and proposed TDR temporary accommodation works areas where required, along public road corridors and at private properties during the construction phase. This is due to the temporary nature and relatively small scale of the works within these areas. Some temporary localised diversions and traffic management will be utilised in some road sections. This will have a temporary, slight, negative effect.

There will be changes to the land use for the farmland being directly utilised for the proposed wind farm, as those lands will then be used to accommodate electrical infrastructure. The majority of the electrical infrastructure and all the turbine foundations and hard stands will remain in-situ and will not be removed at the end of their useful life. The area of farmland required is relatively small in the context of the overall agricultural landholding and the wider study area, and the proposed project will not result in a material change to the predominant agricultural land use of the surrounding area. This will have a permanent slight negative effect.

Overall, it is not anticipated that the proposed project will have a significant effect on land use. Any likely effects on population receptors in terms of land use are therefore predicted to be slight, negative and permanent.

Chapter 8 of the EIAR outlines the baseline environment in terms of land use and contains a detailed assessment of impacts associated with the proposed project on lands, soils and geological receptors.

#### 5.5.3.1.2 Population Trends / Statistics

It is anticipated that those working on the construction phase of the proposed project will commute from the local area or wider region daily. Where relevant, some individual personnel may choose to live locally or commute for a portion or duration of the construction phase (24 months).

It is not predicted that the construction phase of the proposed project will have a significant impact on local or wider population trends, such as population levels, density, age or household size. It is estimated that approximately 60 persons will be directly employed during the peak construction period. Any likely effects on population trends in the area would be direct, neutral to positive, imperceptible, and short-term.

#### 5.5.3.1.3 Property Receptors and Residential Amenity, Services and Education

Adverse effects on local property receptors (including residential, educational, and commercial properties) as a result of the construction works can arise from construction activity at the proposed wind farm site, as well as on the local road network, such as from increased traffic

movements associated with vehicles accessing the wind farm site or works associated with the proposed grid connection and the proposed TDR works areas, resulting in potential increases in emissions locally (e.g., noise, vibration and emissions to air (including dust). This may also have potential to impact on local residents' enjoyment of their homes, i.e., residential amenity.

Residential amenity relates to the human experience of a person's home, derived from the general environment and atmosphere associated with the residence. The quality of residential amenity is influenced by a combination of factors, including site setting and local character, land-use activities in the area and the relative degree of peace and tranquillity experienced at the residence.

The haul routes proposed utilise existing public roads which are already used by heavy goods vehicles (HGVs) however, there will be a short-term increase in (traffic volume) effects during the construction phase due to increased vehicle trips in the vicinity and on-site construction activity.

The design of the proposed wind farm site has included a minimum set-back distance of 600 m (i.e., four times the tip height) between the curtilage of sensitive property receptors and the 13 proposed turbine locations, which will ensure that the construction of the wind turbine infrastructure will not have a significant effect on residential amenity. The distance from the proposed 110 kV substation to nearest sensitive receptor is also approximately 550 m.

The proposed project is not anticipated to have any significant effect on schools and other services due to the distance between the proposed project and these receptors. Schools are treated as sensitive receptors so there is not anticipated to be any significant effect as a result of noise or shadow flicker at the primary schools located within the study area.

As mentioned, there will be some additional works required off site to facilitate the proposed GCR and TDR (see Chapter 2 of the EIAR), however, as noted above, these proposed works are minor in the context of the proposed project overall. Furthermore, the works are small scale and transient in nature and mostly constitute temporary works along the public road. They may result in temporary localised noise and dust emissions, and there may also be some traffic management implications for road users. These effects are assessed in detail in the Chapter 12, Chapter 14, and Chapter 17 of the EIAR.

Although the proposed GCR and proposed TDR works areas will be located near sensitive receptors, they will be similar to any other normal road works that might be carried out. Significant impact on property receptors and residential amenity associated with these works is unlikely. Any likely effects on property receptors in the area of these proposed works would be adverse, temporary and will not be significant.

Overall, based on the predicted effects outlined above (including dust, noise, road traffic etc.), and given the distance between sensitive property receptors and the proposed wind farm site, significant impact on sensitive property receptors and residential amenity associated with the construction phase of the proposed wind farm is unlikely. Any likely effects on property receptors / residential amenity in the area would be direct, adverse, slight, and short-term.

#### 5.5.3.1.4 Property Values

Based on the available published studies presented in Section 5.4.1.4, it is not expected that there will be significant effects on property values during the construction phase of the proposed project.

Construction works for the wind farm will be carried out within the site boundary and traffic associated with travel to the site will use existing public roads. Works associated with the proposed GCR and the proposed TDR works areas will be localised, relatively minor and temporary.

Based on the above, it is predicted that significant effects on property value in the area due to the construction phase of the proposed wind farm are unlikely. Any effects on property value in the area would likely be direct, adverse, slight to moderate, and short-term.

#### 5.5.3.1.5 Employment / Economy

The proposed project will create and support direct and indirect employment during the construction phase at local level, primarily through local construction workforce on site, and at regional and national level, through more specialised construction services and supply of building materials.

It is anticipated that the wind farm will have the following effects locally:

- Development activities such as site monitoring/surveys, site investigations, legal fees, consultancy studies during pre-construction and construction works, etc.;
- Spending locally by construction employees; and
- Accommodation and sustenance will be required in the locality for those workers on site.

Guidance from a 2009 IWEA and Deloitte study[39] states "*Our analysis has shown that the wind energy sector in Ireland can support 1.50 jobs per MW to be installed on the island*". This number includes construction, operation and maintenance of all wind farms. Based on the proposed wind farm's maximum capacity of approximately 58.5 MW, this equates to approximately 88 jobs across a number of different sectors (including development (contracts, financing etc), planning, construction, operation and maintenance, support services, and research and development (R&D). Construction provides the majority of the job opportunities available from the wind energy sector (IWEA and Deloitte, 2009). The IWEA and Deloitte study (2009) estimated that 68% of the Irish wind energy jobs created are within the construction sector. It is therefore estimated that approximately 60 persons will be directly employed during the peak construction period.

Throughout the construction phase, there is potential for materials such as quarried products and concrete supplies, as well as machinery and equipment and associated operatives, to be sourced locally, which will support local business, as well as direct and indirect employment. Furthermore, the local area and region will experience a benefit from secondary investment associated with increased visitors and spend within the area, as well as potential increased activity in the local hospitality and café/restaurant service industries driven by use of these by

[39] IWEA and Deloitte, *Jobs and Investment in Irish Wind Energy: Powering Ireland's Economy* (2009)

construction staff. The proposed wind farm will be a valuable contribution to Mayo County Council's economic aims for further development of its green economy.

The construction of the proposed project will have an estimated capital cost in the region of up to €76.05 million[40] and an estimated 11% of the total capital cost will relate to civil engineering works (i.e., site works) (The Irish Wind Farmers' Association (MnaG), n.d.)[41] which has the potential to support local contractors and suppliers. The *"Life-cycle of an Onshore Wind Farm published"* by IWEA in March 2019 stated that *"One recent 169 MW windfarm project estimated that €20 million was spent with local suppliers and contractors within 30 kilometres of the site during construction".*

Therefore, it is predicted that the construction phase of the proposed project is likely to have direct and indirect positive, slight to moderate, short-term effects on employment and economy in the local area, wider area (i.e. county level), and northwest region.

#### 5.5.3.1.6 Tourism / Recreation

As set out above, there are a number of relevant tourist attractions and public amenities in the wider area surrounding the proposed project site. The nearest recreational facilities identified are approximately 1.5 - 2 km from the proposed wind farm site (Moyne Castle and Ross Errilly Friary). The closest trails/walks identified to the proposed wind farm site are approximately 5 km (Kilmaine Nature walk) and Moyne Castle Estate, located over 1.5 km from the proposed wind farm site.

No existing designated tourist sites or walkways/trails were identified as intersecting with or within the proposed wind farm site boundary.

Intermittent and temporary traffic effects due to movement of vehicles, as well as plant and machinery, related to the proposed project, and the requirement for abnormal loads related to the delivery of the turbines to site may impact local road traffic during the construction phase due to the increased road traffic movements. Abnormal loads will occur at set times and along designated routes. Therefore, there is potential for effects to local and tourist road users in the area during these periods.

No other direct effects on tourism activity are anticipated during the construction phase. Potential effects on local tourism are expected to arise primarily from temporary increases in traffic and abnormal loads, rather than direct effects on tourist attractions, recreational facilities, or designated trails. Given the temporary and intermittent nature of these activities, the distance from identified tourism receptors, and the absence of designated tourist sites or trails within the proposed site boundary, any disruption to tourism activity is expected to be limited in duration and extent. Therefore, it is predicted that the construction phase of the proposed project is likely to have an indirect, neutral to adverse, not significant, short-term effect on local tourism.

[40] Using an average investment cost of €1.3 million per MW – SEAI, *A Macroeconomic Analysis of Onshore Wind Development to 2020* (2015)
[41] Irish Wind Farmers Association - FAQ | Meitheal na Gaoithe Irish Wind Farmers Association (mnag.ie) - https://mnag.ie/frequently-asked-questions/ (Accessed May 2026)

### *5.5.3.2 Likely significant Effects - Operational Phase*

#### 5.5.3.2.1 Land Use

Original land use where the installed permanent infrastructure is located will change, with the exception of the proposed borrow pit, temporary site tracks and any other temporary areas (e.g., proposed TDR works areas) (see Chapter 2 of the EIAR), which will be reinstated post construction. Furthermore, change of land use associated with the proposed wind farm will produce clean renewable energy for the duration of the 35-year operational life cycle of the proposed project from the date of commissioning.

Significant impact on land use at the proposed wind farm site associated with the operational phase of the proposed project is unlikely. The proposed project will not result in permanent land use change in the wider area beyond the proposed wind farm site boundary. Operational phase effects on population in terms of change of land use at the site are therefore likely to be positive, slight to moderate, and long-term.

For the proposed GCR which is located within public road corridors and on private farms, there will be no significant change of land use (i.e., they will still be used for transport/agriculture), although the land will also be used for electricity transmission. The land use has a low value on a local scale and the sensitivity is considered low. It is anticipated that there will be a not significant effect on land use for the proposed GCR during the operational phase.

Any works on the proposed TDR will be reinstated at the end of the construction phase, so that the lands will revert to their original land uses.

#### 5.5.3.2.2 Population Trends

A survey of the public perception of wind power in Scotland and Ireland carried out by researchers at the University of St. Andrews, Fife and The Macaulay Institute, Aberdeen (Warren *et al.*, 2005) (see Section 5.4.1.4) found that large majorities of people are strongly in favour of their local wind farm and that positive attitudes to wind power increase through time and with proximity to wind farms. Retrospective questioning regarding pre- and post-construction attitudes at existing wind farms noted that those who changed to a more positive attitude following construction of the wind farm, gave reasons that the wind farm is *"not unattractive (62%), that there was no noise (15%), that community funding had been forthcoming (15%) and that it could be a tourist attraction (8%)"* (Warren *et al.,* 2005).

The proposed project has the potential to bring significant positive benefits to local communities through provision of a CBF, proposed in line with industry best practice, which is in accordance with the terms and conditions of the Government's RESS. The CBF proposal for the proposed project is set out in Appendix 1-4 (Community Engagement Report) of this EIAR. The project will contribute annual rates to the local authority and it will provide opportunity for local community investment in the project in line with the RESS estimated at over €4 million over the first 15 years of the project. A significant annual CBF estimated at approximately €300,000 per year for the first 15 years of the project will be established in line with the RESS, which will include funding for both wider community initiatives and a Near Neighbour scheme focused on houses in close proximity to the project.

Support from the CBF could potentially make the local area attractive for people to move to, which may result in a marginal increase in local population numbers.

It is not anticipated that the proposed project will have a significant effect on population trends locally or in County Mayo. Operational phase effects in terms of population trends are therefore likely to be neutral, not significant to slight, and long-term.

#### 5.5.3.2.3 Property Receptors and Residential Amenity, Services and Education

The turbine layout at the proposed wind farm site has been designed with cognisance of the local population and sensitive receptor locations. As mentioned, the Draft Revised WEDGs 2019 recommend a minimum setback distance of four times the tip height from a proposed turbine to the curtilage of any residential property and the proposed wind farm complies with this recommendation (with the exception of the single aforementioned property (Receptor ID No. 377) which consented to the proposed wind turbines being placed within the 600 m setback distance). Extensive consideration has been given to the layout of the site and the positions of the 13 no. turbines in ensuring sufficient set-back distances from sensitive receptors and adjustment for noise, shadow flicker, visual impact and telecommunication impacts.

These considerations during the design, planning and EIA phase, in accordance with the relevant guidelines, are designed to minimise the potential for effects on property receptors and residential amenity from the proposed wind farm.

There will be a potential for low levels of additional traffic on local roads (i.e., for site maintenance).

As mentioned, a proposed project CBF has been developed in accordance with the terms and conditions of the Government's RESS. The proposed wind farm will offer a CBF which will be positive for those residing in the local area. Those living in closest proximity should be priority beneficiaries and as such some of the fund is designated for 'Near Neighbour' payments. However, broader community benefits apply as well. The potential effects on human beings at their residences during the operational phase are assessed in the following chapters of the EIAR; Chapter 10, Chapter 12, Chapter 13, Chapter 14 and Chapter 17.

Impacts in terms of environmental factors and human health are discussed in Section 5.5.4.

A significant effect on local property receptors and residential amenity during the operational phase is unlikely. Any likely effects in terms of property receptors and residential amenity during the operational phase are therefore considered to be adverse, slight, and long-term.

#### 5.5.3.2.4 Property Values

Based on the literature reviewed, it is not anticipated that the operational phase of the proposed wind farm will have a significant effect on local property values.

Furthermore, the CBF for the local area may be a motivation for potential property buyers to move to the local area.

Therefore, based on the available published studies presented in Section 5.4.1.4, it is reasonable to conclude that significant effects on property value in the area due to the operational phase of

the proposed project are unlikely. Any effect on property value in the area would likely be direct, adverse, slight to moderate, and short to medium-term.

#### 5.5.3.2.5 Employment / Economy

It is anticipated that there will be ongoing local employment on the site throughout the operational phase of the proposed wind farm relating to turbine servicing/maintenance, equipment breakdowns/faults, inspections, and substation maintenance, as well as maintaining the internal access tracks, drainage, and other ongoing site work. Once operational, it is estimated that the wind farm will support twenty-one jobs in operation and maintenance (based on 0.36 jobs per MW[42]).

Although only a small proportion of these jobs are likely to be directly based in the wind farm site, it is likely that the operational phase will support indirect jobs, such as suppliers, consultants, research institutions and universities, financial services, energy sector roles, and hospitality and service industry roles, and benefit the wider employment profile.

Furthermore, there may occasionally be a requirement for additional people to visit site if a particular task requires it. Some local employment or contract opportunities may develop over the lifetime of the wind farm from occasional specific requirements.

Economic benefits from operational activities will include ongoing purchases of local materials, supplies, services and equipment required for the operational phase of the wind farm, as well as local spend generated from technical operational and maintenance staff such as on local hospitality facilities, accommodation and services (e.g., by maintenance workers and contractors).

The impact of the CBF is likely to enhance the local economy, with potential for substantial funding for local projects in support of relevant UN Sustainable Development Goals (SDGs), clubs, charities and near neighbours, which will be invested in the local area.

In addition, the proposed wind farm will require payment of rates to Mayo County Council which will provide additional revenue for their work around the county.

Positive economic effects will also be felt in the wider area due to the ongoing benefits of renewable electricity generation. The energy generated will feed directly into the national electricity transmission system, providing a sustainable electricity source and a low impact energy supply to the country's domestic and industrial consumers. This is a significant, positive long-term effect for electricity consumers.

Therefore, it is anticipated that the operational phase of the proposed wind farm is likely to have direct and indirect positive, slight to moderate, long-term effects on employment and economy in the local area, county, the northwest region, and nationally.

42 https://opus.lib.uts.edu.au/bitstream/10453/43718/1/Rutovitzetal2015Calculatingglobalenergysectorjobsmethodology.pdf

#### 5.5.3.2.6 Tourism / Recreation

As noted previously, Fáilte Ireland surveyed tourists' perceptions in relation to wind farms in the Irish landscape in 2007 and 2012. Results were positive, with approximately 80% of tourists considering the presence of wind farms to either have no impact or a positive impact on their sightseeing.

In addition, when asked if further wind farm development in Ireland would influence their decision to holiday in Ireland again, over 70% of responses cited no impact or a positive impact on their return to Ireland. Similarly, the 2017 study carried out by BiGGAR Economics examined the link, if any, between onshore wind energy development and the sustainable tourism sector in Scotland and did not find a direct relationship between tourism and the wind energy sector in itself. However, it did conclude that the increase in wind farm development did not negatively impact employment in the sustainable tourism industry in Scotland.

As noted previously, there are a number of relevant tourism attractions and public amenities in the wider area surrounding the wind farm site.

Eight tourism, recreational, and heritage features are included in the viewpoints as part of the LVIA assessment (Chapter 13). These are viewpoints 6, 7, 16, 17, 23, 27, 29 and 30. As outlined in Chapter 13, Visual effects for tourism, recreational, and heritage features are considered Not Significant.

The proposed project is not anticipated to have a significant impact on tourism and amenity in the local area or wider region. It is considered that the proposed wind farm will likely have a neutral, imperceptible, long-term effect on the tourism experience and numbers in the vicinity of the proposed wind farm site.

### *5.5.3.3 Likely Significant Effects – Decommissioning Phase*

The wind turbines are expected to have a lifespan of 35 years. Following the end of their useful life, the wind turbines may be replaced with a new set of machines, subject to planning permission being obtained, or the project will be decommissioned fully, with the exception of the proposed 110 kV substation (and associated connection) and proposed new site tracks, turbine foundations and drainage.

Should decommissioning be required, the activities required to facilitate wind turbine decommissioning and removal from site will be similar to those outlined for the construction phase, albeit in reverse and to a lesser extent and duration than during the construction stage. Therefore, for the purpose of this assessment, it is anticipated that the impacts on population and human health receptors associated with decommissioning phase will be no greater than those identified for the construction phase.

## 5.5.4 Human Health

### *5.5.4.1 Likely Significant Effects – Construction Phase*

#### 5.5.4.1.1 Air Quality and Dust

The greatest potential impact on air quality during the construction phase of the proposed project is from construction dust emissions. While construction dust tends to be deposited within 250 m of a construction site, the majority of the deposition occurs within the first 50 m (IAQM, 2024). The extent of any dust generation depends on the nature of the dust (soils, peat, sands, gravels, silts etc.) and the nature of the construction activity. In addition, the potential for dust dispersion and deposition depends on local meteorological factors such as rainfall, wind speed and wind direction. A review of Claremorris meteorological data indicates that the prevailing wind direction is south to south-westerly and wind speeds are generally moderate in nature (see Chapter 14). In addition, dust generation is considered negligible on days where rainfall is greater than 0.2 mm. A review of historical 30-year average data for Belmullet indicates that on average 257.5 days per year have rainfall over 0.2 mm (Met Éireann, 2025). Therefore, it can be determined that over 70% of the time dust generation will be reduced due to natural meteorological conditions.

As detailed in Chapter 14, in the absence of mitigation, dust effects are predicted to be direct, short-term, adverse and moderate. As a result, dust mitigation measures will be implemented.

#### 5.5.4.1.2 Noise and Vibration

Construction noise prediction calculations have been conducted using the assessment methodology outlined in Chapter 12 of the EIAR. The source noise levels referred to in this chapter are indicative of the type of plant items and activities associated with the construction of the proposed project.

The highest predicted noise levels are expected to occur for only short periods of time at a very limited number of properties. Construction noise levels will be lower than these levels for most of the time at most properties in the vicinity of the proposed wind farm site.

In general, the distances between the construction activities associated with the proposed project and the nearest Noise Sensitive Locations (NSLs) are such that there will be no significant noise, and vibration impacts at the NSLs. This is discussed fully in Chapter 12 of the EIAR.

#### 5.5.4.1.3 Water Quality

Potential impacts leading to likely significant effects during construction include increased runoff, release of suspended solids, release of nutrients, release of hydrocarbons, release of horizontal directional drilling material, release of wastewater sanitation contaminants, release of construction or cementitious material, excavation dewatering and construction water discharge, and diversion and/or enhancement of drainage crossings.

The potential effects on abstraction points is outlined in Chapter 9, and potential effects in terms of water service infrastructure/utilities is outlined in Chapter 11 (Material Assets).

Overall, the potential for significant effects as a result of construction with respect to impacts on public/private water supply and human health are considered low as the water quality at abstractions will not be compromised and the distribution infrastructure will not suffer any significant effects.

Significant adverse effects on human health due to water quality effects associated with the proposed wind farm site are considered unlikely. Any likely effects related to water quality impacting on human health, from a polluting incident, would be adverse, indirect or direct depending on the incident, temporary to short-term, and not significant to slight.

Chapter 9 of the EIAR outlines the baseline environment in terms of surface water and groundwater features and quality and contains a detailed assessment of water quality impacts associated with the proposed project.

#### 5.5.4.1.4 Land / Soils

No contaminated soils were encountered during Site Investigation (SI) works at the proposed wind farm site. SI works and laboratory results associated with the proposed wind farm site are discussed within Chapter 8 of the EIAR and associated appendices.

Human health-related impacts associated with soil contamination during the construction activities are primarily associated with dust from material extraction and transport of soils and excavated rock, which is discussed under Section 5.5.4.1.1, and in Chapter 14 of the EIAR, and risks of spills or leaks from construction vehicles, plant, and machinery, which could result in localised contamination of soils. Other adverse effects include the typical risks to construction personnel associated with earthworks and large excavations such as falling from heights, engulfment, drowning. The key receptors in terms of soil impacts on human health are the construction personnel due to the potential for direct contact, ingestion or inhalation with polluting substances and soil (which may potentially contain hydrocarbon concentrations from site activities (potential minor leaks and spills of fuels, oils, and paint) during the construction activities, e.g. excavation / earthworks activities. It is anticipated that any incidents related to accidental release, mobilisation, spillage or leakage of substances would likely be localised, contained, and managed in line with mitigation set out within Chapter 8 of the EIAR and the Construction Environmental Management Plan (CEMP) (Appendix 2-2)

#### 5.5.4.1.5 Traffic

Traffic movements associated with the construction phase of the proposed project, such as the TDR and construction haul routes, have the potential to cause impact in local road users. Chapter 17 of the EIAR provides a detailed assessment of impacts associated with construction phase traffic.

Five junctions in the vicinity of the proposed wind farm site were assessed for the construction phase. All five junctions were predicted to operate well within capacity and at a satisfactory level.

The effect of the AIL deliveries on the existing road network has been assessed based on the longest component to be delivered to the proposed wind farm site, the turbine blade. The route has been assessed from Galway Port to the proposed wind farm site. The swept path analyses

typically indicate locations where temporary works are required to accommodate the component deliveries, referred to as nodes. These works will result in relatively low volumes of traffic similar to maintenance works by the Local Authority and will be undertaken for a short period of time. Minor advanced works have been identified along the route including temporary surface modifications (at a footpath in Galway city), temporary removal or relocation of existing signage, and pruning of vegetation.

The locations where temporary remedial works are required to facilitate turbine delivery have been identified and are detailed within Chapter 17 of the EIAR. To mitigate these impacts during the construction stage, a comprehensive Traffic Management Plan (TMP) has been prepared and is provided in Appendix 17-1 of the EIAR.

During the construction phase, the appointed Contractor and Haulage Specialist/Company will be responsible for the temporary traffic management, agreements, and licensing with the Local Authorities and An Garda Síochána. The works will be temporary in nature and the area will be reinstated to its original condition on completion of the deliveries. The works will be carried out in advance of the delivery of the AILs to site and reinstated immediately after delivery of the final AIL components.

Grid connection works will result in disruption for local road users. However, diversions will be provided as work progresses, local accesses will be maintained, and activities will be carried out at off-peak times where necessary. The Contractor will carry out such temporary lane or road closures only for the duration of the working days. At the time of this construction work and in advance of the required lane or road closure, the appointed Contractor shall consult and comply with the Roads Authority, An Garda Síochána and other Emergency services to agree a suitable diversion route prior to implementing the closure. To mitigate the effect of the cable laid within the public road, the reinstatement works will be backfilled and reinstated as soon as practicable.

Adverse effect in terms of traffic is due to traffic delays due to the works and the associated traffic management. However, significant adverse effects on human health related to construction phase traffic are considered unlikely. Any likely effects associated with construction phase traffic on sensitive receptors would be adverse, slight, and temporary.

#### 5.5.4.1.6 Health and Safety

All activities carried out by the appointed Contractor on the proposed project will be in accordance with the requirements of the *Safety, Health and Welfare at Work Act 2005* as amended and Regulations made under this Act. The CEMP sets out the Health and Safety requirements for the project including the erection of fencing, signage and notification of commencement of works to the Health and Safety Authority (HSA).

The proposed TDR to allow for the transport of the turbines to the proposed wind farm site will involve some works as discussed in Chapter 2 of the EIAR. These works will be carried out to the relevant construction and road safety guidelines. When the turbine components are being transported, they will have a Garda escort and will be carried out at night when there is less traffic on the road.

With adherence to the proper health and safety guidelines throughout the construction phase of the proposed project, significant adverse effects in terms of health and safety related to construction phase are considered unlikely.

#### *5.5.4.2 Likely Significant Effects – Operational Phase*

##### 5.5.4.2.1 Air Quality and Dust

As detailed in chapter 14 of the EIAR, there are no predicted direct impacts to air quality during the operational phase of the proposed project. Emissions from infrequent maintenance vehicles have been assessed as having a long-term, direct, localised, adverse and imperceptible effect on air quality. There will be indirect beneficial impacts to air quality from the generation of renewable electricity from the proposed project. Overall, there will be a long term, neutral, imperceptible effect on human health associated with air quality.

##### 5.5.4.2.2 Noise and Vibration

The findings of the noise and vibration assessment confirmed that the residual turbine noise levels associated with the proposed project will be within best practice noise criteria curves recommended in line with Irish guidance, i.e., the 2006 WEDGs. It therefore is not considered that a significant effect is associated with the proposed project.

While noise levels at low wind speeds will increase due to the proposed project and specifically the operation of the turbines, the predicted levels will remain low, albeit new sources of noise will be introduced into the soundscape.

The noise from fixed plant items is predicted to comply with the recommendations contained in best practice discussed in Chapter 12 of the EIAR. Therefore, no significant effects are expected.

It is therefore concluded that adverse effects on human health due to noise and vibration from environmental exposure as a result of the operational phase of the proposed wind farm are unlikely. With respect to the EPA's criteria for description of effects, the potential worst-case associated effects at the nearest NSLs associated with operational turbine noise are summarised as adverse, not significant and long-term. See section 12.8.2 of Chapter 12.

##### 5.5.4.2.3 Water Quality

The principles of the embedded mitigation measures described in Chapter 9 of the EIAR are based on the control and management of runoff discharge rates, which regulate the speed of runoff within the drainage network, buffering the discharge from the drainage network where possible, and maintaining the natural hydrological regime. The same measures ensure potential pollutants are also attenuated, and these measures will likely provide beneficial effects in terms of both runoff and water quality. There are no likely significant residual hydrological or hydrogeological effects associated with the proposed project during the operational phase.

Therefore, any likely effects related to water quality impacting on human health, most likely resulting from a polluting incident, are considered indirect or direct depending on the incident, adverse, temporary to short-term, and not significant.

#### 5.5.4.2.4 Land / Soils

During the operational phase, no further land use changes occur beyond the permanent infrastructure footprints established during construction. No significant land use changes will occur during the operational phase, land surrounding operational infrastructure is unaffected. The sensitivity of the land use receptor is therefore low, and the magnitude of effects is negligible (no additional change or loss). No contaminated sites were identified in the study area of the proposed project.

The key receptors in terms of soil impacts on human health are the maintenance personnel due to the potential for direct contact with polluting substances and soil during maintenance activities. It is anticipated that any incidents related to accidental release, mobilisation, spillage or leakage of substances would likely be localised, contained, and managed in line with mitigation set out within Chapter 8 of the EIAR and the CEMP (Appendix 2-2).

Overall, human health risks associated with exposure to polluting substances and soil during maintenance activities are not anticipated, and significant adverse effects on human health due to soil quality effects associated with the proposed project are unlikely. Any likely effects on human health resulting from a polluting incident impacting soil quality, would be localised, direct or indirect depending on the nature of the incident, adverse, short-term, and not significant.

#### 5.5.4.2.5 Traffic

It is anticipated that the operational phase will generate very little traffic movements. The Wind Farm operational traffic volumes were assessed against the opening year, future year (5 years after opening) and horizon year (15 years after opening) and were found to be insignificant in terms of traffic added (refer to Section 17.6.3, Chapter 17). Therefore, significant effects on human health related to operational phase traffic are considered unlikely. Furthermore, the maintenance of the visibility splays undertaken during the operational phase will have a positive effect on the safety aspect of the access to the wind farm site. The internal access tracks will be in use for additional purposes to the operation of the wind farm (e.g., for farm access). The potential effects associated with the operational phase are therefore considered to be adverse, imperceptible and long-term.

#### 5.5.4.2.6 Wind Turbine Health Effects

**Noise and Infrasound**

The referenced publications and studies outlined in Section 5.4.2.4 indicate that there appears to be little scientific evidence of effects of “Wind Turbine Syndrome”, and that wind farms are not a significant source of noise and infrasound, and that traffic and everyday human activity are likely to be more relevant.

In general, the distances between the proposed wind farm infrastructure and the nearest sensitive property receptors are such that significant noise and vibration effects at these receptors are unlikely.

Furthermore, as mentioned above, based on the outcomes of the wind turbine noise assessment undertaken in Chapter 12 of the EIAR, the predicted noise levels associated with operational

wind turbines at the proposed wind farm will be within best practice noise criteria. Chapter 12 states that low frequency noise and infrasound associated with wind turbines is expected to be below perceptibility thresholds and are not likely to result in any significant effects at NSLs. As stated in Chapter 12, low frequency noise and infrasound do not require specific assessment as they are generally below the threshold of perception at typical receptor distances and are not expected to result in any significant effect at the NSLs. Consequently, no assessment criteria for low-frequency noise or infrasound have been adopted as part of this EIAR.

Therefore, it is predicted that wind turbine noise associated with the proposed project will be not significant. It is therefore concluded that human health effects cited as an outcome of wind turbine noise and infrasound (such as nausea, disturbance of sleep, and tinnitus (ringing in the ear) generated during the operational phase of the proposed wind farm is unlikely. Any effect in terms of wind turbine noise associated with the operational phase works would be adverse, slight and long-term.

**Electromagnetic interference**

The proposed underground electrical cables will adhere to the international guidelines for ELF-EMF which are described by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). This is a formal advisory agency to the WHO. The proposed wind farm will also adhere to the EU guidelines for human exposure to EMF. As the ICNIRP guidelines will not be exceeded, even directly above the underground cables, there will be no associated operational effects on Human Health.

The distance from the nearest sensitive receptor to the proposed 110 kV substation is approximately 485 m. The construction and electrical components of the substations and associated cabling will be to ESB and EirGrid specifications within the parameters assessed. No health agency has concluded that exposure to EMF from power lines and other electrical sources is a cause of any long-term adverse effects on human, plant or animal health.

Based on the above, this assessment concludes that significant effects on human health as a result of electromagnetic radiation are unlikely. Therefore, this assessment concludes that any effect in terms of electromagnetic radiation / EMF on human health will likely be neutral, not significant and long-term.

**Shadow flicker**

Chapter 10 of the EIAR discusses the shadow flicker phenomenon in detail and sets out the criteria which determine the occurrence of shadow flicker.

The Applicant is committed to minimising any adverse effects from the proposed wind farm on the local community. The Applicant has committed to minimising any adverse shadow flicker occurrences in accordance with the recommendations in the Draft 2019 WEDGS).

Based on the above, the assessment concludes that significant adverse effects on human health as a result of shadow flicker are unlikely. Any likely effect in terms of shadow flicker on human health would be not significant.

**Health benefits**

Aside from the potential socio-economic benefits previously discussed, there are significant environmental benefits associated with the operation of the proposed wind farm. The current and historical practice of fossil fuel combustion with the associated release of a range of pollutants including particulate matter, oxides of nitrogen, sulphur dioxide, carbon dioxide and many others is well documented. The release of these pollutants from the power generation sector is also a major contributor to global warming and the resulting changing effects on our climate.

The phasing out of electricity generation from burning fuels in Ireland is a key step in achieving Ireland's 2030 decarbonisation ambition as set out in the Ireland's Climate Action Plan 2025 (CAP25)[43] and the replacement of fossil fuels in electricity generation by clean renewable wind energy will have significant benefits for air quality and the slowing down of global warming.

The proposed wind farm will play a significant role in contributing to the country's national renewable electricity production and carbon emissions reduction targets by 2030, while also supporting a growing economy and population. During operation, the proposed wind farm will eliminate the need to generate the equivalent amount of electricity from fossil fuels, and it will therefore help to reduce total national greenhouse gas emissions. As a result, it will reduce our dependence on external energy sources, help improve our energy security of supply and make a major contribution to Ireland's CAP25, which has set a target of 9 GW of onshore wind capacity by 2030.

The contribution of the proposed wind farm to a decrease in reliance on fossil fuel combustion will have a moderate to significant positive long-term effect on the health and well-being of the general population.

#### *5.5.4.3 Likely Significant Effects – Decommissioning Phase*

The wind turbines are expected to have a lifespan of 35 years. Following the end of their useful life, the wind turbines may be replaced with a new set of machines, subject to planning permission being obtained, or the project will be decommissioned fully, with the exception of the proposed 110 kV substation (and associated 110 kV connection), turbine foundations, the proposed site access tracks and drainage.

Upon decommissioning of the proposed project, the wind turbines will be disassembled in reverse order to how they were erected. All above ground turbine components will be separated, cut up to allow them to fit on a standard articulated lorry and removed off-site for recycling.

The proposed 110 kV substation and all the associated transmission infrastructure i.e. underground 110 kV cables and overhead line end masts will be retained as a permanent structure and will not be decommissioned.

Should decommissioning be required, the activities required to facilitate wind turbine decommissioning and removal from site will be similar to those outlined for the construction

[43] https://assets.gov.ie/static/documents/Climate_Action_Plan_2025_updated_cover.pdf (Published April 2025)

phase, albeit in reverse and to a lesser extent and duration than during the construction stage. Therefore, for the purpose of this assessment, it is anticipated that the impacts on population and human health receptors associated with the decommissioning phase will be no greater than those identified for the construction phase.

## 5.6 Mitigation Measures

### 5.6.1 Embedded Mitigation

The design of the wind farm has included a minimum setback distance of four times the tip height from a proposed turbine to the nearest point of curtilage of any residential property. A minimum set back of 600 m has been included in the design which is in accordance with the 2006 WEDG's and in accordance with the recommendations of the Draft Revised WEDGs 2019, with the exception of one residential dwelling which has consented to the proposed wind turbines being placed within the 600 m setback distance.

Extensive consideration has been given to the layout of the wind farm site and the position of the turbines in ensuring sufficient set-back distances from sensitive receptors and adjustment for other constraints.

### 5.6.2 Construction Phase

No specific mitigation is proposed in relation to population and human health during the construction phase other than what has already been set out within the CEMP and other chapters of this EIAR.

Where required, mitigation measures for other environmental aspects associated with the proposed project which may interact with the human environment are set out in the relevant chapters of this EIAR. A cross reference of environmental factors is also presented in Chapter 19 of the EIAR.

All activities carried out by the appointed Contractor during the construction phase will be in accordance with the relevant requirements of the Safety, Health and Welfare at Work Act 2005 as amended and Regulations made under this Act.

Health and safety plans will be developed prior to any construction taking place. A Health and Safety Plan covering all aspects of the construction process will outline Health and Safety requirements in detail. At the procurement stage, the Health and Safety Plan will be prepared on a preliminary basis and developed further at construction stage, with all hazards and risks identified and assessed.

The proposed TDR to allow for the transport of the turbines to the wind farm site will involve some minor works at one location in addition to vegetation trimming and temporary demounting of signage to facilitate delivery of oversized loads and turbine delivery, as discussed in Chapter 2 of the EIAR. These works will be carried out to the relevant construction and road safety guidelines and will allow for the proposed turbine dimensions. Turbine components will be transported at night when there is less traffic on the road and will be accompanied by Garda escort.

The potential for health and safety and environmental related risks / effects are greatly minimised through compliance with appropriate health and safety guidelines and the CEMP (Appendix 2-2) throughout the construction phase.

### 5.6.3 Operational Phase

No specific mitigation, other than what has been outlined in the relevant chapters of the EIAR, is proposed for the operational phase in respect of effects on population and human health.

### 5.6.4 Decommissioning Phase

No specific mitigation, other than what has been outlined in the relevant chapters of the EIAR, is proposed for the decommissioning phase in respect of effects on population and human health.

## 5.7 Residual Effects

### 5.7.1 Construction Phase

Residual effects associated with the construction phase of the proposed project are summarised below for both Population and Human Health receptors. The assessment considers residual effects on land use, population trends, property receptors and residential amenity, services and education, property values, employment and economy, and tourism and recreation. Potential effects on human health have been assessed with reference to the findings of the Air Quality, Noise and Vibration, Water Quality, Land, Soils and Geology, and Traffic assessments presented elsewhere in this EIAR.
Following the implementation of the proposed mitigation measures, no significant adverse residual effects on Population or Human Health are predicted during the construction phase.

#### *5.7.1.1 Population*

##### 5.7.1.1.1 Land Use

A temporary, slight, neutral effect, is predicted in relation to land use, as the proposed changes to land use are limited in extent and will not result in a material change to the overall pattern or availability of land within the study area. There will be changes to the land use for the farmland being directly utilised for the proposed wind farm, as those lands will then be used to accommodate electrical infrastructure. This will have a permanent slight negative effect.

##### 5.7.1.1.2 Population Trends

It is not predicted that the construction phase of the proposed project will have a significant impact on local or wider population trends, any likely effects on population trends in the area would be direct, neutral to positive, imperceptible, and short-term.

##### 5.7.1.1.3 Property Receptors and Residential Amenity, Services and Education

Overall, based on the predicted effects outlined above (including dust, noise, road traffic etc.), and given the distance between sensitive property receptors and the proposed wind farm site, significant impact on sensitive property receptors and residential amenity associated with the

construction phase of the proposed wind farm is unlikely. Any likely effects on property receptors / residential amenity in the area would be direct, adverse, slight, and short-term.

#### 5.7.1.1.4 Property Values

Significant effects on property values are not predicted. Any effects, if they occur, are likely to be temporary, localised and not significant.

#### 5.7.1.1.5 Employment / Economy

It is predicted that the construction phase of the proposed project is likely to have direct and indirect positive, slight to moderate, short-term effects on employment and economy in the local area, wider area (i.e. county level), and northwest region.

#### 5.7.1.1.6 Tourism / Recreation

Overall, no significant adverse effects on human health are predicted during the construction phase following the implementation of mitigation measures.

### *5.7.1.2 Human Health*

#### 5.7.1.2.1 Air Quality and Dust

As detailed in Chapter 14, in the absence of mitigation, dust effects are predicted to be direct, short-term, adverse and moderate. As a result, dust mitigation measures will be implemented.

#### 5.7.1.2.2 Noise and Vibration

In general, the distances between the construction activities associated with the proposed project and the nearest Noise Sensitive Locations (NSLs) are such that there will be no significant noise, and vibration impacts at the NSLs. This is discussed fully in Chapter 12 of the EIAR.

#### 5.7.1.2.3 Water Quality

Significant adverse effects on human health due to water quality effects associated with the proposed wind farm site are considered unlikely. Any likely effects related to water quality impacting on human health, from a polluting incident, would be adverse, indirect or direct depending on the incident, temporary to short-term, and not significant to slight.

#### 5.7.1.2.4 Land / Soils

It is anticipated that any incidents related to accidental release, mobilisation, spillage or leakage of substances would likely be localised, contained, and managed in line with mitigation set out within Chapter 8 of the EIAR and the CEMP (Appendix 2-2)

#### 5.7.1.2.5 Traffic

Adverse effect (in terms of traffic) is due to works related traffic delays and the associated traffic management. However, significant adverse effects on human health related to construction phase traffic are considered unlikely. Any likely effects associated with construction phase traffic on sensitive receptors would be adverse, slight, and temporary.

## 5.7.2 Operational Phase

Residual effects associated with the operational phase of the proposed project have been assessed following the implementation of the mitigation measures described in this chapter and elsewhere in the EIAR. The assessment considers residual effects on Population receptors, including land use, population trends, property receptors and residential amenity, services and education, property values, employment and economy, and tourism and recreation. Residual effects on Human Health have been assessed with reference to the findings of the Air Quality, Noise and Vibration, Hydrology and Hydrogeology, Land, Soils and Geology, and Traffic assessments presented elsewhere in this EIAR. In addition, consideration has been given to the positive contribution of the proposed project through renewable energy generation and the CBF. The residual effects are presented in the following sections.

### *5.7.2.1 Population*

#### 5.7.2.1.1 Land Use

Significant impact on land use at the proposed wind farm site associated with the operational phase of the proposed project is unlikely. The proposed project will not result in permanent land use change in the wider area beyond the proposed wind farm site boundary. Operational phase effects on population in terms of change of land use at the site are therefore likely to be positive, slight to moderate, and long-term.

**Population Trends**

It is not anticipated that the proposed project will have a significant effect on population trends locally or in County Mayo. Operational phase effects in terms of population trends are therefore likely to be neutral, not significant to slight, and long-term.

#### 5.7.2.1.2 Property Receptors and Residential Amenity, Services and Education

A significant effect on local property receptors and residential amenity during the operational phase is unlikely. Any likely effects in terms of property receptors and residential amenity during the operational phase are therefore considered to be adverse, slight, and long-term.

#### 5.7.2.1.3 Property Values

Based on the available published studies presented in Section 5.4.1.4, it is reasonable to conclude that significant effects on property value in the area due to the operational phase of the proposed project are unlikely. Any effect on property value in the area would likely be direct, adverse, slight to moderate, and short to medium-term.

#### 5.7.2.1.4 Employment / Economy

It is anticipated that the operational phase of the proposed wind farm is likely to have direct and indirect positive, slight to moderate, long-term effects on employment and economy in the local area, county, the northwest region, and nationally.

#### 5.7.2.1.5 Tourism / Recreation

The proposed project is not anticipated to have a significant impact on tourism and amenity in the local area or wider region. It is considered that the proposed wind farm will likely have a neutral, imperceptible, long-term effect on the tourism experience and numbers in the vicinity of the proposed wind farm site.

### *5.7.2.2 Human Health*

#### 5.7.2.2.1 Air Quality and Dust

There will be a long term, neutral, imperceptible effect on human health associated with air quality.

#### 5.7.2.2.2 Noise and Vibration

It is therefore concluded that adverse effects on human health due to noise and vibration from environmental exposure as a result of the operational phase of the proposed wind farm are unlikely.

#### 5.7.2.2.3 Water Quality

There are no likely significant residual hydrological or hydrogeological effects associated with the proposed project during the operational phase.

Therefore, any likely effects related to water quality impacting on human health, most likely a resulting from a polluting incident, are considered indirect or direct depending on the incident, adverse, temporary to short-term, and not significant.

#### 5.7.2.2.4 Land / Soils

Overall, human health risks associated with exposure to polluting substances and soil during maintenance activities are not anticipated, and significant adverse effects on human health due to soil quality effects associated with the proposed project are unlikely. Any likely effects on human health resulting from a polluting incident impacting soil quality, would be localised, direct or indirect depending on the nature of the incident, adverse, short-term, and not significant.

#### 5.7.2.2.5 Traffic

It is anticipated that the operational phase will generate very little traffic movements. The potential effects associated with the operational phase are therefore considered to be adverse, imperceptible and long-term.

## 5.7.3 Decommissioning Phase

It is anticipated that residual effects on population and human health receptors associated with decommissioning works will be no greater than those identified for the construction phase. Therefore, it is considered likely that there will be a **long-term**, **slight**, **positive** residual effect on the local population and human health as a result of the proposed project.

## 5.8 CUMULATIVE EFFECTS

In the assessment of cumulative effects, any other existing, permitted, or proposed projects in the surrounding area have been considered where they have the potential to generate in-combination or cumulative effects with the proposed project. A review of any significant existing, permitted or proposed development within 5 km of the proposed project (and 20 km for large projects such as wind farm developments) have been considered. The 5 km study area is considered appropriate for the assessment of most potential cumulative effects associated with the proposed project, as effects such as noise, traffic, residential amenity, local land use and community effects are generally most relevant in the local area surrounding the site. The 20 km study area applied to larger projects, including wind farm developments, reflects their greater potential spatial extent and the potential for cumulative effects to occur over a wider area. Developments located beyond these study areas are not considered likely to result in significant additional cumulative effects with the proposed project, having regard to the nature, scale and likely spatial extent of the effects identified.

In the assessment of cumulative effects, any other existing, permitted, or proposed projects in the surrounding area have been considered where they have the potential to generate in-combination or cumulative effects with the proposed project, see Appendix 1-5 for further details. The closest operational wind farm is Ugool wind farm (Galway County Council Planning ref. 11/1735), located approximately 19 km south-west of the proposed project. Laurclavagh Wind Farm is currently in planning (ACP Planning Ref. 319307) and is located approximately 14 km south-east of the proposed wind farm. A proposed project, Shancloon Wind Farm (ACP Planning Ref. 323699) is located approximately 6.5 km to the north-east of the proposed project; planning permission for this project was refused on September 21st 2026, however, as the decision remains subject to the statutory challenge period and potential judicial review proceedings, the project has been retained within the cumulative assessment as a reasonably foreseeable development.

The potential for cumulative effects on the local population and human health, in particular air quality, water, noise, land / soils, shadow flicker, traffic and visual impacts are discussed in the relevant chapters.

### 5.8.1 Population

#### *5.8.1.1 Land Use*

Considering the other projects in the area, it is not anticipated that the proposed project will have a significant cumulative effect under the topic of land use. This is because the land-use effects associated with the proposed project will be largely confined to the proposed project site, with no permanent land-use change anticipated in the wider area beyond the site boundary. The presence of other existing, permitted or proposed projects is therefore not expected to result in a material change to the overall pattern or availability of land use in the surrounding area.

#### 5.8.1.2 Population Trends / Statistics

Considering the other projects in the area, it is not anticipated that the proposed project will have a significant cumulative effect under the topic of population trends. While the construction of the proposed project, together with other projects in the wider area, may result in a temporary increase in the local population through the presence of construction workers, these effects are expected to be temporary and limited in scale. Similarly, increased investment associated with the Community Benefit Fund (CBF) may provide a positive contribution to the local area. However, these effects are not expected to result in a material or sustained change to population trends at the local or County level.

#### 5.8.1.3 Property Receptors and Residential Amenity, Services and Education

It is not anticipated that there will be significant cumulative effects on property, residential amenity, services and education due to the location and nature of other projects existing and planned in the area. The separation between the projects means that significant overlapping effects on the same properties or communities are unlikely. Any cumulative effects during construction or operation are expected to be localised and limited in nature and are not anticipated to result in significant effects on these receptors.

#### 5.8.1.4 Property Value

It is not anticipated that there will be significant cumulative effects for property values due to the nature of the proposed wind farm and the distance and type of projects planned in the local area. Due to the distance and nature of the other projects any cumulative effect on property value in the area would likely be direct, adverse, slight to moderate, and short to medium-term.

#### 5.8.1.5 Employment/Economy

Considering the other projects reviewed in the area, which would all individually contribute to the local employment and economy to varying degrees, the proposed project would be anticipated to have both a short and long term positive cumulative effect under the topic of employment/economy. The combined investment and employment opportunities associated with the projects have the potential to provide ongoing benefits to the local economy.

#### 5.8.1.6 Tourism / Recreation

Any wind farm that receives support under the RESS for onshore projects is required to set up a CBF as a condition of that support. Although the details of how this fund is spent would have to be decided by a committee of representatives from industry and the local community. The Rooaunalagtha Wind Farm CBF is discussed further in Appendix 1-4 of this EIAR and has been developed in accordance with the terms and conditions of the Government's RESS. There is a potential positive cumulative effect for tourism in the event of increased investment in the area from the CBF. There are no other notable project types existing or permitted/planned in the area that are likely to have significant cumulative effects on Tourism.

### 5.8.2 Human Health

There is the potential for both positive and adverse cumulative effects under the topic of human health.

Adverse cumulative effects primarily relate to traffic (road safety and dust) and the presence of additional work machinery being active in the area if the construction phase of the proposed project and other planned renewable energy/grid upgrade projects coincide. This is dealt with through the Traffic Management Plans for all existing and permitted large project in the wider area. Small projects (i.e. house extensions, agricultural activities, etc.) would not generate significant volumes of traffic.

Positive cumulative effects relate to long term improvements in air quality from decarbonising the national grid and contributions to climate targets.

No cumulative shadow flicker or noise and vibration effects are anticipated during construction, operational or decommissioning phase (see Chapter 10 and Chapter 12 of the EIAR) as the projects considered are either too small or too far away (or both).

**Cumulative Effects Summary**

Overall, significant cumulative effects from the proposed project on population and human health when considered alongside the other projects in the area are not anticipated.

## 5.9 Conclusion

There is currently no credible evidence to link wind turbines to adverse health impacts. Emission limits, such as for noise or dust, are set to protect the most vulnerable in a community rather than the robust. Compliance with the limits set out in best practice guidelines (described in the relevant chapters on noise and vibration, air quality, shadow flicker) will ensure that individuals and communities are protected.

Design stage considerations, such as turbine locations, and the mitigation measures outlined in the relevant technical chapters will be put in place to ensure that the emissions and effects from the proposed project are in compliance with the standards to ensure that there will be no significant adverse effects on health, even amongst the most vulnerable.

Following consideration of the residual effects as set out in Section 5.7, it is considered that the proposed project will not result in a significant adverse effect on population and human health in the local and regional area. In summary, there are **no likely significant effects** during the construction, operation or decommissioning phases.

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